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INTEGRATED INFORMATION

International Conference on Integrated Information

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All papers have been peer-reviewed



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Preface: Proceedings of the International Conference on Integrated Information (IC-ININFO 2011)

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Aims and Scope of the Conference

The International Conference on Integrated Information 2011 took place in Kos Island, Greece, between September, 29 and October, 3, 2011. IC-ININFO is an international interdisciplinary conference covering research and development in the field of information management and integration.

The conference aims at creating a forum for further discussion for an Integrated Information Field incorporating a series of issues and/or related organizations that manage information in their everyday operations. Therefore, the call for papers is addressed to scholars and/ or professionals of the fields of Library and Archives Science (including digital libraries and electronic archives), Museum and Gallery Studies, Information Science, Documentation, Information Management, Records Management, Knowledge Management, Data management and Copyright experts the latter with an emphasis on Electronic Publications. Furthermore, papers focusing on issues of Cultural Heritage Management and Conservation Management are also be welcomed along with papers regarding the Management of Nonprofit Organizations such as libraries, archives and museums.

One of the primary objectives of the IC-ININFO will be the investigation of information-based managerial change in organizations. Driven by the fast-paced advances in the Information field, this change is characterized in terms of its impact on organizations that manage information in their everyday operations.

Grouping emerging technologies in the Information field together in a close examination of practices, problems and trends, IC-ININFO and its emphases on integration and management will present the state of the art in the field. Addressed jointly to the academic and practitioner, it will provide a forum for a number of perspectives based on either theoretical analyses or empirical case studies that will foster dialogue and exchange of ideas.

Topics of general Interest

Library Science, Archives Science, Museum and Gallery Studies, Information Science, Documentation, Digital Libraries, Electronic Archives, Information Management, Records / Document Management, Knowledge Management, Data Management, Copyright, Electronic Publications, Cultural Heritage Management, Conservation Management, Management of Nonprofit Organizations, History of Information, History of Collections, Health Information

Symposia

The Conference offered a number of sessions under its patronage, providing a concise overview of the most current issues and hands-on experience in information-related fields.

- Symposium on Integrated information: Theory, Policies, Tools
- 4th Symposium on Business and Management and Dynamic Simulation Models supporting management strategies

- Session on Open Access Repositories: Self-archiving, Metadata, Content policies, Usage
- Session on Evidence-Based Information in Clinical Practice
- Session on Business Management and Communication Strategies supporting Decision Making Process in Tourism Sector
- Session on Electronic Publishing: A Developing Landscape
- Session on Information and Knowledge Management
- Session on Information Content Preservation as Outcome of Conservation of Cultural Heritage: Ethics, Methodology and Tools
- Session on Advances Information for Strategic Management
- Session on Information History: Perspectives, Methods and Current Topics
- Session on Divergence and Convergence: Information Work in Digital Cultural Memory Institutions
- Session on Contemporary issues in Management: Organisational Behaviour, Information Technology, Education & Hospital leadership.

The wide range of aspects that the sessions covered, highlighted future trends in the Information Science.

Paper Peer Review

More than 300 papers had been submitted for consideration in IC-ININFO 2011. From them, 91 were selected for presentation, after peer review in a double blind review process. The accepted papers were presented at IC-ININFO 2011.

Thanks

We would like to thank all members that participated in any way in the IC-ININFO 2011 Conference and especially:

- The famous publishing house Emerald for its communication sponsorship.
- The co-organizing Universities and Institutes for their support and development of a high-quality Conference scientific level and profile.
- The members of the Scientific Committee that honored the Conference with their presence and provided a significant contribution to the review of papers as well as for their indications for the improvement of the Conference.
- All members of the Organizing Committee for their help, support and spirit participation before, during and after the Conference.
- The Session Organizers for their willing to organize sessions of high importance and for their editorial work, contributing in the development of valued services to the Conference.
- PhDC Marina Terzi for her excellent editorial work, contributing in the production of the Conference proceedings.

