The Diversity of Diffusion of Information and Communication Technologies in the Hospitality and Tourism Sector— with Particular Reference to the Small and Medium Hospitality Enterprise

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A submission in fulfilment of the requirements of the University of Wales for the Degree of Doctor of Philosophy by Published Works

June 2003
Declaration

I declare that this work has not been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

I further declare that this thesis is the result of my own investigation, except where otherwise stated (a bibliography is appended).

Finally I give consent for my thesis, if accepted, to be made available for photocopying and for interlibrary loan and for the title and abstract to be made available to outside organisations.

Signed

Hilary Catherine Murphy (Candidate)

Signed

Dr Eleri Jones (Director of Studies)
Acknowledgements

Special thanks to Dr Eleri Jones who has guided and directed this thesis and whose comments and criticisms were always constructive.

Thanks also to my co-authors, not only for giving their consent, but also for their support and continuing collaborating on various projects.

Thank you, David, for all your support and encouragement, as always.
Abstract

This thesis presents an overview of a selection of previously published works from 1994-2003. It focuses on the diffusion of information and communication technologies (ICTs) in the hospitality and tourism sector, with particular reference to small and medium-sized hospitality enterprises. It specifically evaluates the critical internal and external factors that influence the diffusion of ICTs in this sector.

The first chapter introduces the overall research question, the published works and the models that are used to guide the progress of this thesis and its structure. It reveals the phases of investigation throughout the research period and provides a framework for the following chapter, which reviews the published works.

The second chapter presents a review of the selected publications in the context of a contemporaneous literature review that starts from a baseline of Gamble’s 1984 model of diffusion. It builds towards populating a new model that takes into account the emerging internal and external factors that emerge not only from these works, but also from other sources that impact on this sector over the research period.

The third chapter outlines the research process using a timeline model and provides a critical review of that process in terms of the methodologies used in the phases of the research. It highlights and justifies the pluralistic, pragmatic approach adopted and concludes with a review and reflection on the methodologies chosen.

The final chapter evaluates the contribution to knowledge and highlights the empirical evidence in the new model that has emerged as a result of this thesis. It considers the direction of future research and reflects on the overall thesis.
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Chapter 1
Chapter 1: The Introduction

1.1 Introduction
This chapter presents the structure of the thesis, the selected published works, the phases of the research process, the initial conceptual framework and the model that guides the development of this thesis.

1.2 The Thesis
This thesis, The Diversity of Diffusion of Information and Communication Technologies in the Hospitality and Tourism Sector- with Particular Reference to The Small and Medium Hospitality Enterprise, presents the case for a PhD by publication through a critical analysis of selected published works produced by the author on the diffusion of technology in small and medium hospitality enterprises (SMHE) during the period 1994-2003. This thesis answers the overall research question: Do small and medium sized enterprises make effective use of data and technology in the management of their businesses?

The thesis is presented in four chapters: Chapter 1: The Introduction; Chapter 2: The Review; Chapter 3: The Research Approach; and Chapter 4: Contribution to Knowledge, Future Work and Final Thoughts. The publications build on work submitted for an MPhil of the University of Wales in 1994 and have been published, variously, in refereed academic journals and conference proceedings, as book chapters and conference papers from 1995 to date.

1.3 The Published Works
A selection of these published academic works forms the basis of this thesis, as presented in table 1.1, in the order they appear in The Review. Their selection is based on specific criteria: 1) peer review; 2) original and significant contribution to knowledge; 3) coherence of the publications (U.K. Council for Graduate Education, 1996). A full listing of these published works is in appendix A.
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<table>
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<tr>
<th>Author(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>Main, H. (1995)</td>
<td>Information Technology and the Independent Hotel - failing to make the connection</td>
</tr>
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<td>Main, H. (1998)</td>
<td>IT Developments in the Hospitality Industry</td>
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<td>The Use of Smartcard Technology to Develop a Destination-Based Loyalty/ Affinity Scheme for SMEs in Tourism and Hospitality</td>
</tr>
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<td>Main, H. (2002)</td>
<td>Developing the Use of Viral Marketing in the Context of a Web-based Marketing Communications Strategy for City Destinations</td>
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<tr>
<td>Murphy, H. (2003)</td>
<td>An Investigation into how Data collected by Destinations Websites are Utilised as a Direct Marketing Tool</td>
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Table 1.1: Selected Published Works

The selection of publications is offered in roughly, chronological order and is bounded by two focal surveys of 1993/4 and 2000/1, which are based on the basic overall question: do small and medium hospitality enterprises (SMHEs) make effective use of data and technology in the management of their businesses?

The MPhil (Main, 1994) was based on Gamble’s model (figure 1.1), which was proposed in 1984 and provides an initial, conceptual framework for the selected works.
### Chapter 1: The Introduction

#### STAGE CHARACTERISTICS

<table>
<thead>
<tr>
<th>STAGE</th>
<th>CHARACTERISTICS</th>
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<tbody>
<tr>
<td>STAGE 0 Pre Computer</td>
<td>Paper based office system&lt;br&gt;Photocopiers, telex, PABX, electric typewriters, adding machines, calculators, electric registers and guest accounting machines</td>
</tr>
<tr>
<td>STAGE 1 Clerical Hotel Computer</td>
<td>Stand-alone back Office System&lt;br&gt;Stand-alone front Office System&lt;br&gt;Food and Beverage Control</td>
</tr>
<tr>
<td>STAGE 2 Administrative Hotel Computer</td>
<td>Integrated Front Office and Integrated Front Office, Food and Beverage control</td>
</tr>
<tr>
<td>STAGE 3 The Tactical Hotel Computer</td>
<td>A totally integrated system which goes beyond ordinary business functions to allow access to external information on markets, consumer behaviour, links to travel agents, tour operators</td>
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Fig 1.1: Conceptual Framework: Diffusion of IT in the Hotel Industry (Gamble, 1984)

Gamble’s model suggests that the adoption of technology by hotels proceeds through stages relating to traditional management functions from operational to strategic level and further predicted that stage 3 will be reached by 1990 (Gamble, 1984). Progression from one stage to the next signifies an increase in integration and thus efficiency and productivity, while the last stage refers to the introduction of the hospitality organisation into the electronic market where technologies will integrate the entire hospitality and tourism industry. Gamble’s model is used, initially, for evaluating the diffusion of technology within SMHEs and is re-visited throughout the thesis.

### 1.4 Overview of the Thesis

Chapter 2 comprises a review, which is presented in four phases based on the research questions that evolved during the research period integrated into a contemporaneous literature review, which provides a backdrop for the publications. It unpacks the research question into subquestions within each of the phases.

**Phase 1: The Environmental Phase**

The initial question is “How does the internal and external environment impact upon the application and adoption of information and communications technologies (ICTs)
Chapter 1: The Introduction

by SMHEs?” It explores ICT exploitation in both domestic and international contexts and tests empirically the extent of diffusion in Wales and Greece using Gamble’s model. It concludes that Gamble’s model requires modification. It needs to include a much wider set of environmental variables that affect the diffusion of technology in the hospitality sector.

Phase 2: The Strategic or Collaborative Phase

This raises the question “How strategic are SMHEs when using ICTs, particularly in identifying collaborative ventures?” It locates ICT in an organisational context and explores the feasibility of adoption of a collective or collaborative approach to information retrieval and use, testing empirically the strategic focus of SMHEs and the constraints and opportunities of developing a collective response to the market. In doing so, Gamble’s model loses some explanatory force and the inherent complexity of diverse influences produce a much more varied response than anticipated. It takes a micro-view in terms of collective and collaborative use of IT within hotels and destinations.

Phase 3: The Management Phase

This poses the question “How are ICTs used in the management of SMHEs?” This is based on not only the examination of the use of ICTs with the advent of e-commerce but also reassesses the longitudinal changes identified in Phases 1 and 2. To some extent Gamble’s model holds up though external forces are proving more critical to adoption than previously significant internal factors.

Phase 4: The Innovative Phase

This phase asks the question “How can ICTs be used more creatively and innovatively in the marketing of destinations and thus SMHEs?” It examines the role of direct marketing and the special case of viral marketing, through investigation at destination
level, and signposts future positioning for SMHEs. A revised matrix/model of development of ICTs and SMHEs emerges.

The research develops in phases throughout the review, to populate a matrix/model, (see figure 1.2) which highlights the diffusion together with factors that influence the adoption of data and technology. The matrix/model incorporates contributions by other authors and provides a framework that contextualises the contribution of this PhD to theory and practice.

Chapter 3 explores the research approach adopted in the selected works. It reviews a range of methods and methodologies within the epistemological continuum and the pragmatic approach adopted in the research. It uses a timeline model to highlight the research phases and the methods and methodologies adopted. It develops and reviews the theoretical perspective embraced during the research process.

Chapter 4 draws the work to a conclusion and summarises the contribution of the selected works in this thesis to the body of knowledge. It provides reflection on the contribution of this thesis, ideas for future research and some final thoughts.
<table>
<thead>
<tr>
<th>Stages of Gamble's model</th>
<th>Time Frame</th>
<th>IT applications and infrastructure</th>
<th>Markets and Customers</th>
<th>Funding and Finances</th>
<th>Channels of Distribution</th>
<th>Human resources</th>
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<tbody>
<tr>
<td>Stage 0</td>
<td>1985</td>
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<td>Pre-computer</td>
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<tr>
<td>Stage 1</td>
<td>1990</td>
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<td>Clerical Hotel computer</td>
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<tr>
<td>Stage 2</td>
<td>1995</td>
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<tr>
<td>Administrative Computer</td>
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<tr>
<td>Stage 3</td>
<td>2000</td>
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<td>Tactical Computer</td>
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Figure 1.2: Matrix Model of Diversity of Diffusion
(the vertical axis is drawn from Gamble's model and the horizontal axis from issues emerging from the MPhil and other relevant work)
(Note: SMHEs are also referred to in some publications as SMHOs-small and medium hospitality organisations.)
Chapter 2
Chapter 2: The Review

2.1 Introduction

The key research question is unpacked into subquestions that reflect the four phases. These are; in phase 1: How does the internal and external environment impact upon the application and adoption of information and communications technologies (ICTs) by SMHEs? in phase 2: How strategic are SMHEs particularly in identifying collaborative ventures when using ICTs? in phase 3: How are ICTs used in the management of SMHEs? and in phase 4: How can ICTs be used more creatively and innovatively in the marketing of destinations and thus SMHEs?” They are reviewed in the context of developments, debates, issues that are currently engaging the leading practitioners in relevant publications.

This review focuses on the SMHE in particular. Many Small and Medium Enterprises (SMEs) do share particular problems when it comes to the diffusion of ICTs (Dixon et al, 2002) and are only recently explored to any great depth (Shiels et al, 2000). However a “blanket approach” is criticised when taking a generic approach to ICT diffusion across all SMEs (Martin & Matlay, 2001; Dixon et al 2002; Henry- Crawford, 2003). In addition, Fallon & Moran (2000) comment on the heterogeneity of sector specific ICT capability e.g. retailing and finance. Though the SMHEs have some shared characteristics with SMEs, e.g. size matters, the SMHE has distinctly different forces acting upon it regarding technology e.g. the dominant technology role of a key supply chain partner, the Destination Management System, the demand “pull” of the internet customer segment, their peripheral geographic location which contributes to reduced technology infrastructure and the lifestyle/ occupational characteristics of the SMHE (Blackburn & Athayde, 2000; Buhalis, 1995 ; Thomas et al, 2000; DTI, 2000). Therefore the objective is to explore the special nature of the SMHE, allowing detailed insight into this specific sector and Gamble’s model of diffusion (Gamble, 1984) is used as a suitable foundation for development throughout the review.

Other models of adoption were considered e.g. the Ladder of Adoption (DTI, 2001), the E-SME curve (Local Futures Group, 2001). However, they are recently developed,
linear, web-based models that presuppose an ordered, sequential progression in diffusion and adoption. They do not correspond to the review period here and are already under criticism (Fallon & Moran, 2000; Martin & Matlay, 2000). Gamble’s model is appropriate for the range of skills, business processes and technical competences of the SMHE.

Gamble’s model (Gamble, 1984) refers to the hotel industry in general, though there seems to be a distinct difference in practice between the adoption of information and communication technologies by large, affiliated, chain hotels and the small, independent hotels.

By 1986 computer systems were approaching usage rate of 100 per cent in hotels of 400 rooms or over... medium hotels of 100 to 400 rooms, computer usage was high...in small hotels of 25 rooms plus, however, computer penetration was ... negligible. (Braham, 1988:29)

Whitaker (1986) provides some additional evidence for low adoption of ICTs by SMHEs although little substantive quantitative research had been undertaken in this sector. This was my starting point for the work outlined in this thesis.

2.2 Phase 1: How does the internal and external environment impact upon the application and adoption of information and communications technologies (ICTs) by SMHEs?

2.2.1 Information technology and the independent hotel - failing to make the connection (Main, 1995) presents some key findings on the (then) current use in the SMHE sector and showed that:

only half of independent hotels use any form of information technology...Smaller hotels are less likely to use IT with only 26 per cent of those hotels with less than 20 rooms being users...There also would appear to be a... relationship between formal education qualifications and the use of IT.

Independent hotels depend to a material degree on family members and provide “jobs” for non-family members rather...
than "careers", and they are therefore less likely to attend any further courses or study... this further aggravates their lack of awareness of the potential of IT.

There are indications...that the level of use has dropped in the independent sector ... and none of the professional bodies connected with the hotel sector seem to be taking an active role in promoting the use of IT...it would seem that this sector has no evident source of independent information about IT, which should be addressed via education and training within the sector. (Main, 1995:30-32)

Additionally, O'Connor (1996) and Lee-Ross (1998) carried out similar studies in Ireland and Australia which support and consolidate the author's findings in that SMHEs tend to be under-capitalised and have limited finances for marketing, issues in relation to price sensitivity, seasonality and product perishability, apart from low adoption of IT.

2.2.2 Information technology in small/ independent Welsh and Aegean hotels (Main & Buhalis, 1996) takes a comparative look at adoption in Wales and in the Aegean Islands and reveals that adoption in the Aegean Islands is also low. It suggests some underlying factors that may require further investigation. The paper emphasizes that:

the vast majority of independent/ small hotels in both Wales and the Aegean islands underutilise IT. Despite the geographical distance, the cultural differences and the market dissimilarities the diffusion of IT in smaller properties is very similar, highlighting that this sector of the accommodation industries faces a number of strategic problems and challenges. (Buhalis & Main, 1996:6)

The paper concludes that:

Research in Wales and the Aegean Islands demonstrate that although the first steps towards the adaptation of IT in the accommodation establishments have been undertaken, there is almost unlimited space for improvement. (Buhalis & Main, 1996:10)

Lorentzon (1994) also notes at this time that small enterprises are not using information technology to the same extent as larger firms and Doudikis et al (1994) reveal that
studies of why small enterprises adopt technology indicate a focus on the operational issues rather than the strategic ones. This is true of SMHEs where the ‘the applications’ emphasis was on clerical and administrative functions; especially accounting or inventory that addresses primarily what might be called overhead considerations’, (Gamble, 1994: 274). Hankinson (1990) finds little indication of marketing strategies in his survey conducted in the late eighties of small hotels in Bournemouth and that any investment undertaken is reactionary and geared towards survival. Overall he discovers only minor evidence of any business planning or strategy for development, (Hankinson, 1990).

The managerial and marketing handicaps in smaller properties, as well as the lack of personnel training, in combination with a scarcity of funds make it more difficult for these enterprises to take advantage of the potential benefits emerging from computerization. It is proposed that intensive training should be employed... to enable them to identify how it can support the entire range of their operational, strategic and distribution activities.

Finally, small/independent hotels cannot afford to stay out of the emergent electronic markets... cooperation with destination based reservation systems or participation in independent consortia would enable them to ensure their visibility in the global marketplace, at an affordable cost. (Buhalis & Main, 1996:10)

Gamble’s model (slightly modified) of the diffusion of technology in the hotel industry is re-examined in the context of this comparative research in Table 2.1.

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<tr>
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<th>Stage 0</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
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<td>Wales</td>
<td>49.8%</td>
<td>31%</td>
<td>19%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Aegean Is.</td>
<td>56.3%</td>
<td>33.7%</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
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Table 2.1: Diffusion of IT in Small/independent hotels in Wales and the Aegean Islands. (Buhalis & Main, 1996: 10)

Technology for SMHEs seems to be supplier led and concentrated around standard property management systems, e.g. Fidelio, Innkeeper, which do not match SMHEs needs. 'They feel there isn’t anything available to suit the small hotel...interestingly most non-users feel that they could perceive some benefits that a computer system might provide’(Buhalis & Main, 1996:12). Much investment in technology at this time fails to
deliver value for money and a “wait and see” approach develops as the speed of technology accelerates and small hotels are left behind in the purchasing process. From the “demand” side, most hospitality customers still prefer traditional distribution channels e.g. travel agents, tour operators, guide books (Buhalis, 1993).

Peacock (1994), in a limited study, points out that "enthusiastic users" can have a demonstrable/measurable impact on the use of technology within this sector. The other categories (reluctant users and non users) were either complacent with the systems they had or had purchase plans or were refusing to touch computers.

In addition, although the role of the public sector in stimulating small/independent hotels is increasingly recognised, there is little evidence demonstrating that their action supports their statements (Buhalis and Main, 1996:9).

Nonetheless, there is a lack of direction, guidance and infrastructure from the tourist boards towards the development of an integrated system. Many regionally integrated systems are in their infancy in this era in the eighties and most could be described as costly mistakes or outright failures (Mutch, 1996). There is also the problem of a lack of connectivity for the SMHEs to a regional system, if one exists, where connection was frequently through kiosks and dial-up lines.

2.2.3 Catalysts in introducing information technology in small and medium sized hospitality organisations (Main & Buhalis, 1996) highlights the crucial role of the destination.

Increasingly tourism regions are managed by destination managers who tend to belong to the public sector...their personal characteristics, development, and attitudes are critical for the position they adopt towards ITs. However a rational destination manager would probably promote the networking of destinations in order to facilitate interaction between local suppliers and improve the communication with consumers... and the advanced networking of the tourism supply. (Buhalis & Main, 1997:279)

Buhalis (1993,1995) suggests that survival for SMHEs relies on regional integrated computer information reservation management systems (RICIMS), which would
support the consumer and provide economies of scale and scope and direct marketing opportunities for SMHEs. Government agencies lack the finance to develop regional systems and there is a continued resistance from SMHEs to cooperate, which was frequently viewed as an infringement of their independence status. In this decade the large tourism and hotel operators are extensively adopting computer reservation system (CRS) or global distribution systems (GDS) to distribute and book product, supported by videotext technology. However most of the GDSs and CRSs are designed to deliver to tour operators and the business traveler, not the traditional markets that are attracted to small and medium sized hotels and thus further acts against the SMHE sector which is not represented on GDS/CRSs (Buhalis, 1993).

Though, in reality, the WTB does not appear to be making any substantial inwards in the adoption of IT either in the form of a grant aid or training from the £4-5 million budget spent per year. Similarly the Greek National Tourism Organisation has neglected this area and initiatives are only been undertaken by the private sector. (Buhalis & Main, 1996:9-10)

After initial investigation it becomes clearer that it is not just internal factors inherent in the owner and hotel but that external forces play a vital role in the diffusion of technology.

2.2.4 Information Technology in peripheral small and medium, hospitality enterprises: strategic analysis and critical factors (Main & Buhalis, 1998) looks at catalysts and strategic issues utilising data from Wales, France and Greece with reference to the management use of IT:

Research in these peripheral regions of Wales, France and Greece demonstrates that the incorporation of IT in SMHEs is not always a rational managerial decision. It is often associated with the dynamic relationships between stakeholders as well as a number of variables, which are related to their characteristics. (Buhalis & Main, 1998:198)

Figure 2.1 provides a model developed to demonstrate the stakeholders and forces that act on the adoption by SMHEs:
Chapter 2: The Review

Figure 2.1: Push and Pull factors determining the Introduction of ITS in Hospitality Organizations (Buhalis & Main, 1998:199)

Hence strategic partners, such as intermediaries and suppliers, can force SMHOs to incorporate ITS and be represented in the electronic commerce... The key is to align the differing views of the key stakeholder groups, to enable sound communication, interaction and collaboration, which will contribute to the success of the technology adaptation and proliferation in SMHOs. (Buhalis & Main, 1998:203)

These initial selections of publications reflect the early era where adoption is slow, not only in the UK but in other parts of Europe. The status quo is reviewed at the end of this phase.

2.2.5 Conference report: IT developments in the hospitality Industry (Main, 1998) provides an academic perspective of the research activities over this first phase.

There now appears to be a critical mass in the era of research development here...the conferences of that period demonstrate some common themes...the Internet is gaining in credibility and reliability and will be one of the key media of the future for the demand and supply side of the hospitality sector... the travel and tourism industry in general have been slow to embrace the new technologies.... The human resource element is crucial to progress. The cooperation and dependency between academic and business sectors is crucial to drive technology forward... the synthesis of the key stakeholders tourist boards, the hotels, the tourist attractions, the tour operators and agents, destinations and educators ... is finally emerging. (Main, 1998: 93)
There is also, at this time, a growing awareness of the role of SMHEs in the wider economy, which has resulted in a number of studies as to how governments could help in their creation and management, particularly within the European Union (EU) (Lowyck & Wanhill, 1992; Wanhill, 1993). Costa & Eccles (1996) identify the relative influence of the EU in gaining wider recognition for hospitality and tourism and particularly the performance of hospitality firms.

The hotel industry is experiencing an economic recession, along with the rest of the economy. Laurance (1992) indicates that in the early nineties the demand for hotel rooms had fallen sharply.

The availability of powerful and extensive computers has in many ways been hidden by the effects of the recession and a severe tightening of investment criteria in what has been seen by some as less essential computerisation. (Mansfield, 1993:165)

The structure of tourism and the mass production and consumption of tourist products that exists along with SMHEs lack of strategic view all contribute at this stage to the marginalisation of SMHEs (Shaw and Williams, 1990). Holloway (1985) points out that the tour operator business is a dominant force in the tourism and travel sector. As tour operators attempt to maximize their business and their marginal profits and offer acceptable packages at minimum prices they act against the SMHEs, particularly in terms of channels of distribution and connectivity. Poon (1994) predicts the end of mass consumption and the advent of the “new tourism revolution”, driven by advances in technology, but there, still, is no real evidence of this.

The preceding selected publications, and other authors’ work (MacVicar & Main, 1998; Smith, 1980; Glancey & Pettigrew, 1997; Gamble, 1994) also suggest that there were inherent problems in the human resource management and culture of small organizations, which exacerbates the slow adoption of ICTs. Smith (1980) classifies two main kinds of small business entrepreneurs, those being “craft” and “opportunistic”. Glancey (1997) suggests that small hotels may be more inclined to be “opportunistic” in that they will operate in any market where they see an opportunity and Lynch (2000)
comments on the “fortress enterprise” mentality of SMHEs and their resistance to external interventions. Knowledge, in many cases, is power. The small hotel manager perhaps performs many functions and their management style could be, at best, described as prioritised reactivity.

Writing about the hotel industry at this time, Ford et al state:

> the hotel industry is being challenged by the need to understand how to effectively utilize the growing power of information technology in their operation...every area of the hotel can benefit from an increased use of technology. (Ford et al, 1995: 53)

However other research in the USA at this time comments about the early use of the Internet and offers a different viewpoint, that it:

> does not currently justify the resources necessary to initiate and maintain a presence and that business uses of the web will far outstrip consumer activity...technical problems continue to hinder the internet and the future is unclear...management functions are the least utilised (Murphy et al, 1996: 71).

The lack of technology infrastructure for the SMHE, the inherent characteristics of SMHEs and their managers, the inability of key stakeholders to cooperate and coordinate and make progress and lack of funding all play key roles at this time to impede the adoption of technology in this sector. External factors are also critical, e.g. private financing and public funding, IT suppliers. At this early level of adoption a “piecemeal” approach appears to permeate the SMHE sector. As indicated in the matrix/model (figure 2.2), it is clear that adoption will be slow, even stagnant. Gamble (1994) now observes at this time that strategic change that maximises ICT requires boldness and visionary change and ‘that the indicators are that a two to seven year period is needed’ (Gamble, 1994: 280).
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<td>1995</td>
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<tr>
<td>Stage 3 Tactical Computer</td>
<td>2000</td>
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<tr>
<td>Stage 4 Creative Connected computer</td>
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Figure 2.2: Matrix Model of Diversity of Diffusion at the end of Phase 1
Chapter 2: The Review

This next phase looks at two areas of research that were conducted during this time frame: the collective use of data in terms of marketing information systems and the use of yield management techniques in SMHEs.

2.3 Phase 2: How strategic are SMHEs particularly in identifying collaborative ventures when using ICTs?

The key to successful and efficient management of any organisation, not just in the hotel industry, lies in the utilisation of information and to be able to access available information and manipulate that information to the advantage of the business.

*Information is a vital tool for achieving the possible goal of 100% guest satisfaction* (Cummings, 1986:29)

Additionally, in a service industry such as the hotel industry, not only is it important to have information about the business environment in which one operates but the more information (or better market profile) one has of potential and existing customers and markets the higher the chance then of delivering the kind of service to the customer that matches his needs. However, ‘data collection is problematic, mainly because a great deal of data, much of it soft, much of it external to the firm, is involved’ (Gamble, 1994:274)

2.3.1 A Preliminary Study of Data Utilisation in SME Hotels (Main, Chung & Ingold, 1997) is an investigative study into the use of data by SMHEs and reveals that data collection and marketing information gathering is deficient.

*Most of the managers in the survey realised that they had “gaps” in their information supply, but they were unable to identify what these were. Only half of the respondents generated internal reports for staff members as a matter of routine... internal communication was word of mouth. A majority of hotels kept records on no-shows, drop-ins, cancellations and pre-bookings, but these were usually filed away with no analysis being carried out.*

*Most of the sample hotels held some information on their previous guests but this was limited to simple name and address*
lists, together with any balances due. At present there are few historical, internal data stored, and external data are both limited and expensive. (Main, Chung & Ingold, 1997:93)

The hospitality and tourism sector has traditionally been at the forefront of efforts to monitor and track guest preferences (O’Connor, 1996). Loyalty of the customer is recognized as the dominant factor in a business organisation’s success. Shoemaker & Lewis (1999) propose that hotels need to practice “loyalty marketing” as opposed to “conquest marketing”. Tepeci (1999) suggests that hospitality organisations can increase their market share and growth rates by increasing their brand loyal customers and, as a mature industry, aim for market share gains, rather than market growth. Given the high cost of creating new customers, organisations have turned their attention to ways of retaining loyal customers and encourage repeat buying (Brassington & Pettitt, 1998). This can be achieved by acquiring more information on customers and deeper customer knowledge.

2.3.2 The use of smartcard technology to develop a destination-based loyalty/affinity scheme for SMEs in tourism and hospitality (Main & O’Connor, 1998) investigates an innovative method to collect and store marketing information and highlights that:

Two technological developments in particular have had a great effect on how guest history data can be used. Firstly, the reduction in the cost of data storage... Secondly, the growth in the amount of processing power which is economically available... Smart cards, however, can store more data and are also multi-purpose ... As a result, they can store extensive data about customer profiles and purchasing behaviour, and the same card could be used for a variety of different functions. (Main & O’Connor, 1998:9)

Certain things are necessary for the successful operation of a loyalty program. These include technical knowledge (to design the system), marketing knowledge (to implement a strategy based on loyalty data) and a technology-based network (to record the transactions and transfer them to the loyalty database). (Main & O’Connor, 1998:12)
Unfortunately, the vast majority of tourism enterprises around the world do not fit this profile (Sheldon, 1992). Instead they are small or medium in size, are not part of a chain or consortium, and in general are owner operated and managed. Tourism operations of this type tend not to be users of technology, and their lack of marketing knowledge has consistently been identified as a key weakness (Buhalis, 1993; Hankinson, 1990).

The key benefit to be gained would be the vastly increased quantity and quality of marketing data, which would be available to participating organizations. If the “future-proofers” ... are correct then two of the major trends, which will affect the tourism market in the near future, are “mass customisation” and “disintermediation”. A loyalty / affinity scheme based on smartcard technology would provide the necessary data for the mass customisation of the tourism product by giving an intimate knowledge of the customer...this direct contact will be crucial as suppliers will need to be able to deal directly with customers and establish a loyal, long term, (2-way) relationship. (Main & O’Connor, 1998:13-14)

2.3.3 The Use of Marketing Information Systems and Yield Management in the Hospitality Industry (Main, 2000) develops earlier research and investigates the essentials of data collection, Marketing Information Systems (MKiS) and Yield Management (YM) within SMHEs. To practice yield management effectively, a business must be able to measure demand and respond to it in a timely and dynamic fashion. Management must be able to identify and cultivate market segments and to communicate changes in price and availability, as well as special offers (Buttery & Buttery, 1991). An effective flow of information between an enterprise and its customers, in both directions, is needed for both effective yield management and marketing information system.

Yield management is already used in many areas of the hospitality sector. In general, yield management is applicable and of interest to businesses with the following characteristics: 1. Perishable inventory and or seasonal demand 2. Highs fixed or sunk costs, and relatively low marginal costs of selling an additional unit 3. Fixed capacity, either overall or in the short term and 4. Advance purchase (or, at least, reservation) of products or services (Arthur Anderson, 1997).
The hotel industry, at both chain and SMHE level, meets all these above criteria. Levels of yield management within each industry area and in the different countries of the EU vary greatly from one hospitality business to another in the extent to which yield management concepts are being applied and to which yield management technology has been developed. (Main, 2000:164)

At a low level, a small bed and breakfast charges a single fixed price per person during the summer months. It is closed during the rest of the year. In this case no real yield management is in use. At a very high level a fully computerised yield management system would see a hotel chain using its yield management system to determine the contribution to income made by different groups of guests and viability of capacity for each group is adjusted accordingly (Arthur Anderson, 1997).

For the SMHE, awareness is low, but intuitive applications exist. Many make use of yield management concepts on an informal, intuitive basis... Pricing is a "hot topic" in most areas of hotel management, for SMHEs as well as large enterprises. Consolidation is seen as giving price advantages to large enterprises, at the expense of smaller service providers. (Main, 2000:165)

Brown *et al* (1994) summarises a number of studies and concludes that the service sector tends to be less marketing oriented with less use of external information than the manufacturing sector. A later empirical study by Li (1997) showed that service organisations are less likely to possess a marketing information system. Moreover, most authors in this field concur with Li (1997) when discussing small and medium sized enterprises (SMEs) in general that ‘it is vital to small firms to improve their MKiS usage in the near future’ (Li, 1997:190). However,

Frequently marketing intelligence from external sources is no more than monitoring and matching competitors’ activities. There is little use of external sources of data, consultancies, trade associations or Tourist Boards. They (SMHEs) make little use of loyalty schemes to encourage repeat business and there seems to be no effective measurement in terms of cost effectiveness of marketing activities. They are “too busy being busy” (Main, 2000:164)
Wood (2001) indicates in her findings of hospitality and tourism SMHEs in Yorkshire and Humber that marketing information systems mainly concentrate on internal and immediate operating environment data and that,

> important wider market intelligence is underutilized owing mainly to the resource constraints of these smaller businesses ...that most MKIS within the sectors studied are informal and based largely on internal data with a concentration on the analysis of existing customers (Wood, 2001:283)

> In small businesses, an entrepreneurial spirit and an interest in yield management on the part of the owner may be the key to establishing the appropriate organisational atmosphere. One vendor noted that successful results are often achieved when an owner makes yield management a personal "hobby". Main (2000:164)

However adoption of information technology in small enterprises is not initiated solely by owner/managers but also by other actors (Dabinett & Graham, 1994). Perceptions of all employees of the technology, the situation, managers and individual characteristics constitute a base for the strategic disposition of information technology in small enterprises. Bradley & Hendrick (1995) at this time state three major human resource management causes that contribute to the shortcomings of adoption of technology: it has been too technology-centered; it has been a “left over” approach in which whatever the computer cannot do is left over to the humans and finally; a failure to integrate socio-technical issues at the human-computer interface. Bradley & Hendrick (1995) advocate the use of participative ergonomics, which incorporate human resource development, societal changes, labour markets and front line technologies for successful adoption.

> The manager must be willing to share with his key personnel all the information he has from the decision support system, together with his vision for the future of the organisation. Instead of the role of gatekeeper of information, he must become the team leader, developing the sharing of ideas and information. (Main, 2000:170)

However, many SMHES are lacking in basic management skills.

> Many truly small enterprises require more basic marketing and financial management skills, before any more than the rudiments of yield management could be effectively applied...
SMHEs often lack the human resources (in terms of skill and time available) to carry out complex, systematic pricing and capacity management strategies... An MKIS would provide the necessary information system to build up a database of external and internal information where predictive modeling and the analysis of historical data would enhance the decisionmaking of the SMHE operator. (Main, 2000:172)

Marvel (2001) further suggests that yield management may offer another possible strategy for smaller hotels to improve profitability. However, Marvel also points out that small family-run firms are often resistant to innovation in general. Scarce resources mean that limited funds are not available to fulfill the necessary tasks to operate a yield management system such as tracking “unconstrained demand” which can be a time-consuming process. 'Immediate opportunities are for greater "low-tech" yield management'. (Main, 2000:162)

Other authors highlight the importance of the human resource element in introducing, and optimising technology (Goldsmith, 1997). Every organization has a culture of its own and SMHEs are dominated by the prevailing attitudes of the owner/manager and the consequent influence over their employees' attitudes, behaviour and performance. If the owner/manager has an aversion to new technology then ‘it is unlikely that IT will penetrate the organisation’ (Proudlock et al, 1998:241).

The previous experiences show that the ability of management’s adaptation and the personnel as a whole, is the significant factor in positive reactions towards the introduction of information technology (Gallicic, 2001:63).

The adoption may further be influenced by entrepreneurial traits of the managers. Some investigation into the role of entrepreneurship within SMHEs is carried out by Glancey & Pettigrew (1997).

Small hotel owner managers would display tendencies associated with business oriented entrepreneurs in other sectors of the economy in order to survive and prosper. (Glancey & Pettigrew, 1997:24).

Notwithstanding the level of entrepreneurship, a strong, highly resistant culture becomes an obstacle to integration and adoption of technology.
The rise of the Destination Management System (DMS) and more collaboration between software developers and tourist boards is representative of this period. The growing interest in community tourism development is paralleled within the European Union by a switch of emphasis away from large automatic grants to attract inward investment projects, towards small firms and indigenous development. The EU, by providing assistance in the form of grants,

*provides the incentives for tourism SMEs to work with it in a partnership arrangement* (Wanhill, 2000:145)

Tourism growth is accompanied also at this time by increased government commitment to technology as a key component of the economy with the rapid development of the Internet (BDO, 1996). In October 1995, the Welsh Development agency established a “Network Wales” service on the Internet, providing some information on tourism, along with finance and property.

Several authors (e.g. Buhalis, 1995; Main, 1994; Wober & Gretzel, 2000) concur on the proposition that collaboration within destinations is essential to produce meaningful information for marketing and strategic management knowledge acquisition. DMSs are going through a second phase of development and redevelopment with EU funding giving support to research and development with a focus on SMHEs. At this time more tourism customers are gradually becoming more aware of new distribution channels and the benefits of dealing more directly with tourism/hospitality suppliers. Progressive SMHEs at this time are formulating consortia and/or joining with independent web providers and commercial portals e.g. Smoothound, in order to improve their representation in the market place and are positioning themselves for the future.

However there exists a “digital divide” between the information rich who are making best use of all available technologies and the information poor who have little technology and representation in electronic marketplaces.

Highlighted in this phase are the failures to use data effectively and the human resource issues that are emerging as impediments to adoption. Employers need to invest in the
long term; they often lack entrepreneurial skills and adopt a passive attitude, preferring to use old familiar management tools and techniques. Travel agencies, tour operators etc. are reluctant to share their information and fear being bypassed in the buying process and losing commission.