CONFERENCE DETAILS

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Dionysis Kokkinos, National Technical University of Athens

KEYNOTE SPEAKER



Professor Amanda Spink

Professor Amanda Spink has published over 340 scholarly journal articles, refereed conference papers and book chapters, and 6 books. Many of her journal articles are published in the *Journal of the American Society for Information Science and Technology*, *Information Processing and Management*, and the *Journal of Documentation*. She is Editor of the Emerald journal *Aslib Proceedings*. Amanda's research has been published at many conferences including ASIST, IEEE ITCC, CAIS, Internet Computing, ACM SIGIR, and ISIC Conferences. Her recent books include *Information Behavior: An Evolutionary Instinct* and *Web Search: Multidisciplinary Perspectives*, both published by Springer. Amanda's research focuses on theoretical and empirical studies of information behavior, including the evolutionary and developmental foundations. The National Science Foundation, the American Library Association, Andrew R. Mellon Foundation, Amazon.com, Vivisimo. Com, Infospace.com, NEC, IBM, Excite.com, AlltheWeb.com, AltaVista.com, FAST, and Lockheed Martin have sponsored her research. In 2008 Professor Spink had the second highest H-index citation score in her field from 1998 to 2008 [Norris, M. (2008)]. Ranking Fellow Scholars and their H-Index: Preliminary Survey Results. Loughborough University, Dept of Information Science Report].

Session on Contemporary Issues in Management: Organisational Behaviour, Information Technology, Education & Hospital leadership.

Organizer: Associate Professor Panagiotis Trivellas, *ptriv(at)tee.gr*

TEI of Chalkida

Department of Logistics

Description: This symposium attempts to cast light on the fields of organisational behaviour, Information Technology, Education & Hospital leadership, which attract increased academic and managerial interest. It provides diverse and modern perspectives on the development and evolution of the relative disciplines on regional and local level. The aim is to discuss and publish research on changes in organisational behaviour, Information Technology, Education & Hospital leadership which influence societies, cultures, networks, organizations, teams, and individuals as well as on the related processes that are most effective in managing transitions from dominant structures to more evolutionary, developmental paradigms.



DR. PANAGIOTIS TRIVELLAS

Panagiotis Trivellas is an Associate Professor of Management in Technological Education Institute (TEI) of Chalkis, Greece. He holds a Ph.D. degree in Management styles from National Technical University of Athens (NTUA). He has been scientific coordinator and head researcher in several research projects in the field of Organizational Behaviour, Leadership and HRM. He has published a number of research papers in academic journals and international conferences and he is co-author in two books. His core research interests focus on the areas of OB, HRM, Corporate culture, Strategic Management and Leadership, Managerial skills & competences, TQM, Quality in Higher Education.

Investigating the Importance of Sustainable Development for Hotel SMEs

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Abstract: *The aim of the present study is to investigate the attitude of the small and medium hotel enterprises which operate in regions of massive tourism development towards the principles of sustainable tourism development. For the achievement of the goal we depended on the already existent literature, in order to determine, comprehend and present the theoretical framework which will guide the empirical research. Therefore, the focus was on the secondary data, which substantiate the research approach we adopted. Then, we formed a structured questionnaire which was distributed to sixty eight small or medium hotel enterprises in the prefecture of Pieria. The questionnaire, after its statistical processing, provided useful information about the profile of the hotel enterprise, as well as the importance of the expected profits for the hotel SME from the successful sustainable tourism development in the tourism region of the prefecture of Pieria.*

Keywords: *Sustainable Development, Hotel SMEs, Massive Tourism*

I. INTRODUCTION

The investigation of the relation of the hotel SME with the principles of sustainable tourism development is the aim of the present study. There are several studies which examine the principles of sustainable development. ICMM's Council (2003) says that there are 10 principles; the commission of the European Communities (2005) says that there are 14 principles and Killipiris (2006) put the figure at 16 principles. When we mention the principles of sustainable development we refer to the ICMM's Council. According to ICMM's Council (2003). The main objective is to exhibit the expected profits for the hotel sector from the sustainable tourism development of the tourism region. One of the secondary objectives of the study is to investigate the degree of consciousness of the owners of small or medium hotel units regarding issues associated with sustainable tourism development and specify the reasons and the impacts of this phenomenon for the present and the future of the hotel sector. According to recent and older studies, the environmental impacts of the development of the SMEs are crucial and are close to 70% of the total environmental impacts worldwide (Pimenova and Van der Vost, 2004; Tilley, 2000).

II. LITERATURE REVIEW

A lot of researchers agree that the basic resources that attract tourists in a destination depend on the environment and the culture (Alhemoud and Armstrong, 1996; Faulkner *et al*, 1999). In analysing the resources of a region it is essential to use objective counting and specify their potential to attract tourists. Some researchers have studied tourism sustainability (Hampton and Christensen, 2007; Hoti *et al*, 2007; Khadaroo and Seetanah, 2007; Rodriguez *et al*, 2008; Chan and Lam, 2003; Cipriano and Jafari, 2002) and a lot of studies have examined the impacts of sustainable development for the small and medium hotel enterprises (Ali *et al*, 2008; Cote *et al*, 2008; Cote *et al*, 2006; Mensah, 2006).