It is difficult to assess the position for SMHEs in the context of Gamble’s model. Certainly, it is not progressing seamlessly through the traditional management functions as first proposed and as indicated in the matrix/model, figure 2.3. External influences and stakeholders start to play a more influential role in pushing technology to SMHEs. The early adopters of technology seem to progress to a more tactical and strategic use of technology (Gamble’s stage 3 of the model) leaving others on the wrong side of the “digital divide” (Gamble’s stage 1 or 0).
<table>
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<th>IT applications and infrastructure</th>
<th>Markets and Customers</th>
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<th>Human resources</th>
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<tbody>
<tr>
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<td>1985</td>
<td>property management systems, word processing accounting</td>
<td>Mass Markets Customers not connected</td>
<td>Economic recession</td>
<td>Fragmented and Lengthy</td>
<td>Embedded culture</td>
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<tr>
<td>Pre-computer</td>
<td>1990</td>
<td>Global distribution systems computer reservation systems (GDS/CRS)</td>
<td>Little capital investment Govt Funding low</td>
<td></td>
<td></td>
<td>Lack of training</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1995</td>
<td>Outsourcing Application software rise of the Destination Management system</td>
<td>Digital customers and marketplace evolving</td>
<td>Growth of EU Funding DGXXIII</td>
<td>Dis-intermediation Re-intermediation</td>
<td>No IT training entrepreneurship low</td>
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<tr>
<td>Clerical Hotel computer</td>
<td>2000</td>
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<tr>
<td>Stage 2</td>
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<td>Manager's aversion to technology</td>
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<td>Administrative Computer</td>
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<td>Stage 3</td>
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<td>Tactical Computer</td>
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<td>Stage 4</td>
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<td>Creative Connected computer</td>
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Figure 2.3: Matrix Model of Diversity of Diffusion at the end of Phase 2
The turn of the millennium sees some paradigm shifts in the adoption of technology, with the Internet becoming a standard platform for both customers and suppliers in the tourism and hospitality sector.

2.4 Phase 3: How are ICTs used in the management of SMHEs?

In order to give a longitudinal and comparative view of diffusion of ICTs the following publications use the same population and survey instruments as the earlier survey in 1993-4 that is the basis for the previous works.

2.4.1 The Use of the Internet by Hotels in Wales - a longitudinal study: 1994-2000

(Main, 2002) is based on a survey in 2000. The Expansion of Technology in Small and Medium Hospitality Enterprises with a Focus on Net Technology (Main, 2002) builds on this work and includes a survey conducted in 2001.

There has clearly been an increase in the uptake of technology in this sector. The previous research in 1994 indicated that some factors played a key role in the use of technology. These were mainly demographic factors, such as the size of the hotel (in terms of number of rooms), the age, education, gender of the hotel manager and his /her educational background... There is no supporting statistical evidence in this survey to indicate that these have a significant impact on the use of technology in the surveys in 2000 and 2001. The role of the WTB was minimal in 1994 in terms of advocating and promoting the use of technology. In the past five years that role has changed and the relevance and importance of technology as a business driver has been recognised by the WTB. (Main, 2002:172)

The results show the increase in the use of technology within the SMHE sector and, in relation to Gamble’s model of diffusion, have reached stage 2 or 3 with 65% using technology for some strategic purposes.

However, ‘a vast majority have never attended an IT course, 75% have never attended a course of any description’ (Main, 2002:170). This is typical of SMEs in general where ‘a paucity of training is undertaken by small firms in spite of evidence of its value to SME management and employees’ (Proudlock et al, 1998).
The survey also shows that e-commerce is not widespread with only 22% in 2000 and 30% in 2001 contacting suppliers via technology (e-procurement). Sangster (2001) comments that so-called e-procurement impacts by both reducing infrastructure and transaction costs and with the Internet SMEs have the opportunity to access more diverse marketplaces and small purchases can be aggregated to make the buying process more efficient. Horizontal marketplaces offer the possibility of a broader platform, providing a forum for different types of buyer and sellers to engage in a wider variety of activity such as advertising, bidding, taking part in auctions and managing their supply chains (Golicic et al, 2002).

The 2001 survey also reveals that 70% of the users started using technology in the last 12 months and 68% had their own website. This seems to indicate that the Internet may be a main driver in adoption of technology as we see the rise of the destination management system (DMS). In effect there are now at least four different channels of Internet access available to hotels. These are: their own site, affinity sites, discounts sites and portal sites (O’Connor, 2001). This research did not clearly elucidate which type of site they utilised as many respondents were unsure.

Sangster (2001) suggests that at the outset the Internet was heralded as offering a level playing field for independent operators. However the reality of the Internet is that size increasingly matters and rather than be an enabler for smaller hotels the Internet may accelerate their decline. This may be due to the huge costs involved in delivering an Internet enabled business. However, ‘the surveys in 2000 and 2001 reveal that over 60% advertise and receive bookings over the Net’ (Main, 2002: 173). Marvel (2001) suggests that:

\[
\text{to neglect the potential of the Internet may open the breach for competitors to collect and exploit useful client information. The problems that many independent hoteliers encounter in exploiting the Internet and e-commerce provide yet another argument for adopting an appropriate affiliation which will assure effective management of a hotel’s Internet exposure.} \\
(Marvel, 2001: 58)
\]
Teo (2002) comments that with the advent of e-commerce many companies are beginning to take a fresh look at the way they do business. Some researchers propose that consumers’ own characteristics play an important role in his or her propensity to engage in Internet transactions (Sheth & Parvatiar, 1995; Jarvenpaa & Traxtinsky, 1999), with purchasers of tourism and hospitality being a particularly good fit.

Technology offers significant advantages for SMHEs in operational, tactical and strategic management (Gilbert et al, 1999). Distribution networks and partnerships with other tourism product providers might also offer SMHEs wider distribution networks and partnerships with complementary products (O’Connor, 2001; Palmer & McCole, 2000). Increasingly the use of IT is a major prerequisite in forming strategic alliances, developing innovative distribution methods, communicating with consumers and partners and satisfying consumer demand. Both customers and partners tend to place a greater value on organisations, which utilise ITs than their competitors (Hewson, 1996; Thomas, 1998). However there is still variability in the perception by managers of the advantages in their strategic attitudes to IT (Camison, 2000).

There is also in this sector some confusion in the channels of distribution, for customers and hotel managers. While hotels and intermediaries may have cooperated with each other in the past and relied on traditional channels of distribution, the Internet introduces more intermediaries into the arena. Hotels have their own web sites, use specialist Internet Service Providers (ISPs) to distribute their product, Destination Management systems (DMS) provide online booking plus various other links and sites (O’Connor, 2001).

However, despite the choices, difficulties still exist, (Main, 2002; Anckar & Walden, 2001). Several barriers hinder adoption and prevent SMHEs from capitalizing on IT and the Internet. These are, the accelerating pace of change, the perceived usefulness of IT systems and past, poor, experience of technology in addition to the barriers identified throughout this review and the model/matrix, (figure 2.4) reflects these factors. There is a diversity of diffusion and Gamble’s model needs to be re-evaluated for SMHEs.
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<td>Dis-intermediation Re-intermediation</td>
<td>Lack of training Poor Strategic skills No IT training entrepreneurship low</td>
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<tr>
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<td>1995</td>
<td>Outsourcing Application software rise of the Destination Management system</td>
<td></td>
<td>Growth of EU Funding DGXXIII</td>
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<tr>
<td>Stage 3 Tactical Computer</td>
<td>2000</td>
<td>Web-based applications, ASPs Destination Management systems</td>
<td>Customised and Niche products Connected mobile Customers</td>
<td>Continued EU support UK initiatives</td>
<td>Direct Channels</td>
<td></td>
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<tr>
<td>Stage 4 Creative Connected computer</td>
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Figure 2.4: Matrix Model of Diversity of Diffusion at the end of Phase 3
The Internet establishes itself as a valid marketing and distribution channel (Morrison & Thomas, 1999) and consequently there is increased market segmentation and the development of niche markets and customised products. Consumers are becoming more intelligent and savvy and marketing communication clutter increases (Brassington & Pettitt, 1998). Thus it becomes essential to communicate with our customers in a more direct and effective manner. It is clear that the SMHEs look to the DMS and other web-based suppliers to market them via the Internet.

2.5 Phase 4: How can ICTs be used more creatively and innovatively in the marketing of destinations and thus SMHEs?

Consumers are increasingly confident of transactions over the Internet and are incorporating the Internet into their tourism buyer behaviour, particularly at the information seeking stage, and look to the Internet to provide instant gratification of their purchasing requirements. Given the slow adoption and the diversity of diffusion of ICT within the SMHE sector the following investigations are pointers for future marketing activities for SMHEs.

2.5.1 Developing the Use of Viral Marketing in the Context of a Web –based communications Strategy (Main, 2002) examines viral marketing in the context of city marketing.

The concept of viral marketing is very simple; create a piece of marketing collateral that customers will want to pass via e-mail onto their friends and acquaintances. The Internet is ubiquitous and media rich and forms an ideal channel through which viral marketing can travel and... utilise “peer to peer conversations” (Main, 2002:293)

Customers have indicated in this research that they are receptive to permission-based marketing and... would make this type of direct marketing a realistic proposition (Main, 2002: 294)

The research shows that individual tourism and hospitality enterprises, cities and destinations have yet to adapt to a creative tool such as “virals”. They are collecting data from their websites but fail to use it effectively.
For most tourism marketers the goal of direct marketing would be to make a connection with individual customers to obtain permission to engage in direct communication with him/her, generate lasting relationships and increase customer lifetime value.

2.5.2 An Investigation into how Data collected by Destinations websites are utilised as a direct marketing tool (Murphy, 2003) investigates how destinations are utilising marketing data on behalf of their members.

As buyers become more sophisticated in the use of the Internet when purchasing travel and tourism product, the wealth, breadth and depth of information collected as a result of site visits becomes massive. Therefore, the careful mining of this data becomes crucial to match customers and product offerings. (Main, 2003:316)

A good clean well maintained customer database is arguably any company's best asset...Once in place it opens up a wealth of possibilities for marketing purposes, enabling the segmentation of markets according to types of products of interest, time of year they are likely to buy, their purchasing history and demographic profile. (Main, 2003:323)

Destinations seem to utilise direct marketing to fill up spare capacity, whereas a better approach might be to be customer focused and use direct marketing campaigns that match their customer needs (Mitchell, 2002).

Concern was expressed about "pestering" the customer too frequently...They also felt their customers suffered from information overload in general. This makes profiling more important and gaining permission to contact them crucial, via "opt-in" rather than the destination's choice of "opt-out". However, getting the timing and frequency of contact is essential. (Main, 2003: 323)

This research indicated that the breadth and depth of data collected via the websites is not being exploited. Web statistics are limited to those of general trends, hits and page impressions. A more detailed analysis of logging files and customer tracking files would produce more meaningful statistics for marketing purposes e.g. exit information, time spent on page etc. would all assist on designing the website to meet customer criteria and build lifetime customer value. (Main, 2003:324)
2.6 Summary
The Internet, and web-based applications have enabled, and perhaps forced, dramatic changes in the way of doing business. Hospitality Application Service Providers (ASPs) offer remotely hosted hospitality software applications for hotels over an Intranet or the Internet, charging them a negotiated monthly fee for their use. ASPs offer cheaper high-end applications with specialised ICT support and expertise, though a recent study showed that there are perceived weaknesses in the ASP model (Paraskevas, 2003).

As technology becomes more sophisticated, there is more creative use of technology in utilising SMS (short message system) and MMS (multimedia message systems). According to KPMG (2003) there will be 100 million digital wireless devices with capabilities beyond voice communication by 2003. These devices, e.g. Personal Digital Assistants (PDAs) and mobile phones, are increasingly used to deliver direct marketing messages into the palm of the hotel customer. The use of ambient technology and wearable technology are also being researched for application to this sector. With the proliferation and information gathering capacity of websites we can expect to witness more sophisticated databases and data mining to acquire guest intelligence and target hospitality consumers accurately.

European studies show that SMEs, in general, have to innovate both from a technological and an organisational perspective and build partnerships with other organisations in order to address strategic opportunities and challenges successfully (Dutta & Evrard, 1999). As far as the hospitality sector is concerned, it can be argued that they have little choice, either enter into IT motivated strategic alliances or risk being sidelined (Morrison et al, 1999).

Impediments to achieving improved business performance may be exacerbated by poor planning and a lack of core competences in Internet management in many tourism and hospitality businesses. (Carson & Sharma, 2001:116)

As the digital economy develops, hotels increasingly need greater technology, regardless of their size (IH&RA, 2000). There is abundant evidence that many medium-sized hotels have moved away from the clerical use of IT (record keeping and word
processing) and have begun to use it in decision making (yield management and data management) (Paraskevas, 2003). This makes the case for developing beyond Gamble’s model, which is referred to as “Stage 4: Creative computer” in the matrix/model, figure 2.5, or abandoning it in preference to a model that better relates to the SMHE-a model that reflects the diversity of diffusion and reveals the critical external, environmental factors.

The new, revised model (see figure 2.5) illustrates the drivers within the SMHE sector in terms of adoption of technology and attempts to highlight the critical factors over the last decade. More recent factors include, the growth of dynamic packaging, where customers can put together their own travel/tour package in one visit, the exploitation of the Internet, the growth of the digital economy (e-commerce and m-commerce), the technically savvy, “wired” consumer and consequent demand-side pull, and the increasing technology role of the DMSs.

Far from being a simple stage by stage progression in the adoption of technology as indicated in Figure 1.1, the new model reveals that the adoption of ICTs by SMHEs is complex, influenced not only by internal factors but by uncontrollable external factors. An analysis of the complexity and strength of external forces is not attempted, but will be the focus of future research.
<table>
<thead>
<tr>
<th>Stages of Gamble's model</th>
<th>Time Frame</th>
<th>IT applications and infrastructure</th>
<th>Markets and Customers</th>
<th>Funding and Finances</th>
<th>Channels of Distribution</th>
<th>Human resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0</td>
<td>1985</td>
<td>Property management systems, word processing software, accounting systems</td>
<td>Mass Markets Customers not connected</td>
<td>Economic recession</td>
<td>Fragmented and Lengthy</td>
<td>Embedded culture</td>
</tr>
<tr>
<td>Pre-computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lack of training</td>
</tr>
<tr>
<td>Stage 1</td>
<td>1990</td>
<td>Global distribution systems, computer reservation systems (GDS/CRS)</td>
<td>Little capital investment Govt Funding low</td>
<td></td>
<td></td>
<td>Poor Strategic skills</td>
</tr>
<tr>
<td>Clerical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No IT training</td>
</tr>
<tr>
<td>Hotel computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Entrepreneurship low</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1995</td>
<td>Outsourcing Application software rise of the Destination Management system</td>
<td>Digital customers and marketplace evolving</td>
<td>Growth of EU Funding DGXXII</td>
<td>Dis-intermediation Re-intermediation</td>
<td>Manager's aversion to technology</td>
</tr>
<tr>
<td>Administrative computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
<td>2000</td>
<td>Web-based applications, ASPs, Destination Management systems, New roles for GDS</td>
<td>Customised and Niche products Connected/ mobile Customers</td>
<td>Continued EU support UK initiatives</td>
<td>Direct Channels Customer choice Additional channels</td>
<td>Web-based learning</td>
</tr>
<tr>
<td>Tactical computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strategic alliances</td>
</tr>
<tr>
<td>Stage 4</td>
<td></td>
<td>Ambient technology e-commerce and m-commerce</td>
<td>Dynamic packaging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Connected computer</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Figure 2.5: Matrix Model of Diversity of Diffusion at the end of Phase 4
Chapter 2: The Review

The issues of training still need to be addressed perhaps through the Internet itself, by web-based learning, which would accommodate the SMHE managers, as they can only rarely afford to take time away from their businesses (Jameson, 2000). Tourist boards and government must acknowledge the characteristics of SMHE when they develop DMSs and be inclusive in their consultation and developments for destination websites. Successful bids for funds (e.g. under DGXXIII 6th Framework Programme) should be coordinated in collaboration with appropriate stakeholders, which must include SMHEs, who are collectively a significant proportion of regional tourism and that a strategy of “co-opetition” should be encouraged.

SMEs play a crucial role in European competitiveness and job creation, not only because they represent the overwhelming majority of enterprises in Europe (99.8% of all EU enterprises) and create two-thirds of all employment but also because they are the source of dynamism and change in new markets (http://sme.cordis.lu/research/fp6, 07/032003)

Nonetheless, the question “are SMHEs too small to benefit from technology?” must be considered. Some SMHEs have few rooms and cannot guarantee the release of inventory to web-based retailers. Peacock and Evans (1999) and Baker et al (1999) propose a similar viewpoint in that technology has still much to prove in terms of reducing costs and increasing productivity.

Also from a business culture and entrepreneurial viewpoint, adoption of technology could be in complete conflict with the “lifestyle” choice that Morrison et al (1999) identifies as a key characteristic of the SMHE owner/manager. It is also mooted that the Internet and web-enabled technologies may prove to be merely “intermediate technologies” and that mobile technology will be the future platform with diffusion of mobile technology surpassing that of Internet based technology in 2001 (Wilson, 2003).

Despite these considerations, the pervasion of technology appears to be relentless, therefore maximising the benefits of technology is crucial and continuous. As a more
mobile marketplace develops, SMHEs need now to be in a position to reach their wired, mobile customers and operate in the digital economy.
Chapter 3
Chapter 3: The Research Approach

3.1 Introduction
This chapter considers the conflicting research paradigms, namely the positivistic/quantitative approach in contrast to the phenomenological/qualitative approach. It further illustrates, in a timeline model, the methods and methodologies and that are adopted in the four phases. It concludes with a review and reflections on the research process and this researcher’s pragmatic approach.