It is important that the main factor affected by sustainable development is the economic one (Ali *et al*, 2008; Cote *et al*, 2008; Cote *et al*, 2006; Mensah, 2006; Le *et al*, 2006). This is mainly realised with the cost decrease, which is achieved by the reduction of the resource consumption, the decrease of the expenses and the expected future expenses. There are many benefits derived from the upgrading of 'environmental friendly' energy consumption in hotels and other tourist units (Jackson, 2005; 2008). There are many other profits from the upgrading of the 'environmental friendly' energy consumption in hotels and other tourist units, such as the improvement of the customers' trust and the public image, the attraction and maintenance of loyal staff, the avoidance of penalties by the environmental authorities, as well as long-term business profits (ESCWA, 2003). Those profits for the enterprises and the environment render the energy saving and managing in hotels as a vital precondition for sustainable development. The hotels use considerable amounts of energy for their daily operation and for their recreational activities (Sweeting, 2002; UNEP, 2002). The level of consumption in hotels is affected by many factors, which include the size and the luxury level of the hotel, the climate conditions, the location (remote/rural or urban), the profile of the visitors and guests, and the type of services/activities. Other significant factors include the age and the condition of the energy systems, which affect the operation and the efficiency of the hotel.

The wish of the hotels to participate in this change depends on their size. Hotel managers with one star were not willing to change their hotels, but the 2-5 star

hotels showed greater willingness to change their hotels in order to reduce the consumption of different types of energy (Ali *et al*, 2008).

III. METHODOLOGY

The research questions that the present study tried to answer are the following:

- 1) Does sustainable tourism development contribute to the financial sizes of the small or medium hotel enterprise?
- 2) Does sustainable tourism development contribute to the environmental and social issues of the small or medium hotel enterprise?
- 3) Does sustainable tourism development contribute to the long-term development of the small or medium hotel enterprise?
- 4) Is there a positive relation between the sustainable tourism development and the size of the hotel enterprise?
- 5) Are there crucial aversive factors which do not allow the small and medium hotel enterprises to grow sustainable tourism development?
- 6) Is there a connection of the small and medium hotel enterprises and the state with sustainable tourism development?

The research population includes all the hotel enterprises in the prefecture of Pieria. The sample selection was random as the telephone numbers were chosen out of a random list of hotel telephone numbers of the region found in the website of the Greek Hotel Chamber. The data were collected in the study region from April to May 2009. The respondents were firstly approached through telephone in order to check their willingness to participate in the research. Particularly, we called 110 hotels in total. 84 of them decided to participate in the research, while 26 did not accept either due to lack of time or lack of willingness. Finally, the questionnaires were distributed to 84 hotel hosts, but 68 were sent back to us. The questionnaire was designed after the review of the existent literature about sustainable development and small or medium hotels (Ali *et al*, 2008; Cote *et al*, 2008; Cote *et al*, 2006; Mensah, 2006; Le *et al*, 2006), and pilot research. In order to substantiate the results of the questionnaire, we check the variables with the statistical program SPSS and the X^2 method. Simultaneously, we conducted a reliability analysis of the questionnaire through the Cronbach A method.

In order to confirm the reliability of the questionnaire we conducted a reliability analysis through the statistical program SPSS and we used the Cronbach A method. The trial of this method resulted between 0.734 and 0.706 for the sum of the 73 questions, which proves that the questionnaire is actually quite reliable. The respondents, are 80.9% men and 9.1% women. Their education level is quite high as 35.3% have a bachelor's degree and 4.4% a master's degree. Only 5.9% have only finished primary school and 10.3% have finished junior high school. The

majority of the respondents are married with children (85.3%), only 5.9% are single and only one is divorced. Most of them are 50-59 years old (456%) and the age group 40-49 follows with 30.9%. There is not any hotel owner under the age of 30, while 7.4% are older than 60 years. The majority of the answers in the questionnaire come from two (33.8%) and three (33.8%) star hotels and 30.9% from one-star hotels.

Previous studies have proved that there is a statistically crucial relation between the size of the hotel and the variables of sustainable tourism development. According to the statistical processing, among the 57 variables that we checked there is a crucial statistical relation in seven variables, as we can see in table 1. In every case, the bigger the enterprise was, the most crucial the variable for the growth of sustainable tourism development was considered. This means that the bigger the enterprise, the most difficult it is to adopt changes (in the enterprise) and this blocks the adopting of tourism development practices. The bigger the size of the enterprise, the more it believes that sustainable tourism development have a long-term contribution to the improvement of the fame of the enterprise, the boosting of the morale, the raise of the percent of staff maintenance and the potential to react to facts. Moreover, the bigger the hotel enterprise, the more water it saves and the more crucial it considers buying products of local origin.