3.2 Research Paradigms
Some researchers distinguish between quantitative and qualitative research on the premise of wholly different philosophical stances. One stance is that positivism is a ‘philosophy which both proclaims the suitability of scientific method to all forms of knowledge’ (Bryman, 1988: 14) whereas the phenomenological stance ‘views human behaviour... as a product of how people interpret their world’ (Bogdan and Taylor, 1975: 13). Filstead (1979: 42) has a view that quantitative and qualitative research represents: ‘different epistemological frameworks’ but still suggests that ‘great advantages can be obtained by creatively combining qualitative and quantitative methods’. This is further reinforced by Yin who states:

Although some believe that these philosophical beliefs are “irreconcilable” the counterargument can still be posed- that regardless of whether one favours qualitative or quantitative research, there is strong essential common ground between the two, (Yin, 1994: 15)

Crotty (1998: 216) suggests we ‘do not pluck a research paradigm ‘off the shelf’... that we should devise a research process that serves our purposes best’. By varying the methods of inquiry a richer picture of the phenomena can be achieved. Yin (1994) acknowledges the use of multiple methods for collecting data, which may be both quantitative and qualitative and states that ‘the use of multiple sources of evidence are more likely to be relevant’ (Yin, 1994: 92). Watson (1997) refers to a strategy of “pragmatic pluralism” where conceptual frameworks for various theoretical perspectives are developed into a single coherent perspective.
Chapter 3: The Research Approach

An approach whereby a researcher in producing an analysis of some aspect of social life, draws elements from various disciplines or perspectives to produce what amounts to their personal paradigm- with its own ontological, epistemological and methodological integrity- to stand as the conceptual framework for that particular piece of research. (Watson, 1997: 3)

The choice of methods and methodologies are determined by the research question, or, as in this case, the series of research questions that evolve during the research period. As the questions evolve they are considered in four phases as opposed to an overall hypothesis. Qualitative and quantitative research is relevant at different stages in the research process. Different methodologies, methods and theoretical perspectives are used in this research process.

3.3 Methodologies and Methods Adopted

3.3.1 Phase 1 (The Environmental Phase): How does the internal and external environment impact upon the application and adoption of information and communications technologies (ICTs) by SMHEs?

A positivistic perspective is adopted. The nature of the question posed and, the collection of mostly quantitative data contribute to the choice of this approach. A ‘positivistic approach tends to produce quantitative data and large samples’, (Collis and Hussey, 2003: 55). The initial research measures the diffusion of technology within SMHEs in Wales, and is designed to shed light on the factors that influence the diffusion of technology (or lack of) against the proposed diffusion in Gamble’s model in figure 1.1. It then proceeds to a comparative study against similar data collected in Greece and France. The questions asked at this stage are primarily descriptive in nature
Chapter 3: The Research Approach

and further investigate if there are relationships between variables that affect diffusion/adoption of ICTs. This initial study evolves into a longitudinal study at a later stage in the research process.

The major methodology at this stage was primarily a survey approach that leads to predictions, explanations and an understanding of the nature of the data (Robson, 1993). It also investigates relationships between variables and provides “a way of measuring”. In a survey a sample is usually drawn from the population to make inferences. In this case the total population, 650 hotels in Wales, is used. The population is defined as all hotels that are members of the Wales Tourist Board. The unit of analysis is the hotel. The survey approach is both descriptive and analytical which allows a broader, complementary view of the research question.

Methods focus on the use of a self-administered questionnaire. The questionnaire format used at this stage is highly structured, using mostly multiple-choice options, and data collection is highly specific and precise. Bonoma (1985) argues that all research requires high levels of data integrity and results currency and this is integrated into this approach. Location of collection is Wales and, consequently, is compared to similar data collected in Greece and France. The design of the questionnaire and the data collection focuses on determining the characteristics of the hotel and the manager, the management uses of ICTs, the barriers to use. The return rate is within accepted levels and the returned data is analysed using SPSS and the quantitative data is statistically analysed using frequencies, cross tabulations and the chi-square test of significance.

This initial stage of the research results in a wealth of statistical evidence that substantiate the initial research questions, however, more revealing data is sought. With the understanding that the highly structured design (of the questionnaire) imposes certain constraints on the results, the research question now focuses on the meaning rather than the measurement. *Indeed, one of the ways in which quantitative research may facilitate qualitative research is in the judicious selection of cases for further study* (Bryman, 1988: 136).
3.3.2 Phase 2 (The Strategic Collaborative Phase): How strategic are SMHEs particularly in identifying collaborative ventures when using ICTs?

A more phenomenological approach is incorporated into the theoretical perspective at this stage. Qualitative data are collected and used, the researcher herself is more involved in this process and small samples and cases are examined. ‘Qualitative data is often used for the study of micro level phenomena’ (Bryman, 1988: 147). Different methods are used at this stage to obtain different perceptions of the phenomena as an understanding is sought as to what is happening in a situation from the participants’ frame of reference (Collis & Hussey, 2003).

The methodology now in use are different forms of case study approaches and methods are the use of semi-structured questionnaires/ interviews. Yin (1994) states ‘as a research endeavour the case study contributes uniquely to our knowledge of individual, organisational, social and political phenomena (Yin, 1994: 2). Eisenhardt (1989:534) refers to the case study as ‘research study, which focuses on an understanding and dynamics present within a setting’. In this case it is an exploratory research approach, used in areas where there is a deficiency in the body of knowledge (Collis and Hussey, 2003). Here both the experimental approach and explanatory approach to case studies are used in the publications.

The experimental approach is used where the research examines the difficulties in implementing new procedures and techniques in an organisation and evaluating the benefits and the explanatory approach where existing theory is used to understand and explain what is happening. (Collis and Hussey, 2003: 68)
Methods here use case studies of proposed models and actual hotels. The case studies incorporate the use of semi-structured questionnaires and interviews that are administered by both telephone and personal interviews. Yin (1994) states the strengths of interviews, in the context of case studies, are that they are targeted and insightful. ‘Case studies can include, and even be limited to, quantitative evidence’ (Yin, 1994: 14).

These methods are chosen because they have a number of advantages, being a far more sensitive form of research than the previous questionnaire method. They give an opportunity to probe or ask follow-up questions. Also, interviews are generally easier for the respondent, especially if, as in these cases, what is sought are opinions or impressions of a phenomenon (Silverman, 1994). These questionnaires/interviews were designed to give depth and scope to the case study. They probe what type of data is collected, how is it stored and analysed and what strategic use is made of the data collected, particularly in terms of marketing and yield management.

Preliminary investigation is performed by familiarisation and accomplished by previous fieldwork and direct contact with case study subjects (Collis & Hussey, 2003). The data are collected by interviews, face to face and by telephone and analysis of the data is by inspection and reported in the publications as summary information, quotes and opinions within a mostly descriptive format.

Examining the external forces and environmental changes at this time reveal that certain drivers are forcing change on SMHEs and the next stage of the research process revisits the original population in the form of a longitudinal study, and a more positivistic approach predominates. Minimal alteration of the questionnaires is needed to incorporate the new terminology for ICTs and a highly-structured approach is repeated.
3.3.3 Phase 3 (The Management Phase): How are ICTs used in the management of SMHEs?

The aims are to research the changes that may have occurred during the 7-8 years since the initial survey and a longitudinal survey allows an examination of the changes within the social, economic, governmental and market forces (Collis and Hussey, 2003). The methodology is again a self-administered postal survey and methods are similar to the first stage with similar statistical tests and analyses applied to the data for comparative purposes.

Evidence from the longitudinal study reveals a high level of penetration of ICTs and, at the beginning the era of e-commerce and m-commerce, the research process investigates the more creative uses of technology that are emerging. The focus is on destinations and web-based technology, which appear, from the previous stages of research, to be the key technology used by SMHEs.

3.3.4 Phase 4 (The Innovative Phase): How can ICTs be used more creatively and innovatively in the marketing of destinations and thus SMHEs?
Chapter 3: The Research Approach

The research approach returns to a more phenomenological perspective. The case study approach is adopted as an overall methodological approach and is experimental in design and aims not only to explore certain phenomena but also to understand them within a particular context (Yin, 1994). The phenomena investigated are the possibility of applying web-based marketing techniques to tourism and hospitality products within the context of a destination.

The cases selected were the regional tourist boards in the UK. Familiarisation through previous research assists here in the preliminary investigations. Data were collected via e-mail questionnaires and supplemented through postal and face-to-face interviews. ‘Interviews can entail more structured questions, along the lines of a formal study’ (Yin, 1994: 85). A semi-structured format was used to collect both qualitative and quantitative data. Due to the small sample size the data were analysed manually via inspection. Analysis by inspection facilitates the building of descriptors for events, opinions and phenomena, which can be used to identify trends and patterns. Reporting of results in the relevant publications is mainly descriptive through collective comments, opinions and quotes from respondents.

3.4 Review of methodologies

The survey methodology has particular strengths in terms of collecting quantitative data.

_The major advantages of the survey is its ability to reach many thousands of widely distributed people and the statistical analyses that can be performed on its data_ (Ackroyd and Hughes, 1992: 70).

However, it is particularly subject to sampling and respondent biases and checks and balances are included to ensure the integrity of the data. The return rate on the surveys here is within acceptable limits but may develop a picture representative of those who are “willing to respond” to this type of survey. The Wales Tourist Board (WTB) supplies the population, but not all hotels are members of this body, so some possible respondents are omitted. The way questions are posed in the questionnaire and in the semi-structured interviews may introduce bias. They may also represent the
respondents’ “perception”; did they really understand the questions as constructed? Their own interpretation of the language, structure and imagery of the question is not taken into account and the subjectivity of the response may be unrealised.

‘Interviews may suffer from response bias, inaccuracies due to poor recall and an element of reflexivity’ (Yin, 1994: 86) and as case study interviews are more open-ended in nature that further may lead to difficulties in analysis. Writers like Cicourel (1982: 15) criticise interviews for their lack of ‘ecological validity’ and specifies examples where they are sensitive to slight changes in wording and the availability of the necessary knowledge by respondents to answer the question. With specific reference to the e-mailed questionnaire it has been argued (Zigmund, 1997) that many respondents feel they are more candid and prepared to interact on self-administered e-mail questionnaires than in traditional mailed questionnaires and they arouse curiosity because they are novel. There are criticisms in terms of authentication of sender, validation of data and limitations of sampling in e-mailed questionnaires.

Critics of the case study approach claim that ‘they lack rigour...they provide little basis for scientific generalisation...the case study does not represent a “sample”... takes too long... are very difficult to do’ (Yin, 1994: 10). Additionally, the case study subject does not exist in a vacuum; a knowledge of what happened before and after is often needed to give a more rounded picture (Collis and Hussey, 2003). Quantitative and qualitative research also share some technical problems in terms of “reactivity” from the selection of people who are the focus of the research.

In some areas of social research, the qualitative-quantitative dichotomy, together with the presuppositions underlying them, has led to protracted arguments. Essentially, proponents of quantitative design argue that their data is “hard”, “rigorous”, “reliable”, “credible” and “scientific” while the proponents of qualitative data counter that their data is “rich”, “deep”, “sensitive”, “detailed” and “contextual” (Brynan, 1988: Ackroyd and Hughes, 1992). However, ‘when quantitative and qualitative research are jointly pursued, much more complete accounts of social reality can ensue’ (Bryman, 1988:126). However the choice between the two is neither urgent nor necessary.
What we are being asked to choose between are promissory notes, not achievements. There is a great deal wrong with quantitative methods just as there is a great deal wrong with qualitative ones. Both kinds are, as it were, in much the same boat...both are still in their infancy and neither one markedly superior to the other in all respects. (emphasis theirs) (Ackroyd and Hughes, 1992: 30)

Moreover, no research method is perfect; all research endeavours are value laden and affected, to some extent, by personal predilections and technical considerations.

3.5 On reflection

This research process includes a blend of assumptions and methodologies. Crotty (1998) states that phenomenology offers a methodology that is both a starting point and a touchstone and 'it has a note of objectivity...it is an exercise in critique' (Crotty, 1998:80). On reflection, as progress was made through this PhD, particularly the reinterpretation of the SMHE in a wider context, there is more focus on a phenomenological approach which 'attempts to recover a fresh perception' (Crotty, 1998: 80). But, this is not exclusively a phenomenological approach. Overall, the methodologies are pragmatic in approach:

*Pragmatists consider the research question to be more important than either the method they use or the world view that is supposed to underlie the method. Most good researchers prefer addressing their research question with any methodological tool available.* (Tashakkori & Teddlie, 1998: 21)
Chapter 4
Chapter 4: Contribution to Knowledge, Future Work and Final Thoughts

4.1 Introduction
This chapter focuses on the thesis’ contribution to the body of knowledge and goes on to identify some potential areas of future research and crystalises the final thoughts of the author.

4.2 Contribution to Knowledge
The main contribution must focus on the empirical evidence that is included in the selected works and the development of a new model, which revises Gamble’s model, moves beyond it and identifies key issues. It accentuates the differences of SMHEs from the orthodoxy of large affiliated chain hotel groups and the associated technology transfer. It continues an original piece of work, the MPhil, and further tests the ideas within it. It synthesises ideas and factors that have not been attempted before, which makes it different from Gamble’s model, which does not seem to hold up over time.

The focus of this new matrix/model is on an understanding of the SMHE sector, specifically. The model was populated with emergent, cumulated and grounded data informing the generation of a new matrix/ model and outlines a more complex view of inhibitors and motivators for the adoption by SMHE which inevitably influences current ICT decision-making. It contextualises the events over 10 year time frame and avoids the limited and limiting vision of linear models which do not recognise the inherent diversity and complexity of the SMHE. A distinctive feature of the matrix/ model is that it is a result of a chain of studies, where the SMHE is examined and re-examined whilst the scope of the research is expanded to a wider examination of relevant processes and forces.

The paucity of relevant research tends to render the current ICT debate largely dogmatic and ineffective (Fallon & Moran, 2000; Hepworth & Blizzard, 1996) and this model contributes by providing both empirical, quantitative data and focused qualitative
research on this topic. The quantitative/longitudinal data gives measurement and reflection of the penetration of ICT and the qualitative case study approach provides a basis for building more descriptive models and a richer picture of the SMHE. Diffusion of ICT has not been previously measured over the 10 year time frame in this or in any other sector (Dixon et al, 2002; Kae-Uwe Brock, 2000) and ‘longitudinal research has tended to be marginalised by cross-sectional studies’ (Dixon et al, 2002:19) In the longitudinal studies the dynamics of the diffusion of ICTs is revealed in the 10-year time frame revealing the inconsistency in diffusion of ICT in a time of exponential technological change. This change process is viewed in the model in the context of the changing IT infrastructures, market and distribution conditions, financial constraints and the human resource element.

Southern & Tilly (2002:140) reveal the ‘use of ICT in quantitative terms only misses the complexity of the relationship between small firms and the technology’. The qualitative research here gives ‘voice’ to the SMHE owner/operator and to what it means to be a member of the SMHE sector. It highlights the importance of human capital and the proactive or reactive approach of managers to rapid technological developments and the imperative that SMHEs should carry out both internal and external audits in order to map, match and develop ICTs to organisational resources and market needs. It observes that SMHEs are uniquely different and therefore need different methodological ways of examining them to take in to consideration the vast differences between individual SMHEs and the diffusion of ICTs. The matrix/model highlights the critical socio-technical relationship that impact on owner/managers and avoids a deterministic view of diffusion.

The matrix model allows for expansion, in all dimensions, and is not only a suitable model for SMHEs but also may be adapted to other sector SMEs. It provides an incremental approach to measure diffusion and presents an opportunity for SMHEs to define where they currently are, from both an operational and strategic perspective, and position themselves to exploit ICTs. It shows that the benefits from ICTs cannot be fully realised if merely superimposed across existing business processes or applications, e.g. the original Gamble model or the DTI model.
All works included in this thesis have been widely disseminated and have been subject to peer review and the consequent criticisms and challenges. They have been published in the UK and international journals, e.g. The International Journal of Contemporary Hospitality Management, The International Journal of Hospitality and Information Technology, The International Journal of Tourism and Technology, and publicly presented and defended at conferences at a local, national and international level.

These works, to some extent, confirm what other authors have discovered about SMHEs and add further to the body of knowledge by stimulating further development. Other authors cite the works, e.g. Wood, Peters et al, Paraskevas, Sharma and Carson, Lynch, Sigala, and this has directly informed the development of this research area.

Using a mixed methodology approach provides flexibility and allows for learning en route. It not only uses well-known tests and procedures but also provides meanings in terms of how the subjects make sense of their experiences, i.e. the hotel manager and destination manager and their attitude/ predisposition to ICTs. The direct engagement with the subject allows the researcher to drill deeper into the data and accelerates an understanding that facts in tables and graphs do not make obvious.

This pragmatic approach facilitates the posing of original, innovative research questions and the resulting outcome, the new model, can now provide a fresh baseline for further research, particularly for those researchers that follow in the future, which incorporates a range of forces, not, till now, synthesised into a model.

### 4.3 Future work

Further research will focus on the relationships of the forces within the model and where they can be strengthened, via network, co-opetition and alliances, to provide effective positioning in the digital economy. Additionally, of particular interest is the increasing role of direct marketing in this sector. As communication clutter increases, media channels become more fragmented and more intermediaries enter the supply chain further questions are postulated:- How can SMHEs make direct contact with their
customers? How can they make effective use of their own data or the data collected on their behalf? How can they connect with mobile customers as traditional markets wither and die?

4.4 Final Thoughts

This was a process of reflecting, learning, discovering, adapting, looking for meaning and adjusting boundaries. All research must have boundaries otherwise the focus is lost. However boundaries, though limiting, lead to a deeper involvement in the subject matter and give a focus to the subject matter, which, hopefully, leads to a more meaningful understanding. The ten year period of the research provided time for contemplation and consideration of the progress and direction the research might take. The absence of traditional supervision helped to develop my own personal autonomy and confidence as an independent researcher.

Being part of a research community provides opportunities for essential discussion, reflection and collaboration, which benefit the research process. Importantly, it helps to develop a professional voice. It also implicates you in other contingent issues, which were tantalising, e.g. human resource issues of culture, training, productivity, and networking. After all, people are the key drivers. However limitations must be acknowledged in that these relevant issues are beyond the scope of this thesis.

Though I felt I got a lot out of the data I collected, there was at times in the research process where there was little supportive or conflicting empirical evidence from other authors that might provoke further discussion and argument on comparisons, challenges or contradictions.

Though diffusion of ICTs in SMHEs does permeate throughout the time period of this thesis it is becomes evident that other stakeholders in the tourism/hospitality sector force it on them. Developing the model helped to conceptualise these events and pinpoint the fragility of the SMHE in the sector.
What remains unresolved is how to get the commitment from SMHEs to effectively use data and technology, preferably both. Hospitality enterprises are a core component of the tourism/leisure experience and are in the best position to gather and exploit knowledge about their customers. However, it is others that seem to capitalise on that information and position themselves more strongly in the market. Their challenge is to identify partners and networks, which allow them to participate in the online economy, despite cost and infrastructure barriers, and adopt a key position within the sector.

It is this researcher's goal to continue to investigate, illuminate and disseminate key findings that not only contribute to the academic domain but also supports them in this challenge.
Bibliography


Fallon, M. & Moran, P. (2000), Information Communications Technology (ICT) and Manufacturing SMEs, 2000, Small Business and Enterprise Development Conference, 10-11 April, Manchester University, Manchester: 100-109


Hankinson, A. (1990), The Small Hotel’s Approach to Capital Investment, *Proceedings of the Small Business Research Conference*, University of Nottingham, April 1990


Henry-Crawford, S-M. (2003), *E-Business Developments in UK SMEs: The Road to the Emerald Isle*, Kingston University, Small Business Research Centre


KPMG (2003), Mobile Internet ‘Any place, any time, everything’ http://www.kpmg.co.uk/kpmg/uk/image/mobileint.pdf, 12.4.2003


Local Futures Group (2001), *E-London and the London Plan*, A report to the GLA from Local Futures Group


Bibliography


Smith, N.R. (1980), The Entrepreneur and his Firm: the Relationship between Type of Man and Type of Company, Michigan State University Press, East Lancing, MI


Tashakorri, A. & Teddlie, C. (1998), Mixed Methodologies: Combining Qualitative and Quantitative Approaches, California, Sage

Bibliography


U.K Council for Graduate Education, (1996), *The Award for a PhD on the Basis of Published Work in the UK*, Warwick, UK Council for Graduate Education


The Selected Publications


Information technology and the independent hotel – failing to make the connection?

Hilary Main

A survey of current IT use in the independent sector of the hotel industry in South Wales

Introduction

Independent hotels are the largest segment of the hotel sector in the UK representing 30.2 per cent of the number of rooms available. They are the poorest performing segment of the industry, delivering trading profit per room seven times less than public limited company hotels[1]. The affiliated hotels are using information technology (IT) widely, from office and clerical functions to management information systems, but what use is the independent sector making of it?

Earlier research by Whitaker[2] in 1986 indicated that usage within hotels was high; however, her research concentrated on large affiliated hotels. Gourmout[3] indicated, in 1996, that there is little evidence that computers are widely used in the independent hotel. As little quantitative research has been undertaken since 1986, the aim of this research[4] is mainly to gather quantitative evidence: for example, the level of usage, what types of systems and applications are in active use, awareness of IT, the demographic factors that influence usage, and also barriers perceived by non-users.

The survey

The methodology

Semi-structured interviews were initially used to investigate the current issues. From this early discussion it became clear that usage was low. These interviews provided the basis for the design of a structured questionnaire. This elicited data in four main areas: hotel characteristics, manager characteristics and profiles of the non-user and user. This questionnaire was piloted and then mailed to all 583 independent hotels in South Wales; 243 were returned and usable, representing a response rate of 38 per cent. The data were coded and analysed using the Statistical Package for the Social Sciences then frequencies and cross-tabulations were extracted. The chi-square test of significance was used, where appropriate, to indicate relationships/dependency between variables.

Findings

This research showed that only half of independent hotels use any form of information technology, which in this survey is taken to mean both software or hardware. Of those independent hotels that are users, only 37 per cent used it for the management of the hotel, the remainder using their hardware and software for word processing (32.5 per cent) and for their accounting function (19.5 per cent). Room reservations, payroll, stock control and desk-top publishing accounted for the other applications.

Tables I and II are extracted from the contingency tables, are statistically significant at the 5 per cent level and highlight the characteristics of the independent hotel and manager.

Smaller hotels are less likely to use IT with only 26 per cent of those hotels with less than 20 rooms being users. Of those hotels with over 20 rooms, 70 per cent were using IT, and this percentage increased to 92 per cent in those with hotels with over 50 rooms. This may be explained perhaps by a perceived lack of economies of scale of IT use in a small hotel business, though other smaller businesses such as newsagents, and accountancy partnerships seem to have utilized IT effectively.

As indicated, those hotels which deem their core business to be other than room letting and providing a bar are more likely to be users, perhaps because these other functions, e.g. banquets or conferences, lend themselves to computerization; or because there are software packages available and effectively marketed to fulfil these specific hotel functions.
Toble

Manager characteristics

Qualification and a significant percentage had only GCSE qualifications, or no qualification at all.

This would seem to indicate that those managers who do not use IT are generally older and have poor academic qualifications. This may occur because this particular group is less likely to have been exposed to new technology and perhaps is unaware of the advantages it has to offer. Independent hotels depend to a certain degree on family members and provide “jobs” for non-family members rather than “careers”, and are therefore less likely to attract those students who have been through a hotel and catering course, or indeed a business course that would have given them exposure. Once in employment in the independent hotel sector older independent hoteliers are unlikely to attend any further courses of study, other than one on hygiene, and this further aggravates their lack of awareness of the potential of IT.

Users

By contrast, those younger managers with formal educational qualifications are those using IT in their hotels. These current users had also used computers in previous employment and this was a significant factor in their current computer applications. However, 60 per cent of users were using a single personal computer and only 22 per cent had a link to a network or mainframe. In the 1990s era of the World Wide Web, the Internet, and information superhighways, this indicates a low “connectability”. Those in the independent sector were asked the main factor that influenced their computer purchase. Most indicated that this was a result of a recommendation of a friend or business associate, possibly highlighting the lack of autonomous advice available to the independent hotel.

Non-users

Those who did not use IT in their hotels gave the main reason for this lack of use as the cost of the systems involved although 58 per cent could perceive a positive benefit provided by a computer system which would indicate an undeveloped market for hardware and software suppliers.

Anecdotal evidence suggests other reasons why the independent hotel may not be using IT. Concerns were expressed at the plethora of software and hardware (which made it difficult for non-users to make a choice), the lack of independent advice, and the difficulty of keeping abreast of technology with the volume of hardware and software emerging daily. This seems to indicate that the fear of making a poor choice prevents some non-users from making any choice.

Implications

There are indications in this survey, if compared with Whitaker’s[2] survey of 1986 for the Hotel Catering &

<table>
<thead>
<tr>
<th>Table I. Hotel characteristics</th>
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<tbody>
<tr>
<td>Core business (per cent)</td>
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<tr>
<td>IT used</td>
</tr>
<tr>
<td>Room letting</td>
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<td>Bar/restaurant</td>
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<tr>
<td>Other than above</td>
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<td>Total</td>
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<table>
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<tr>
<th>Number of rooms (per cent)</th>
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<tr>
<td>&lt; 10</td>
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<td>11-20</td>
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<td>21-50</td>
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<td>&gt; 50</td>
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<tr>
<td>Total</td>
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<tr>
<th>Table II. Hotel manager characteristics</th>
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<tr>
<td>Gender (per cent)</td>
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<tr>
<td>IT user</td>
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<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<th>Education (per cent)</th>
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<tbody>
<tr>
<td>O-level or less</td>
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<tr>
<td>A-level</td>
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<tr>
<td>Diploma/degree or above</td>
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<td>Total</td>
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<table>
<thead>
<tr>
<th>Age (per cent)</th>
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<tbody>
<tr>
<td>20-30</td>
</tr>
<tr>
<td>31-40</td>
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<tr>
<td>41-50</td>
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<tr>
<td>51-60</td>
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<tr>
<td>61+</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

Factors such as location, i.e. whether a hotel is situated in a rural or urban environment, seem not to affect use.

The profile of the hotel manager himself/herself was a significant determinant in the adoption of IT. Managers of independent hotels tend to be older, with only a small percentage in the under-30 age group. Older hotel managers are statistically less likely to be users. There is also more statistical relationship between age and use of IT with male managers more likely to use computers than their female counterparts. There also would appear to be a relationship between formal educational qualifications and the use of IT. Few had a tertiary-level qualification and a significant percentage had only GCSE qualifications, or no qualification at all.

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Institutional Management Association, that the level of use of IT has dropped in the independent sector. Whitaker also suggested that, at that time, there was a lack of long-term strategy for the use of IT, which may account for the decrease in its usage in the 1990s. In the 1980s there was a boom in IT, where businesses bought the new hardware only to find there was no suitable software or available support. Much of the hardware became redundant as it was necessary to be a programmer to design and deliver a workable system. As a result, this may have turned off a large number of potential users, who have yet to risk a second foray into the IT arena.

Many of the users in the independent sector (65 per cent of them) felt that they did not maximize the potential of their existing system. At best this would seem to indicate that there is a large untapped market and, at worst, that the suppliers of IT seem unable to target their market. Structured telephone interviews used in this survey with the specialist software houses indicated that their main marketing approach was through direct mailing to hotels. This does not appear to be a successful channel to distribute the IT message. Why then do the software specialists, and there are at least a dozen software houses specializing in small hotel management systems, seem unable to reach and/or convert the independent hotel market into users of IT?

Certainly, none of the professional bodies connected with the hotel sector seem to be taking an active role in promoting the use of IT. A resounding 78 per cent of independent hotel managers stated that they had not been offered training in IT, and only 3.2 per cent had attended any IT courses. It would appear that this sector has no evident source of independent information about IT, which should be addressed via education and training within the industry.

IT has much to offer in terms of competitive advantage. Customer satisfaction can only be achieved by providing accurate information on customers with which to meet their needs, and offers up-to-date information on the environment in which hotels compete. Customers of all products and services are turning to new technology for recreational information and ease of booking. Centralized regional reservation systems are attractive to customers as they can book a hospitality package or an entire "visit" to an area in one telephone call, where availability and booking and payment can be handled online. The survival route for small and medium-sized hotels lies in regional online information networks as described by Buhalis[5]. These may be linked into the information superhighway, which would support the individual leisure traveller comprehensively and provide economies of scale and direct marketing opportunities to the independent hotels. Connection to this growing network may prove vital for the survival of the independent hotel.

References

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Third Worldwide Annual Conference

Information Technology in small/independent Welsh and Aegean hotels

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1. Introduction - Small/Independent hotels

Tourism destinations are traditionally dominated by small and medium-sized tourism enterprises (SMEs) which provide an amalgam of products and services such as accommodation, catering, transportation, attractions and activities. The vast majority of accommodation establishments around the globe are small/independent, belong to local entrepreneurs, and employ predominately members of the host society. They also maintain an individual character while operating autonomously. They are by definition not affiliated with the major hotel chains e.g. Marriott, Forte, Pavilion and are the largest segment of the international hotel industry (Slattery, 1992; Cooper and Buhailis, 1992; Go and Welch, 1991; Thomas, 1995). Predominately independent hotels have less than 50 rooms, often employ less than 10 people, operate in the lower reaches of the market and are located in coastal and country resorts; Moutinho, 1990)

The number of small hotels around the globe demonstrates their dominant role in international tourism. More than 90% of the accommodation establishments worldwide are small, independent, flexible, seasonal and family managed (Shaw and Williams, 1990; Sheldon, 1993; Go, 1992; Callan, 1989). This is evident in several countries such as the UK, Switzerland, France, Greece, and the USA, where more than 90% of the local hotels have 50 rooms or have less than 50 employees (Go and Welch, 1991; EC, 1993a; Cooper and Buhailis, 1992). Small/independent hotels contribute 60% of all hotel capacity in the UK and 96% of all hotel properties whilst creating the dominant image of hotels in the mind of the public. Individual/small hotels originate a variety of benefits for destinations by providing tourists with direct contact with the local character and host population. Therefore they contribute significantly to the authenticity and quality of the "tourism experience". In addition they facilitate a rapid infusion of tourist spending into the host community, stimulating the multiplier effects.

Small/independent hotels are currently threatened in a number of areas. They are being pressured to join consortia, a trend prevalent in the USA (Morrison, 1994). They lack the economies of scale available to large hotels and chains both externally in their purchasing and marketing function, and internally in economies in resource management. In addition lack of access to capital, due to the "family" nature of the business, the lack of assets which can guarantee loans, and the poor market performance of independents is another handicap which jeopardises their ability to expand and improve their cash flows. They are also being challenged at the lower market level by the expansion of the multinational hotel chains into budget lodges. Perhaps more importantly their deficient marketing and management functions originates an overdependence upon their distribution channel partners which effectively minimises their profitability and damages their visibility in the marketplace (WTO, 1991; Cooper and Buhailis, 1992; Buhailis, 1991 & 1994; Thomas 1995).

However the transformation of tourism demand towards authentic and enriched tourism products generate several opportunities for small/independent hotels. In particular they can market themselves more effectively and present a unique lodging experience for the visitor, particularly in primary and secondary (large city) locations where there are a greater
proportion of domestic and foreign travellers as opposed to tertiary locations where they are subject to demand and seasonal functions. Their size provides a major competitive advantage for flexibility and specialisation and thus they are more capable than large, rigid organisations to identify niche markets and to promote tailor made offerings, achieving differentiation and competitive advantage (Poon,1993). They also have the flexibility to alter their portfolio characteristics, form horizontal and vertical strategic alliances to achieve economies of scope and to facilitate their distribution process and finally they can implement yield management techniques in order to maximise both their occupancy and average room rate. In addition, information technology provides unprecedented opportunities for the management and marketing of small/independent hotels as well as their coordination at the local level. This effectively enables them to enhance their business efficiency, to enrich customer satisfaction and to improve their competitiveness and profitability (Poon,1988; Buhalis,1995b).

Within this framework this paper focuses on the usage of information technologies in small and independent hotels in order to identify whether the entrepreneur appreciates the emergent opportunities and whether they undertake suitable action to benefit from the unprecedented opportunities. The paper highlights research findings in small/independent hotels of two peripheral European regions, Wales in the UK and the Aegean Islands in Greece (Main,1994; Buhalis, 1995b). Despite the geographical distance, the cultural differences and the dissimilarities in the operational processes, clientele and distribution channel arrangements a surprising number of common inferences emerge confirming the fact that the international small and independent hotel need to undertake strategic action in order to enhance their competitiveness and long term prosperity.

2. Information technology in hotels

Traditionally, the hospitality industry has been reluctant to utilise IT (Borsenik,1993; Whitaker,1987). Wardell (1987) asserts that "the lodging industry is the most under-automated segment of the international travel industry". Thus, until recently the majority of reservations were rooted through subsidised toll free phones, while there was a small percentage of bookings emerging from CRSs (Hickey,1988; Chervenak,1991). A research undertaken by Utell in 1991 demonstrated that the vast majority of hotel reservations in Europe are made by phone to central reservations offices, while less significant ways of booking include automation systems and direct communication with hotels (Beaver,1992).

However in recent years, hotels increasingly capitalise on the newly available technology tools and introduce computerised systems in order to improve their inventory management and maximise their productivity (Chervenak,1993; Braham,1988). These systems tend to focus on the in-house operational and strategic management for single hotels as well as their distribution through electronic networks such as Computer Reservation Systems and Global Distribution Systems. Hotels share common characteristics with other service industries in which the information intensity of the value chain is high and the information content of the product is also high; examples of this include banks, airlines and newspapers where information collection and dissemination is an integral part of the enterprises function. The various types of hotel systems are examined while their lack of inter-connectivity is illustrated.
In order to facilitate internal management and control, larger, usually affiliated, hotels have introduced **property management systems (PMSs)** which facilitate the front office and sales planning and operations by administering a database with all reservations, occupation and cancellation and thus to manage a single hotel inventory. Moreover, PMSs integrate back-office operations and thus, improve the general administration, as well as specific functions such as accounting, marketing research and planning, payroll, personnel, and purchasing (Gamble, 1984, 1989, 1990; Lattin, 1990; Sheldon, 1983). Understandably, hotel chains and in particular the multinational ones, gain more benefits from PMSs, as they can introduce a unified system for planning, budgeting and control in all their properties. In response to these needs most hotel chains and several independent properties introduced PMSs software packages to facilitate their operation.

Hotels also realised the need to establish a wide **distribution network** in order to reach their clientele by demonstrating their availability and rates worldwide. This is more urgent for hotel chains which need to manage their inventory for all their properties, regardless of their location. Hence, global presence is required in order to enable both individual customers and travel trade to access accurate information on availability and to provide easy, efficient, inexpensive and reliable ways of making and confirming reservations (Braham, 1988). Central reservation offices introduced central facilities in the 1970s to provide this service, by using traditional IT. Developments in IT as well as the expansion of Computer Reservation Systems forced central reservation offices to adapt new technologies and inevitably to develop hotel computer reservation systems to facilitate information distribution on availability and reservations for the participating hotels worldwide. The domination of Global Distribution Systems since the late 1980s forced hotel companies to develop interfaces and achieve interconnectivity in order to compete in the global marketplace (Emmer et al., 1993). Often PMSs and hotel Computer Reservation Systems are integrated in order to improve efficiency; facilitate control; maximise yield; reduce personnel; enhance marketing research and planning; and enable more rapid response time to both customers and organisational requests (Chervenak, 1991, p. 27).

The adaptation of IT in hotels normally follows **several stages**. As demonstrated in Table 1, the diffusion of IT in the hospitality industry normally goes through 5 stages towards maximising the contribution of IT in their operational and strategic management. Progression from one stage to the next signifies an increase in integration and thus efficiency and productivity, while the last stage refers to the introduction of the hospitality organisation in the electronic market where technology will integrate the entire tourism industry and promote the provision of the right product to the right customer at the right price at the right place.
Increasingly IT determines the competitiveness of enterprises as it affects their ability to achieve cost or differentiation competitive advantage. Porter (1989) suggests that "information technology and telecommunications is reshaping the nature of competition industries" and restructuring the cost and differentiation competitive advantages of enterprises. Thus the industrial competitiveness will increasingly depend on a process in which new products and processes are continually introduced, improved and replaced. A business processes re-engineering is also required in the hospitality industry where the entire operational and strategic management of hotels will be redrawn based on the new opportunities emerging through new technology. Knowles (1996) suggests "the role of IT in strategic management is still evolving, both theoretically and practically. Over the years there has been a change from formal analytical approaches to strategic planning, through competitor analysis to the recognition that IT is an enabling mechanism that facilitates change. There has been in this sense a move away from regarding IT as merely hardware and software to using it in terms of expertise (management know how) and politics (networks of decision makers)”. Consequently, organisations which fail to take advantage of the emergent revolutionary technology will suffer severe competitive disadvantages and will be unable to survive in the long run.