Dependable Variable	Value	Df	X^2
The difficulties in the application of changes in the enterprise constitute an aversive factor for the adopting of tourism development	25,77	12	0,012
Sustainable tourism development contributes to the long-term improvement of the fame of the enterprise	22,66	9	0,007
Sustainable tourism development contributes to the long-term boosting of the staff's morale	19,80	9	0,019
Sustainable tourism development contributes to the long-term raise of the staff maintenance percentages	20,73	9	0,014
Sustainable tourism development contributes to the long-term potential of reaction to facts	18,59	9	0,029
The level of water saving by the hotel enterprise	21,72	9	0,010
The level a hotel enterprise chooses to buy products of local origin	17,76	9	0,038

Table 1. Statistically crucial relation of the variable of number of stars in a hotel enterprise.

Then, we examined whether there is a statistically crucial relation between the place of residence and the place of action. We wished to find out whether the owners of small and medium hotel enterprises who live and work at the same place are more sensitive about

issues of sustainable tourism development in comparison to the owners of small and medium hotel enterprises who do not live in the place where they develop their professional activity. Therefore, we checked whether there is a statistically crucial relation between the 57 variables of our questionnaire and the variable of the place of residence and work for the small or medium hotel owner (table 2). According to the statistical processing, there is a statistically significant relation in four cases. In particular, there is a statistically crucial relation between the small or medium hotel owners who live and work at the same place and the contribution of sustainable tourism development to the finding of innovative methods of expenses management. Moreover, there is a statistically crucial relation between the small or medium hotel owners who have a common place of residence and action, and the contribution of sustainable tourism development to the development of competitive advantage, innovations and long-term potential of reaction to unexpected facts.

Dependable Variable	Value	Df	X ²
Sustainable tourism development contributes to the finding of innovative methods for the managing of expenses	7,13	2	0,028
Sustainable tourism development contributes to the development of competitive advantage	8,27	3	0,041
Sustainable tourism development contributes to the development of innovations	10,89	3	0,012
Sustainable tourism development contributes to the long-term potential of reaction to facts	12,14	3	0,007

Table 2 Statistically crucial relation of the variable of common place of residence and business activity.

IV. CONCLUSION

The primary research proves that the small and medium hotel owners in the prefecture of Pieria confirm the literature references of the theoretical framework of the study. The profile of the hotel enterprise shows that the hotels of our sample were mainly two and three-star hotels and that less than 10 people work there during the tourism season, which places them among the small hotel enterprises. The basic reasons which inhibit the adopting of sustainable development practices are the high cost of investment and the uncertain payment of the investment cost. The variable of cost is different from the literature sources since, in contrast to many studies (Ali *et al*, 2008; Cote *et al*, 2008; Cote *et al*, 2006; Mensah, 2006; Le *et al*, 2006), the hotel owners

in the prefecture of Pieria do not believe that sustainable tourism development reduces the operation cost.

The results of the study prove that the hotel owners are affected by sustainable tourism development to achieve environmental and social profits for their business. They know that they are responsible for the reduction of pollution in the region and for the maintenance of its natural environment. In addition, they believe that they can contribute to the reduction of noise pollution and to the development without the destruction of the environment. However, the hotel owners claim that the state does not contribute, as much as it should, to the development of sustainable practices. They believe that more strict rules must be established which will contribute to the reduction of noise pollution or to the protection of the environment. The hotel enterprises develop some interventions in order to achieve, at least to some extent, sustainable tourism development. The most significant intervention is water saving and materials recycling.

Previous studies have proved that there is a statistically crucial relation between the size of the hotel and the sustainable tourism development variables. The present study reached at the same conclusion. Simultaneously, we examined to what extent the place of residence of the small or medium hotel owner is related to the sustainable tourism development. The statistical processing shows that the ones who live at the place where they work, believe that sustainable tourism development is important for the finding of innovative methods for expenses managing and that it contributes to the development of competitive advantage, innovations and long-term potential of reaction to facts. Some of the issues associated with sustainable tourism development still remain vague. Naturally, this vagueness is reflected in the small and medium hotel enterprises. We believe that the future studies on sustainable tourism development in relation to all the stakeholders will improve the quality of the information received by the scientific community in order to reach at safer results about the way it must be developed and to ensure sustainable tourism development.

REFERENCES

- [Alhemoud, A.M. and Armstrong, E.G. \(1996\) Image of Tourism Attractions in Kuwait. *Journal of Travel Research*, \(Spring\), 76-80.](#)
- [Ali Y., Mairna Mustafa, Shireen Al-Mashaqbah, Kholoud Mashal and Mousa Mohsen \(2008\) Potential of energy savings in the hotel sector in Jordan. *Energy Conversion and Management*. Volume 49, Issue 11, ππ 3391-3397.](#)
- [Chan, W.W. and J.C. Lam \(2003\), "Energy-saving Supporting Tourism Sustainability: A Case Study of Hotel Swimming Pool Heat Pump", *Journal of Sustainable Tourism*, Vol. 11, No. 1, pp. 74-83.](#)
- [Cipriano, M. and J. Jafari \(2002\), "Sustainable hotels for sustainable destinations", *Annals of Tourism Research*, Vol. 29, No. 1, pp. 266-268.](#)

- Commission of the European Communities (2005). Draft Declaration on Guiding Principles for Sustainable Development. Eur-ex.europa.eu/LexUriServ/site/en/com/2005/com2005_0218en01.pdf (Access: 20/09/2010, 19.10)
- Cote P. R., Lopez J., Marche S., Perron M. G. and Wright R. (2008) Influences, practices and opportunities for environmental supply chain management in Nova Scotia SMEs. *Journal of Cleaner Production*, Vol. 16, pp. 1561 – 1570.
- Cote R, Booth A. and Louis B. (2006) Eco – efficiency and SMEs in Nova Scotia, Canada. *Journal of Cleaner Production* , Vol.14, pp. 542 – 550.
- Economic and Social Commission for Western Asia (2003) A guide to efficient energy management in the tourism sector, *United Nations*, New York.
- Faulkner, B., Oppermann, M., and Fredline, E. (1999) Destination Competitiveness: An exploratory examination of South Australia’s core attractiveness. *Journal of Vacation Marketing*, 5(2), pp. 125-139.
- Hampton M. and Christensen J. (2007) Competing industries in islands A new tourism approach. *Annals of Tourism Research*, Vol. 34, No 4, pp. 998-1020.
- Hoti, S., M. McAleer, and R. Shareel (2007) Modelling International Tourism and Country Risk Spillovers for Cyprus and Malta. *Tourism Management*, Vol. 28, pp.1472–1484.
- International Council on Mining and Metal (2003). 10 Principles. <http://www.icmm.com/our-work/sustainable-development-framework/10-principles> (Access: 20/09/2010, 19.20)
- Jackson, T., (2005). “Live better by consuming less? is there a double dividend in sustainable consumption?” *Journal of Industrial Ecology*, Vol. 9, No. (1–2), pp. 19–36.
- Jackson, T., (2008). The challenge of sustainable lifestyles. In: Gardner, G., Prugh, T. (Eds.), *State of the World 2008*. Worldwatch Institute, Washington, DC
- Khadaroo, J., and B. Seetanah (2007) Transport Infrastructure and Tourism Development. *Annals of Tourism Research*, Vol. 34, pp. 1021–1032.
- Kilipiris F. (2006) Sustainable tourist development at Small and Medium Hotel Enterprises. Ph.d. Dissertation. University of Macedonia. <http://dspace.lib.uom.gr/bitstream/2159/375/5/kilipiris.pdf> (Access: 20/11/2010, 13.21)
- Le Y., Hollenhorst S., McLaughlin W., and Shook S. (2006) Environmental Management A study of Vietnamese Hotels. *Annals of Tourism Research*, Vol. 33, No. 2, pp. 545 – 567.
- Mensah, I. (2006). Environmental management practices among hotels in the greater Accra region. *International Journal of Hospitality Management*, Vol. 25(3), pp. 414-431.
- Pimenova P. and Van der Vost R. (2004) The role of support programmes and policies in improving SMEs environmental performance in developed and transition economies. *Journal of Cleaner Production*, Vol 12, pp. 549–559
- Rodriguez, J., E. Parra-Lopez, and V. Yanes-Estevez (2008) The Sustainability of Island Destinations: Tourism Area Life Cycle and Teleological Perspectives: The Case of Tenerife. *Tourism Management*, Vol. 29, pp. 53–65
- Sweeting, D. (2002) Leadership in urban governance: the Mayor of London. *Local Government Studies*, Vol. 2, No 1, pp. 3-20.
- Tilley F. (2000) Small firms’ environmental ethics: how deep do they go? In: Hillary R, editor.
- UNEP (2001) Industry and Environment Review on Ecotourism and sustainability, Vol 24, No. 3-4.