Several examples where hospitality organisations can take advantage of the emerging technology can be identified. Technology can release the manager from operational tasks to focus on a more strategic view. It can also facilitate yield management techniques (Ingold & Main,1996) which can provide a competitive advantage in areas of optimisation of room occupancy, average room rates and forecasting. An Executive Support System may also be employed at a strategic level (Ford,1995). Hotels, like airlines have a unique opportunity to
capture data about their guests and utilise it to build partnership marketing and thus achieve marketing advantage. By maintaining guest histories and customer profile databases IT can be used as an active marketing tool for differentiation advantage for the hospitality industry, as it provides an opportunity for a unique market positioning tool. This will enable the combination of data from external and internal sources and can facilitate a wide range of strategic and tactical questions, the analysis of the impacts of competition marketing activities, pricing policy etc. In addition several improvements in the efficiency and productivity of accommodation establishments enable organisations to reduce their production and delivery costs and therefore enables the achievement of cost competitive advantages. The benefits of IT were summed up by Morris and Brendon (1993): "If technology can either improve quality or reduce costs in any way, it can be used to create an advantage and in fact many businesses, outside the sector, have redesigned or re-engineered a key process to take advantage of IT."

Although the use of IT in the hospitality industry prevails, though this is not the case with the independent/small hotel sector. As the vast majority of accommodation establishments throughout the world, are small, independent, seasonal and family run, they seem to be unable or unwilling to join these developments. Morrison (1994) explains that three types of participation expenses are required, namely economic in commission and fees; operational as a degree of autonomy to be sacrificed; and rules and sanctions which reduce the flexibility and individuality of independent hotels. To the degree that future booking will depend upon instant display of availability and confirmed reservations, the visibility of hotels in Computer Reservation Systems and Global Distribution Systems will be a crucial prerequisite for the long term prosperity of accommodation establishments, (Emmer et al.,1993; McGuffie,1990a, 1990b and 1994). Hence small/independent hotels are the weakest and most vulnerable part of the hotel industry which are at risk of losing a substantial slice of their business (Go and Welch,1991; Buhais,1993; Chervenak,1993; Morrison,1994; Vogel,1992; Scales,1995).

Go (1992,p.25) emphasises that "the hotels most vulnerable would seem to be the smaller, independent properties whose business comes to a significant degree through sales and travel agents overseas or a long way from their local markets. In most cases the investment required to link into a large number of major systems may be beyond the small unit. If they cannot place themselves in front of their national or international clients at the point of sale, they will obviously be at risk of losing a substantial slice of their business".

3. The research methodology

Few research projects have been undertaken on this topic, and these indicate that there is a certain level of IT diffusion in small/independent hotels (Gamble,1985; Whitaker,1986; Mutch,1995). However, little, published robust data are available about technology usage in this sector. This suggested an exploratory survey to gather a broad base of mostly factual quantitative data about IT usage. Based on the above theoretical framework two individual but complementary research inquiries were conducted in Wales and the Aegean islands in 1993. Initially a semi-structured questionnaire was administered outside of the target group in the independent sector. This questionnaire was administered in executive interviews with 20 Welsh and Aegean hotel owners. Following on from these initial interviews a questionnaire was designed with reference to the responses in the interviews. It was recognised that a more fundamental approach was needed and the research question evolved from the "level of
diffusion" (re: Gamble's 1985 model) to encompass "why were independents not using IT?". Thereafter the aims of the questionnaire were to attempt an audit of existing IT use, establish what applications were in use, what were the main perceptual and actual benefits emerging from IT and finally to identify the causes of non use and the plans for using technology.

It was decided that a census of independent hotels was possible in Wales and therefore sampling was unnecessary. Quantitative data was gathered more so than qualitative, which seemed most appropriate at this stage in the research process. In the Aegean context the sampling methodology took into consideration the different stages of tourism development of the islands and thus five islands were targeted for interviews. At each island disproportionate stratified sampling was utilised in order to ensure that properties of all categories and sizes were incorporated. The vast majority of accommodation establishments in islands not visited by the researcher were targeted for a mail survey. Structured interviews provided the opportunity to collect both quantitative and qualitative data and thus to illuminate the rational for using or not using IT, future plans and perceptions.

During the Welsh survey little modification was required after the success of the piloting and 583 (all known independent hotels provided by WTB) questionnaires were sent out. A return rate of 38% was achieved. In the case of the Aegean islands, a total of 241 interviews were undertaken with managers or owners or independent hotels while 63 mail questionnaires were completed by remote properties, providing a total of 304 properties. The survey covered 46.8% of the total Aegean accommodation capacity and 18% of all properties. The questionnaires were coded and analysed in SPSS, using frequencies, cross-tabs and \( \chi^2 \) tests of significance.

4. Research findings

Some initial findings from the research in both regions are reported here. Emphasis is given in a qualitative elaboration of the main findings and in analyzing the factors which determine the level of IT usage with in independent hotels as well as in the main implications emerging for them. Table 2 demonstrates the number of telephone lines, faxes, telexes, Personal Computers and networks utilised at Welsh and Aegean hotels.

<table>
<thead>
<tr>
<th></th>
<th>Average Telephone Lines</th>
<th>At least one telex</th>
<th>At least one PC</th>
<th>At least one fax</th>
<th>Networks</th>
<th>Prestel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wales</td>
<td>Not asked</td>
<td>Not asked</td>
<td>30.1%</td>
<td>37.8%</td>
<td>11.3%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Aegean Islands</td>
<td>4.6</td>
<td>28%</td>
<td>44.7%</td>
<td>67.1%</td>
<td>10%</td>
<td>Not available</td>
</tr>
</tbody>
</table>
Table 3 attempts to determine the stage of IT diffusion in Welsh and Aegean independent/small hotels by assessing them according to the software and hardware usage.

Table 3 Diffusion of IT in small/independent hotels in Wales and the Aegean Islands.

<table>
<thead>
<tr>
<th></th>
<th>Stage 0</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wales</td>
<td>49.8%</td>
<td>31%</td>
<td>19%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Aegean Is.</td>
<td>56.3%</td>
<td>33.7%</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

The above tables demonstrate that the vast majority of independent/small hotels in both Wales and the Aegean islands underutilise IT. Despite the geographical distance, the cultural differences and the market dissimilarities the above tables demonstrate that diffusion of IT in smaller properties is very similar, highlighting that this sector of the accommodation industries faces a number of strategic problems and challenges which determine their inability to take advantage of the emergent technology.

Even those who use the technology, the majority do not feel that they make best use of their systems indicating an under-utilisation of capacity. The main influence on their purchasing decision tends to be a business associate or "friend" or that they inherited a system with the position. To a certain extent therefore hoteliers will only employ technology if their neighbouring hotels do. This would seem to indicate that there does not seem to be a rational well developed strategic plan for this crucial investment and reliance on this particular, informal source of advice does not produce satisfied users. Indeed Shaw and Williams (1987) found that tourism businesses in Cornwall had little need or conception of business strategy and therefore had no model of a formal selection process to rely on.

The main reasons cited in both surveys for not using technology was that "the business was not big enough" and therefore technology was not essential in the running of the property with the perception that technology is not affordable being a secondary reason. Anecdotal evidence suggests that there is a certain fear that the owner or the manager will lose control of his empire if he shares information via technology; hotel managers are not necessarily keen to empower their employees and they also feel dependent on them as their level of IT competence is often inadequate to control the operation of the systems.

The independent sector appear to have little awareness of what a basic PC and software can offer a small enterprise. There is also evidence in both the Welsh and Aegean surveys to suggest that they feel there isn't anything available to suit the small hotels and that the small hotel has to fit the available system, not vice versa. Interestingly most non-users feel that they could perceive some benefits that a computer system might provide. However Peacock (1994), in a limited study, points out that "enthusiastic users" can have a demonstrable/measurable impact on the use of technology within this sector, but also that the other categories (reluctant users and non users) were either complacent with the systems they had or had purchase plans or were refusing to touch computers. He noted that aside from the enthusiastic users, who could be accused of "championing the system", there was no statistically significant correlation between productivity and the use of advanced technology. Therefore the hotel owners may perceive "some benefit" but not enough to be willingly
purchase a system and a reluctant purchaser would not optimise the use of a system, perhaps perpetuating the 'allegory' that technology is not useful in this sector?

One of the key variables seems to be the size of the hotel. In the Welsh survey over 20 rooms to be the critical number of rooms at which usage increased and overtook non-usage. The core business of the hotel i.e. bar/restaurant/functions also appears to be key variable with those hotels operating in other functional areas then 'room-letting' more likely to use technology. This is also evident in the Aegean hotels where higher category hotels utilise a greater number of terminals, while the larger the capacity, the more the computer terminals a property normally utilises. The vast majority of properties above the "B" category and the ones with more than 200 beds tend to operate at least one terminal on their premises. Not surprisingly qualitative analysis illustrates that administration problems caused by larger accommodation inventory, as well as the complexity of operation and control of numerous additional departments in larger accommodation establishments, make IT more necessary for the operation of these properties.

Other key variables emanate from the profile of the manager - gender, age, educational background and previous use of technology are all statistically significant influencing the adoption of technology within Wales, particularly in smaller hotels given the closeness of the working relationship within the smaller enterprise. In the Aegean islands and Wales, hotel respondents with higher educational qualifications tend to use more computer terminals, as for example respondents in the Aegean Islands with postgraduate qualifications have an average 4.7 terminals in their enterprises, in comparison with 0.2 terminals in enterprises where the respondents had only primary school education.

There is also some evidence from the Aegean survey demonstrating that the higher the marketing budget, the more likely they are to use a PMS \( \chi^2=43.7,DF=6, Sig=0.00000 \), indicating that where modern marketing techniques are utilised hoteliers attempt to be pro technology. In Wales, prior use of technology has a positive influence on current use.

Qualitative research demonstrates that although IT gradually invade even the smaller sector of the tourism industry, it is quite apparent that entrepreneurs often fail to realise the multi-integration of all technological elements and their contribution to the competitiveness of accommodation establishments. Consequently, they often purchase incompatible and stand-alone types of equipment, which provide piece-meal solutions, but fail to support an integrated approach of IT as a tool for their organisation and distribution. Lack of vision in IT also results in the purchasing of inexpensive but dated equipment, which prevents hotels from achieving competitive advantage over their counterparts. As a result, they often enjoy only a fraction of the entire range of IT benefits.

In addition, although the role of the public sector in stimulating small/independent hotels is increasingly recognised, there is little evidence demonstrating that their action support their statements. For example vision is exemplified by the WTB Tourism 2000 statement where the policy of the board is that it,

"Supports the computerisation of networked tourist information centres using "approved systems". We will also keep abreast of new developments, particularly relating to
computerised reservation system, and will work towards the computerised networking of UK tourist information centres" (Wales Tourist Board, 1994).

Though, in reality the WTB does not appear to be making any substantial inwards in the adoption of IT either in the form of a grant aid or training from the £4.5 million budget spent per year. Similarly the Greek National Tourism Organisation has neglected this area and initiatives are only been undertaken by the private sector.

5. A word of conclusion—Information technologies' diffusion in small/Independent hotels

O’Leary (1989, p. 80) suggests that "the key to IT success in the hyper-competitive travel industry is vision" which "made the airlines the front runners of the travel industry as a whole, with the hotel industry playing catch-up". Vision is perhaps the most significant strategic consideration of an organisation as it is consisted by the corporate philosophy, the mission, policies and corporate values of an organisation. Therefore, small/independent hotels should regard IT as a pivotal strategic issue and opportunity. They should also identify ways of IT usage which will enable them to achieve sustainable prosperity as well as add value to their products and enhance consumers' experience and satisfaction.

Research in Wales and the Aegean Islands demonstrate that although the first steps towards the adaptation of IT in the accommodation establishments have been undertaken, there is almost unlimited space for improvement. Undoubtedly larger and higher class hotels pioneer the diffusion of information technologies. However, evidence illustrates that the computerised systems operated in accommodation establishments are often far from integrated, while they neglect all the managerial and strategic roles they should perform. Very few properties utilise IT for their distribution and CRSs representation, illustrating that peripheral accommodation establishments are effectively marginalised from the emerging electronic tourism marketplace. Smaller and low category properties have a much longer way to go, as they currently under-utilise the entire variety of IT. Not only would they need to install adequate systems in order to enhance their communications and efficiency, but they would also need to examine how computerisation can facilitate their operation and decision making. The managerial and marketing handicaps in smaller properties, as well as the lack of personnel training, in combination with the scarcity of funds make it more difficult for these enterprises to take advantage of the potential benefits emerging from computerisation. It is proposed that intensive training should be employed in order to enable entrepreneurs to overpass their fear against technology and to enable them to identify how IT can support the entire range of their operational, strategic and distribution activities and provide them with competitive advantages.

Finally small/independent hotels cannot afford to stay out of the emergent electronic markets as their competitiveness would be jeopardised. Hence, co-operation with destination based reservation systems (Buhalis, 1993, 1994, 1995a) or participation in independent hotel consortia (Morrison, 1994) would enable them to ensure their visibility in the global marketplace, at an affordable cost. Ultimately, the aggregate hotel yield, ie a balance of occupancy, average room rate and average consumer expenditure would demonstrate the most suitable choice.
Bibliography


Buhalis, D., 1995b, The impact of information telecommunication technologies on tourism distribution channels: implications for the small and medium sized tourism enterprises' strategic management and marketing, Ph.D. Thesis, University of Surrey Department of Management Studies, Guildford.


EC, 1993, Microeconomic Analysis of the Tourism Sector, A study by the pH Group for the European Commission, DGXXIII, Tourism Unit, Brussels.


McGuffie, J., 1994, CRS development in the hotel sector, Travel and Tourism Analyst, No.2, pp 53-68.


Slattery, P (1992) Unaffiliated Hotels in the UK, Travel and Tourism Analyst, No. 1 pp 90-102


Vogel, H., 1992, Travel and lodging industry marketing seminar: managing marketing and sales automation for profit, World Travel Market, 17-18 November, Crafon Hotel, London.


Wardell, D., 1987, Hotel technology and reservation systems: challenges facing the lodging industry, Travel and Tourism Analyst, No.2, June, pp.33-47.


Catalysts in introducing information technology in small and medium sized hospitality organisations

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Abstract

Small hotels are increasingly recognised as pivotal in the ability of destinations to benefit from tourism as well as to satisfy tourism demand. However it is recognised that small hotels are being marginalised from the mainstream tourism industry due to their inability to participate in the transformation of best practices due to their reluctance to utilise information technologies. This paper is based on research undertaken in small and medium hospitality organisation in Wales and the Greek Aegean Islands. It explores the factors determining the adaptation of ITs by examining the stakeholders of small hospitality organisations as well as the push and pull factors they exercise, illustrating a number of catalysts for ITs penetration.

1 Small and Medium-sized Hospitality Organisations (SMHOs)

The vast majority of accommodation establishments around the globe are small and medium-sized, belong to local entrepreneurs are family run, and predominately employ members of the host society. Despite their size, collectively, small and medium-sized hospitality organisations (SMHOs) are extremely important to both national and European economies as they provide stable employment opportunities and support the integration of local economies in peripheral areas, even during recession periods. Typically, SMHOs offer by definition less than 50 rooms, employ less than 10 people, operate in the lower reaches of the market and are often situated in tertiary locations [34,24,24,12].

SMHOs provide a variety of benefits for destinations by providing tourists with direct contact with the local character and host population. Therefore they contribute significantly to the authenticity and quality of the "tourism experience", whilst delivering a unique "lodging experience" [11]. Their size provides competitive advantage of flexibility and specialisation and thus they are capable, more so than large, rigid, affiliated hotels, to identify niche markets and promote customised accommodation, achieving differentiation and competitive advantage [26]. SMHOs also have the flexibility to alter their portfolio characteristics, as well as form horizontal and vertical alliances to achieve economies of scope. They attract tourism spending to the host destination and the consequent ‘secondry spend’ stimulates the multiplier effects generating several rounds of economic activity at destinations [14].
However SMHOs suffer a wide range of disadvantages which effectively jeopardise both their profitability and competitiveness, as well as their contribution to regional economies. These disadvantages tend to result from their lack of capital; deficient economies of scale and under-utilised economies of scope; peripherality; insufficient management and marketing skills and expertise; inadequate bargaining power within the distribution channel; and finally lack of representation in the emerging electronic marketplace [1,3,5,6]. To the degree therefore that the public and private sectors need to enhance their competitiveness and reinforce the prosperity of both enterprises and destinations, decisions makers should identify methods in order to encourage the utilisation of the strategic tools introduced by Information Technologies (ITs). This paper analyses qualitative research undertaken in Wales and the Aegean Islands in Greece [7,21] and attempts to identify catalysts which will enable SMHOs to incorporate ITs in their strategic and operational management. A total of about 600 hospitality organisations were researched, providing a broad basis for solid inferences. Several push and pull factors are identified, while a stakeholders analysis is undertaken in order to illustrate the decision framework of SMHOs and to facilitate the understanding of critical variables which would enable a higher degree of ITs adaptation in the near future.

2 Technology in hospitality organisations

Technology becomes a main source of sustainable competitive advantage and a strategic weapon, especially in the tourism and hospitality industries due to the pivotal role information plays in the description, promotion, distribution, amalgamation, organisation and delivery of tourism products [27,33,8]. Technology can offer significant advantages in operational (e.g. property management systems), tactical (e.g. financial modelling, yield management) and strategic management (e.g. decision support systems) of SMHOs. Distribution networks and partnerships with other tourism product providers also might provide SMHOs with wider distribution networks and partnerships with complementary products. Increasingly the use of ITs is a major prerequisite in forming strategic alliances; developing innovative distribution methods; communicating with consumers and partners; and satisfying consumer demand. Both customers and partners also tend to place a greater value on organisations which utilise ITs than their competitors [30,14,15,20].

However, despite the technological revolution experienced in the tourism industry, hospitality organisations have traditionally been reluctant to utilise ITs [3,4,31,32]. Cho and Connolly note that many hotel managers remain sceptical about the value of investment in ITs and argue that their main failing is in not realising the actual length of time it takes to see actual results [10]. This requires strategic vision and commitment to technology which will secure future diffusion of benefits through the industry and stakeholders. Involving crucial stakeholders in the design process provides the opportunity to match their skills and needs in design by ITs suppliers. Recent research demonstrates that technology is under-utilised in SMHOs in most European destinations, such as the Aegean islands, Wales, and Alpine French resorts.
Less than fifty percent of hotels use ITs at all and those that do tend to concentrate on operational insignificant tasks, such as word processing and accounting. Very few SMHOs use technology for tactical or strategic management decision-making or for linking and/or building innovative information and communication networks. SMHO managers who use ITs have tended to be “dabblers”, i.e. have bought technology piecemeal with no long-term plan or even specific business use; or “technophiliacs” who have invested, expensively, in technology in the early stages and have lost faith when the technology did not live up to expectations. However, the vast majority of SMHOs failed to incorporate ITs in its strategic business processes re-engineering which would enable them to change their practices in order to take advantage of the new potentials. A gradual, planned, budgeted ITs introduction is crucial to their success, built on a solid foundation, measured against payback, with budgeted growth and upgrading which delivers to business needs. Managerial commitment, continuous training of all members of staff and a paradigm shift to the best practices are required in order to maximise benefits.

There are several identifiable reasons as to the lack of use of technology in SMHOs: the lack of training, which is traditional and low-tech; the ill-perceived conception that technology cannot be afforded by small and seasonal hospitality business; the age, educational level, and family arrangements of the SMHOs’ proprietors; the deficiency of rational management and marketing functions; and the short-term, operational focus of managers are some of the most critical factors which determine the under-utilisation of ITs in SMHOs. The level of education as well as the training courses undertaken by SMHO managers before or during employment tend not to incorporate an advanced level of technology use and consequently only few managers are competent users of ITs. Thus they remain unable to realise the main potential and fail to take advantage of ITs. As a result SMHOs are increasingly marginalised and suffer significant competitive disadvantages, which will eventually be catastrophic for their ability to attract consumers in the near future. The success of ITs introduction therefore depends on whether technology recipients are willing and capable to initiate a re-engineering of their business processes [1, 7, 19, 21, 28].

3 Stakeholder analysis for small and medium hospitality organisations

Stakeholders are the different groups who have a legitimate interest in the activities of an organisation, whilst they are also affected by the organisation’s decisions and policies. Often stakeholders can have important influence or exert pressure on an organisation, in order to increase the value offered to them. The stakeholders theory states that, for a firm to remain viable it needs to satisfy the requirements of key stakeholders. This paper identifies key stakeholders in the SMHOs’ model and the extent to which they will be catalysts in the introduction of technology by providing push/pull effects. Atkins and Lowe detect increased stakeholder involvement in times of technological turbulence, as the external environment of organisations is changing shape and both interests and benefits of stakeholders need to be readdressed [2]. Owners/proprietors are the most apparent stakeholders of SMHOs as they are often the main investors and managers. They tend to be heavily involved in the operation of
accommodation establishments while they undertake strategic decisions and negotiate with both suppliers and consumers. Owners/proprietors need to utilise technology in order to facilitate both their operational and strategic functions. However, often they tend to lack the expertise in selecting, installing and operating computerised systems and therefore fear that they will lose part of their control, should they allow external IT\'s experts to undertake these jobs for them. In addition, as IT\'s do not provide short term return on investment owners/proprietors tend to prefer to invest their capital on more tangible improvements of their facility. As a consequence they tend to take a passive attitude and prefer to use old-fashioned management techniques. 

Employees, and in particular managers, also tend to be interested in the prosperity of SMHOs, as they depend their employment and quality of working life. Employees also need interesting, challenging and exciting jobs, while they tend to dislike repetitive, uninteresting tasks. To the extent that IT\'s can eliminate the repetitive elements of jobs, employees would be interested in utilising more technology and concentrate on the creative elements of their role. However the age and educational background of people often tend to determine their attitude towards new technologies and their ability to comprehend the capabilities of IT\'s. Frequently young, educated, competent employees play a critical role in introducing IT\'s in SMHOs, whilst older and less educated employees may fear that technology would jeopardise their job or authority and therefore acquire a negative attitude. It is not unusual for younger and qualified employees to fail to persuade their traditionalist superiors or proprietors, who feel threatened by the new tools which they cannot control and understand. In this situation they tend to feel frustrated and unable to perform their role properly. 

Consumers are also stakeholders of SMHOs as they are keen to increase the value for money they get from service providers as well as to maximise their satisfaction. IT\'s improve the efficiency of SMHOs as well as enable them to differentiate their product through the provision and promotion of specialised products. Consumers increasingly demand a certain level of efficiency and convenience when they deal with hospitality organisations, which cannot be delivered without utilising IT\'s. In addition, IT\'s become a core feature of tourism products as business travellers already request in-room IT\'s facilities, such as several telephone lines, dedicated fax and networked computers. Thus, consumer expectations force the introduction of IT\'s in SMHOs and their satisfaction would increasingly depend to this provision. Institutional customers, such as travel agencies, tour operators and other intermediaries are interested in having easy access to up-to-date information on availability and rates for SMHOs. Unless they can rely on this information, intermediaries would remove principals from their recommended lists and would switch to the ones that offer this type of information, better profit margins and other incentives. Thus the utilisation of IT\'s for representation in the electronic marketplace, through Global Distribution Systems, the internet, videotex and teletex systems, is pivotal for a harmonious and profitable cooperation between SMHOs and intermediaries. 

Moreover, raw material suppliers are interested in the well-being of their customers and need to ensure that SMHOs operate efficiently and profitably in order to maintain
their custom. Suppliers need to increase their own efficiency in order to enhance their competitiveness. Communication and coordination with their customers is therefore pivotal for their ability to deliver the right product at the right time and price. ITs enables interconnectivity between enterprises and provides opportunities for suppliers to identify and support the needs of individual customers. Thus suppliers can enhance their partnership with SMHOs by utilising technology and hence increasing the value added through the supply chain.

Increasingly tourism regions are managed by destination managers who tend to belong to the public sector and aim to co-ordinate and regulate the tourism industry at the destination level. Their personal characteristics, development, and attitudes are critical for the position they adopt towards ITs. However a rational destination manager would probably promote the networking of destinations in order to facilitate interaction between local suppliers and improve the communication with consumers. This will improve the quality of tourists’ experience, whilst improving the multiplier effects at the destination level. Hence professional management of destinations would support the utilisation of ITs and the advanced networking of the tourism supply. Finally the local community tends to be represented as a stakeholder through owners and employees in SMHOs, while political parties and other lobby groups may influence the direction of the local tourism industry. The higher the competitiveness of tourism enterprises at the destination level, and thus the more they take advantage of the emergent tools, the more prosperous their operation will be and the more contribution they would be offering to the regional economy. Thus local people would gain more benefits if tourism enterprises utilise more advanced management techniques and new technology.

The relationships between stakeholders as well as their interests are dynamic. Hence they change according to the evolution of the external environment, while they also reflect the developments of stakeholders needs. However the above analysis demonstrates that most of the major stakeholders of SMHOs benefit significantly from the incorporation of ITs in the production and management functions. Thus consequently, they are expected to contribute to the paradigm shift experienced in the tourism industry, and demonstrate clearly that ITs should be widely utilised in order to enhance the performance of SMHOs and gain more benefits as stakeholders. This is implemented through the utilisation of a wide range of push and pull factors which aim to influence the decision making process of SMHOs.

4 Catalysts in technology adaptation for SMHOs: Push and Pull factors

Should SMHOs have a choice they would try to maintain a traditional management approach, where ITs would only play a peripheral role. However a wide range of push and pull factors determine that technology adaptation will be critical in their ability to satisfy their stakeholders as well as to improve their performance. Push factors are external forces which oblige enterprises to use ITs in order to avoid potential threats or jeopardise some of their functions. Enterprises may not have recognised a need that the technology might fill. If the need has been recognised, enterprises may have not matched a particular technology with the fulfilment of that need. Stakeholders seek to
promote, garner, support and push a technology. **Pull factors** provide incentives for enterprises to incorporate ITs in order to gain benefits in their operation. In this scenario a recognised market need is present and enterprises draw on ITs to fulfil it. Hence the **difference between push and pull factors** is the willingness of SMHOs to undertake action. In the former case, action is forced while in the latter action is stimulated and desired. Groth examines the significance of the push-pull factor in harvesting benefit from technology introduction [17]. He defines the pull factor as originating in political, social and economic forces which 'pull' on the technology and the push factor as relating to the efforts of the technology's proponents. The push-pull analysis is critical as it illuminates the attitude of enterprises towards ITs and elaborates on the reasoning for actions undertaken.

Lessons from other industries indicate that the introduction of technology in its early days was predominately a blend of push and pull factors. For the **banking industry** the multiplicity of transactions and global expansion pushed the use of computerised systems for the customer. This inter-connectivity also became a pull factor as consumers valued these types of service and provided incentives for banks to utilise more ITs. The advent of technology had visible effects on internal customers, as there was a reduction in human input, leading to structural 'flattening' and a wider degree of information sharing throughout the organisation. ITs also contributed to the enhancement of the banks' marketing activity via extending product range and customer services. Although customers resisted the use of technology at their introduction and preferred to 'interface' with a human clerk, eventually they treasured the wide range of benefits and the more flexible banking methods [22, 23]. The introduction of technology to the retail trade was 'pushed' via suppliers and scanning/bar coding which increased efficiency in a wide range of functions, such as accounting, stock management, marketing research and reduced both time and cost required for payment.

Pull factors were also utilised in incorporating partnership marketing and increasing consumer loyalty through customer clubs. As in the hospitality industry, affiliated 'chain' supermarkets were quick to adopt the new ITs in order to improve the co-ordination and control of their branches, while independent/smaller retailers were slower to take advantage of technology. **Accountancy firms** had technology 'pushed' to them by complementary suppliers. Spreadsheets and the development of ledger-based accounting packages were a tailor made application for the profession and its requirements to comply with codes of practice and legislation.

Inevitably a wide range of push and pull factors are also exercised on SMHOs towards increasing their ITs utilisation. Figure 1 demonstrates some of these push and pull factors and illustrates how they constrain SMHOs to undertake strategic action towards incorporating ITs in their strategic and operational management.

As far as **push factors** are concerned, several external influences force SMHOs to re-engineer their business processes and utilise ITs. **Education and training** push ITs in
SMHOs, as the incorporation of technology in the hospitality curricula provides a catalyst and promotes ITs to the industry via trained/graduate students who appreciate the emergent benefits and will champion technology in the industry. Green reports that in the USA 51% of hospitality faculties use computers, although only 9% used computers in the classroom [16]. Similar research is not available for Europe but is likely to be considerably lower. To the degree that graduates are competent users of ITs they will be able to recognise needs and undertake suitable action for using ITs in SMHOs, providing evidence to sceptical proprietors that considerable advantages can be gained.

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Fig.1. Push and pull factors determining the introduction of ITs in hospitality organisations

Increasingly the public sector recognises that ITs are critical for the competitiveness of private firms. They also recognise that small and medium sized enterprises are instrumental for regional development and have a much more significant contribution to sustainable development than their larger counterparts. As a result the European Union as well as national governments concentrate their efforts in providing incentives for enhancing the utilisation of ITs by small firms in order to enhance their market presence and regional integration. SMHOs can benefit from these incentives as they seize the opportunity to gain from discounted equipment, training programmes and help desks [12,13]. Strategic partners are other members in the supply chain who are closely interrelated with SMHOs, such as intermediaries and suppliers. Tour Operators have been instrumental in compelling travel agencies and handling agencies to utilise ITs in order to facilitate co-ordination and enhance efficiency. Similarly destination management systems urge SMHOs to utilise ITs in order to be able participate in the networking of destinations and the development of on-line reservations. Hence strategic partners, such as intermediaries and suppliers, can force SMHOs to incorporate ITs and be represented in the electronic commerce.

In general, the paradigm shift experienced in the tourism industry illustrates that SMHOs which fail to use ITs will suffer significant competitive disadvantages as they will jeopardise their yield by reducing both market share and profit. As other tourism enterprises increase their ITs usage, SMHOs are forced to incorporate technology in order to cooperate with their partners and maintain contact with consumers. Consumers increasingly expect to be able to access information and make reservations...
through the Internet. Hence SMHOs start to realise that unless they satisfy this need, they will fail to attract individual and institutional consumers. Finally ITs suppliers emerge to promote applications for SMHOs. They tend to use forceful marketing and often manage to sell their products to SMHOs, regardless whether they understand the entire range of benefits and features emerging through ITs. As the entire industry is transforming itself, SMHOs are forced to follow the flow. A demonstration effect is therefore evident, where proprietors try to "keep up" with competitors and partners.

Several pull factors can also be identified as they provide incentives for SMHOs to incorporate technology. Perhaps the most important factor is customer demand and the increasing number of computer literate consumers who are empowered by the Internet and tend to use networks for identifying and purchasing various products. Thus, as they attempt to increase their market share they would need to incorporate more technology in order to increase their direct communication with consumers. This also provides an opportunity for disintermediation and empowerment within the distribution channel as it enables innovative SMHOs to distribute their products directly to consumers enhancing their profit margins and their reducing their dependence upon intermediaries [7]. In addition the demand for ITs products during their hotel stay may also increase the awareness of SMHOs of the importance ITs. The electronic superhighway provides unprecedented opportunities for SMHOs for utilising affordable technology in order to improve their global presence and enhance their efficiency. Interconnectivity within the industry as well as the development of the internet and intranet enables and empowers SMHOs to distribute and promote their tourism products at an affordable cost. Increasingly SMHOs familiarise themselves with the potential and develop their presence in the networks. A cost and benefit analysis illustrates that they can displace some of their marketing and promotional expenditure to the new media which promises a much wider coverage of the market and a much more efficient reservation mechanism. SMHOs learn gradually how to take advantage of the networks in order to reduce their operational cost. Intercontinental hotels for example reduced their reservation cost from $15 on voice operated systems, to $7.50 for reservations through GDSs and $2 through the World Wide Web [3,18,20].

Similarly with the strategic partners, SMHOs realise that in order to cooperate with the travel trade they will need to utilise ITs. To a certain extent this becomes the standard of the tourism industry and whoever will be lagging behind will be unable to attract custom for their products. This is demonstrated clearly as travel agencies refuse to search for accommodation establishments which are not represented electronically, as the cost of locating, and arranging accommodation in hotels not represented in electronic media as well as attempting to collect their commission afterwards, far exceeds the benefit. As a result they channel all their bookings through hotel chains which are represented internationally and have clear and efficient procedures for commission payments. Finally, accounting systems is one of the most silent pull factors in the incorporation of ITs in SMHOs. As hotels had no other option but to computerise their accounting systems in order to facilitate their billing systems from various hotel departments, as well as reduce the fees charged by accountants and also comply with regulation, they tend to purchase computerised systems. Once the
hardware purchase has been accomplished, proprietors often can identify other applications which can offer direct and tangible benefits. In addition several hotel accounting systems introduce some additional programmes for word processing or room division management. As a result accounting systems have acted as a pull factor for hotel computerisation.

The above analysis demonstrates that several push and pull factors force SMHOs to incorporate ITs within their operational and strategic management. Although these are believed to be the most important, a wide range of additional factors encourage hospitality organisations to re-engineer their business processes by incorporating technology. Perhaps the most pivotal change is the revolution experienced through the development of the Internet. The Internet is gaining commercial viability and is particularly suited to small business where it enables the small business to keep its doors open 24 hours a day, at minimal cost to customers all over the world. Already there are some success stories of small business enlarging their distribution channels on the Web [20]. Software is now designed for those internal and intranet connections allowing access to internal databases and applications and secure access from external sources. The Web emerges as a means of achieving true electronic interconnectivity with business partners. SMHOs which are not represented will fail to bridge their distance with consumer and suffer competitive disadvantages.

5 Conclusions

The stakeholders analysis illustrates that there several interested parties in the well being of the SMHOs, mainly due to their contribution to the local economies and regional development. Analysis demonstrates that stakeholders adopt a number of push and pull factors to force SMHOs to utilise ITs. Recent developments demonstrate that some key stakeholders exercise a more influential role in forcing SMHOs to utilise ITs. Perhaps most importantly the public sector, as a stakeholder, increasingly appreciates the benefits introduced by ITs and undertakes initiatives to assist SMHOs to take advantage by improving their equipment and by formulating networks. Hence the European Union has recently offered funding to develop systems to increase the utilisation of ITs by SMHOs and to represent them on the Internet [13]. Moreover there are developments between software houses and government agencies, such as the Tourist Boards, where collaboration is developing an integrated destination system (e.g. Integra & Scottish Tourism Board). These initiatives will be critical in the adaptation process. Moreover consumers may be the key stakeholders in the industry, pulling technology through to hotels. They become more and more acclimatised to ordering goods and services on-line, whilst technology connectivity expands to each home and the costs and benefits of on-line reservations supersede traditional booking methods. At present there are many organisations in the process of re-engineering their business and information systems with the burden of integrating crucial historical data and systems with emerging technologies. Unlike them, SMHOs do not have the problem of “legacy” systems and thus they can design their systems to take advantage from the emerging capabilities without losing valuable data and recent investments. SMHOs at least have some advantage in that their prior investment in technologies has
been minimal. Hence they can learn from others’ mistakes and also take the opportunity to form key relationships with ITs suppliers.

Groth concurs that the likelihood of success in introducing technology is enhanced in a pull environment and that it is possible to convert from a push to a pull scenario [17], which is what SMHOs have been exposed to over the last years. This is where inter-connectivity as well as customers and the travel trade will provide the necessary marketing pull. Despite the current lack of coordination between stakeholders, it seems that a certain level of co-operation will be essential in order to facilitate the ITs penetration as well as for identifying standards and protocols which will enable SMHOs to achieve a certain level of standardisation and inter-connectivity. The key is to align the differing views of the key stakeholder groups, to enable sound communication, interaction and collaboration which will contribute to the success of technology adaptation and proliferation in SMHOs [29].

BIBLIOGRAPHY
13. EC, 1996, Call for proposals for the establishment of a European co-ordination structure aimed at promoting the usage of electronic commerce through the Internet network amongst
small and medium sized companies operating in the tourism sector and located in the less
favoured regions of the Union, Brussels.

Conference, Birmingham.


16. Green, C., 1996, Human factors in the implementation of computers in the hospitality

17. Groth, JC, 1993, Critical factors in exploiting technologies, Management Decision,


19. Harris, KJ., 1995, Training and Technology in the hospitality industry: a matter of
effectiveness and efficiency, International Journal of Contemporary Hospitality
Management, Vol.7(6). pp.24-60.


21. Main, R., 1994, The Application of Information Technology in the Independent Hotel,
M.Phil Thesis, University of Wales.

22. Martell, D., 1988, Marketing and Information Technology, European Journal of
Marketing, Vol.22(9), pp.16-23.

23. Mitchell, JW., & Sparks, L., 1988, Marketing Information Systems in the major UK

24. Moutinho, L., 1990, Strategies for destination development - the role of small businesses in


Strategy, Winter, pp.60-70.

Hospitality Management, Vol.11(1), pp.3-23


30. Senker, P., & Senker, J., 1992, Gaining competitive advantage from information

31. Wardell, D., 1987, Hotel technology and reservation systems: challenges facing the lodging
industry, Travel and Tourism Analyst, No.2, June, pp.33-47.

32. Whitaker, M., 1987, Overcoming the barriers to successful implementation of information

33. Wong, SY, 1991, Strategic use of IT for small business, Singapore Accountant, September,
Vol.7(9), pp.15-21.

34. WTO, 1991, Seminar on small and medium sized enterprises, Report on WTO in Milan,
Information technology in peripheral small and medium hospitality enterprises: strategic analysis and critical factors

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Small and medium hospitality organizations (SMHOs) are increasingly recognized as pivotal in the ability of destinations to benefit from tourism as well as to satisfy tourism demand. However, it is recognized that they are often marginalized from the mainstream tourism industry, owing to their inability and reluctance to utilize information technologies (ITs). This paper is based on research undertaken in peripheral SMHOs, located in rural Wales destinations, Alpine French resorts and the Greek Aegean islands. It explores the factors determining the adaptation of ITs by examining the stakeholders of small hospitality organizations, as well as the push and pull factors they exercise. It also illustrates a number of catalysts for ITs penetration and future trends in the hospitality industry, e.g. disintermediation and mass customization. Argues that SMHOs which fail to adapt and utilize ITs will suffer competitive disadvantages and jeopardize the prosperity of destinations.

Small and medium-sized hospitality organizations (SMHOs)

The vast majority of accommodation establishments worldwide are small or medium-sized, belong to local entrepreneurs, are family run, and predominantly employ members of the host society. Despite their size, collectively small and medium-sized hospitality organizations (SMHOs) are extremely important to European economies. They provide stable employment opportunities and support the integration of local economies in peripheral areas, even during recession periods. They also enable the infusion of tourist expenditure at the local level and thus enhance all types of multipliers both locally and nationally. SMHOs offer by definition less than 60 rooms, employ fewer than ten people, operate in the lower reaches of the market and are often situated in tertiary locations (Buhalis, 1995; Main, 1994; Moutinho, 1990; Wong, 1991).

This paper analyses the research undertaken in SMHOs located in rural Wales destinations, Alpine French resorts and the Greek Aegean islands (Buhalis et al., 1997; Main, 1994) and attempts to identify factors which will enable SMHOs to incorporate ITs in their strategic and operational management. In order to understand the process of IT adoption a detailed analysis of the stakeholders in the operation of SMHOs is also undertaken, several critical trends in the hospitality industry are examined and several push and pull factors are identified. A total of about 800 hospitality organizations in peripheral destinations serving dissimilar markets were researched, providing a broad basis for solid inference.

Information technologies in hospitality organizations

Technology becomes a main source of sustainable competitive advantage and a strategic weapon, especially in the tourism and hospitality industries, owing to the pivotal role information plays in the description, promotion, distribution, amalgamation, organization and delivery of tourism products (Poon, 1993; Sheldon, 1997). Technology can offer significant advantages in operational (e.g. property management systems), tactical (e.g. financial modelling, yield management) and strategic management (e.g. decision support systems) of SMHOs. Increasingly the use of ITs is a major prerequisite in forming strategic alliances, particularly in the supply chain; developing innovative distribution channels and communicating with consumers and partners. Both customers and partners also tend to place a greater value on organizations which utilize ITs than their competitors (Zdagar, 1996; Hewson, 1996; Senker, 1992).

However, despite the technological revolution experienced in the tourism industry, hospitality organizations have traditionally been reluctant to utilize ITs (Beaver, 1995; Whittaker, 1987). This recent research demonstrates that technology is under-utilized in SMHOs in most peripheral European destinations, such as the Aegean islands, rural Wales, and Alpine French resorts.

Table I illustrates that most of the SMHOs interviewed in this research underutilize ITs; and those that do tend to focus on operational tasks, such as reservations, word processing and accounting. Very few SMHOs, 34 per cent, use technology for tactical or strategic management decision making (Main, 1994). SMHO managers who use IT in this research into peripheral areas, and also research in Ireland by O'Connor (1985), have tended to be "dabblers", i.e. have bought technology piecemeal with no long-term plan or even specific business use; or "technophobes" who have invested, expensively in technology in the early stages and have lost faith when the technology did not live up to expectations. Sixty-five per cent of those who do utilize the technologies available admit to not making optimum use of IT (Buhalis, 1995; Main, 1994).

There are several identifiable reasons for the lack of use of technology in SMHOs: the lack of training; the age, educational level, and family arrangements of the SMHOs' proprietors; the deficiency of radical management and marketing functions; and the short-term, operational focus of managers.

These are some of the most critical factors which determine the under-utilization of ITs.
Table 1
The utilization of ITs by European peripheral SMHOS

<table>
<thead>
<tr>
<th>Region</th>
<th>Mean telephone lines (%)</th>
<th>At least one telex (%)</th>
<th>At least one fax (%)</th>
<th>At least one PC (%)</th>
<th>Networks (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>4.6</td>
<td>28</td>
<td>87.1</td>
<td>44.7</td>
<td>11.3</td>
</tr>
<tr>
<td>Wales</td>
<td>n.a.</td>
<td>n.a.</td>
<td>37.8</td>
<td>30.1</td>
<td>10.0</td>
</tr>
<tr>
<td>France</td>
<td>n.a.</td>
<td>42.0</td>
<td>60.0</td>
<td>70.0</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Note: adapted from Buhalis et al. (1997) and Main (1994)

in SMHOS highlighted by this research. In addition, the perceived cost of software and hardware as well as the feeling of dependency on IT experts are significant deterrents for under-resourced and under-qualified proprietors.

Stakeholder analysis for small and medium hospitality organizations

In order to understand the behaviour of SMHOS towards ITs an analysis of the needs and wants of their key stakeholders is required (Atkins and Lowe, 1994). The stakeholders' theory states that, for a firm to remain viable, it needs to satisfy the requirements of key stakeholders. Atkins and Lowe detect increased stakeholder involvement in times of technological turbulence, as the external environment of organizations changes shape and both interests and benefits of stakeholders need to be re-addressed.

Figure 1 identifies key stakeholders in the SMHOS and demonstrates the extent to which they will be catalysts in the introduction of technology by providing push/pull effects.

Owners/proprietors are the most apparent stakeholders of SMHOS, as they are often main investors and managers. Owners/

proprietors need to utilize technology in order to facilitate both their operational and strategic functions. However, often they tend to lack the expertise in selecting, installing and operating computerized systems as well as marketing and management skills. Therefore, they tend to fear that they will lose part of their control, should they allow external IT experts to undertake these jobs for them.

Employees, and in particular managers, also tend to be interested in the prosperity of SMHOS, as their employment and quality of working life. To the extent that ITs relieve the repetitive elements of jobs, employees would be interested in utilizing more technology and, therefore, be able to concentrate on the creative elements of their role. Consumers are also stakeholders of SMHOS, as they are keen to increase the value for money they get from service providers, as well as to maximize their satisfaction. ITs improve the efficiency of SMHOS, as well as enable them to differentiate their product through the provision and promotion of specialized products. Thus, consumer expectations could force the introduction of ITs in SMHOS and their satisfaction would increasingly depend on this provision. Institutional customers, such as travel agencies, tour operators and other intermediaries are interested in having

<table>
<thead>
<tr>
<th><strong>PUSH FACTORS</strong></th>
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</thead>
<tbody>
<tr>
<td>Education &amp; Training</td>
</tr>
<tr>
<td>European Union, Government &amp; Public Agencies</td>
</tr>
<tr>
<td>Strategic Partners</td>
</tr>
<tr>
<td>Paradigm Shift</td>
</tr>
<tr>
<td><strong>SMALL AND MEDIUM SIZED HOSPITALITY ORGANISATIONS</strong></td>
</tr>
<tr>
<td><strong>PULL FACTORS</strong></td>
</tr>
<tr>
<td>Customer Demand</td>
</tr>
<tr>
<td>Interconnectivity, Intranet/Extranet Internet</td>
</tr>
<tr>
<td>Travel Trade</td>
</tr>
<tr>
<td>Accounting Systems</td>
</tr>
</tbody>
</table>
easy access to up-to-date information on availability and rates for SMHOs. Thus, the utilization of ITs for representation in the electronic marketplace, through global distribution systems and Web technology, is pivotal for a harmonious and profitable co-operation between SMHOs and intermediaries. The development of extranets in particular will enable institutional customers to develop suitable interfaces with SMHOs and to enhance their efficiency and connectivity.

Suppliers of raw and other materials are interested in the wellbeing of their customers and need to ensure that SMHOs operate efficiently and profitably in order to maintain their custom. Suppliers need to increase their own efficiency in order to enhance their competitiveness. Communication and co-ordination with their customers are therefore pivotal for their ability to deliver the right product at the right time and price. ITs and extranets in particular enable interconnectivity between enterprises and provide opportunities for suppliers to identify and support the needs of individual customers. Thus, suppliers can enhance their interaction with SMHOs by utilizing technology and, hence, increasing the value added through the supply chain and establishing long-term partnerships.

Increasingly, tourist regions are managed by destination managers, whose personal characteristics, development, and attitudes are critical for the position they adopt towards ITs. However, a rational destination manager would probably promote the networking of destinations in order to facilitate partnership and interaction between local suppliers, as well as improve the communication with consumers. Finally, the local community tends to be represented as a stakeholder, while the owners and employees in SMHOs, while political parties and other lobby groups may influence the direction of the local tourism industry. Thus, local people would gain more benefits if tourism enterprises utilize more advanced management techniques and new technology. These are important stakeholders in terms of integrating the SMHOs in the supply chain within peripheral locations.

The relationships between stakeholders, as well as their interests, are dynamic. They change according to the evolution of the external environment, while they also reflect the developments of stakeholders’ needs. However, the above discussion demonstrates that most of the major stakeholders of SMHOs could benefit significantly from the incorporation of ITs in the production and management functions. Consequently, this will probably be implemented through the effect of several push and pull factors, which aim to influence the decision-making process of SMHOs’ stakeholders.

### Push and pull factors

This research in the three peripheral destinations demonstrated that, should SMHOs have a choice, they would try to maintain a traditional management approach; many managers could not perceive any benefits of utilizing technology where ITs would only play a peripheral role. However, technology adaptation may be critical in their ability to satisfy their stakeholders, as well as to improve their performance. Research identified a wide range of push and pull factors which determine whether SMHOs will utilize ITs and the degree of ITs’ future adaptation as illustrated in Figure 1. Push factors are external forces which oblige enterprises to use ITs in order to avoid potential threats or jeopardize some of their functions. Entrepreneurs may not have recognized a need that the technology might fill. If the need has been recognized, enterprises may not have matched a particular technology with the fulfillment of that need. Stakeholders seek to promote, garner support and push a technology.

Pull factors provide incentives for enterprises to incorporate ITs in order to gain benefits in their operation. In this scenario a recognized market need is present and enterprises draw on ITs to fulfill it. Groth (1993) examines the significance of the push-pull factor in harvesting benefits from technology introduction. He defines the pull factor as originating in political, social and economic forces which “pull” on the technology and the push factor as relating to the efforts of the technology’s proponents. The push-pull analysis is critical as it illuminates the attitude of enterprises towards ITs and elaborates on the reasoning for actions undertaken.

As far as push factors are concerned, several external influences force SMHOs to re-engineer their business processes and utilize ITs. Education and training push ITs in SMHOs, as the incorporation of technology in the hospitality curricula and training provision provides a catalyst and promotes ITs to the industry.

Increasingly, the public sector recognizes that ITs are critical for the competitiveness of small and medium-sized enterprises are instrumental for regional development and have a much more significant contribution to sustainable development than their larger counterparts. As a result, the European Union (EU), as well as national and regional governments, concentrate their efforts in providing incentives for enhancing the utilization of ITs by small
Strategic partners are other members in the supply chain who are closely interrelated with SMHOs, such as intermediaries and suppliers. Tour operators have been instrumental in compelling travel agencies and handling agencies to utilize ITs in order to facilitate co-ordination and enhance efficiency. Similarly, destination management systems need SMHOs to utilize ITs in order to be able to participate in the networking of destinations and the development of online reservations, and the development of extranets through Web casting and Web technology. Hence, strategic partners, such as intermediaries and suppliers, can force SMHOs to incorporate ITs and be represented in the electronic commerce. Finally, ITs suppliers also emerge to promote applications for SMHOs and there is already strategic partnering emerging with IT suppliers, e.g. Pegas and the Irish Tourist Board and ATOS with the French tourism authority.

Several pull factors can also be identified, as they provide incentives for SMHOs to incorporate technology. Perhaps the most important factor is customer demand and the increasing number of computer-literate consumers who are empowered by the Internet and tend to use networks for identifying and purchasing various products. Hence, SMHOs should start to realize that, unless they satisfy this need, they will fail to attract consumers. Thus, SMHOs attempt to increase their market share, they would need to incorporate more technology in order to enhance their direct communication with consumers. This also provides an opportunity for disintermediation within the distribution channel and empowers innovative SMHOs to distribute their products directly to consumers enhancing their profit margins and reducing their dependence on intermediaries (Hewson, 1998). Interconnectivity within the industry, facilitated by the development of the Internet, as well as extranets and intranets, enables and empowers SMHOs to distribute and promote their hospitality products at an affordable cost. A cost and benefit analysis should illustrate that they can displace some of their current marketing and promotional expenditure to the new media, as price differentials are offered in the new channels, which promises a much wider coverage of the market and an efficient reservation/payment mechanism.

Similarly with their strategic partners, SMHOs realize that in order to co-operate with the travel trade they will need to utilize ITs. The cost of locating and arranging accommodation in hotels not represented in electronic media, as well as attempting to collect their commission afterwards, far exceeds the benefit (Beaver, 1995). Independent SMHOs, which appreciate the above issue, have formulated voluntary marketing organizations or have joined international hotel consortia in order to improve their representation in the whole marketplace.

The above analysis demonstrates that several pull and push factors force SMHOs to incorporate ITs within their operational and strategic management. Although these were identified by research at the three destinations to be the most important, a wide range of additional factors emerges and encourages hospitality organizations to re-engineer their business processes by incorporating technology. Perhaps the most pivotal change is the revolution experienced through the development of the Internet. The Internet is gaining commercial viability and is particularly suited to small business, where it enables the small business to keep its doors open 24 hours a day, at minimal cost to customers all over the world. Already there are some success stories of small businesses enlarging their distribution channels on the Web (Hart, 1995). Software is now designed for those extra-intra and Internet connections allowing access to internal databases and applications and secure access from external sources. Hence, SMHOs which are not represented will fail to bridge their distance with consumers and suffer competitive disadvantages.

Conclusions

Research in these peripheral regions of Wales, France and Greece demonstrates that the incorporation of ITs in SMHOs is not always a rational managerial decision. It is often associated with the dynamic relationships between stakeholders as well as a number of other variables which are related to their characteristics. Figure 1 illustrates that there are several interested parties in the well-being of the SMHOs, mainly owing to their contribution to the local economies and regional development. Stakeholders adopt a number of push and pull factors to force SMHOs to utilize ITs. Research demonstrates that some key stakeholders exercise a more influential role in forcing SMHOs to utilize ITs, particularly technology partners. Perhaps most important, the public sector as a stakeholder, increasingly appreciates the benefits introduced by ITs and undertakes initiatives to assist SMHOs to take advantage by improving their equipment and by formulating networks. Hence, the EU has recently offered funding to develop systems to increase the utilization of ITs by SMHOs and to represent them on the Internet (EC, 1996). These initiatives will be critical in the adaptation process. Moreover, consumers may be the key stakeholders in the industry, pulling technology through to hotels. SMHOs not
have the problem of "legacy" systems. Thus they can design their systems to take advantage of the emerging technologies, particularly Internet, extranets and intranets, without losing valuable data and, if any technology investment. The rapid expansion on the Internet and the World Wide Web would seem to provide a unique mechanism for SMHOs to develop their marketing and distribution mix. It also supports SMHOs to develop partnerships with the small range of players in the tourism industry and to establish networks which will enable them to acquire virtual sites (Buhalis, 1997).

Two of the major trends which will affect the hospitality market in the near future are "mass customization" and "disintermediation". Given that channels of distribution are already evolving towards disintermediation, this direct contact will be crucial as suppliers of hospitality products who will need to be able to deal directly with customers and establish effective "one to one marketing" of their products. This will only be possible with the effective use of technology.

Groth (1993) concurs that the likelihood of success in introducing technology is enhanced in a pull environment and that it is possible to convert from a push to a pull scenario, which is what SMHOs have been exposed to over the last few years. This is where interconnectivity, as well as customers and the travel trade, will provide the necessary marketing pull. Despite the current lack of co-ordination between stakeholders, it seems that a certain level of co-operation will be essential in order to facilitate the IT's penetration to the benefit of peripheral locations.

References


BC (1996), "Call for proposals for the establishment of a European co-ordination structure aimed at promoting the usage of electronic commerce through the Internet network among small and medium-sized companies operating in the tourism sector and located in the less favoured regions of the Union", Brussels.


Further reading


Conference Report: IT Developments in the Hospitality Industry

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Swansea Business School, Mount Pleasant, Swansea, UK

INTRODUCTION

As an academic researcher specialising in the use of information technology within the hospitality sector it is interesting to see this topic area finally getting some exposure on the conference scene. Several conferences have highlighted the growing importance of the hospitality industry of IT and to the wider tourism sector of the economy. This report illustrates the diffusion of IT in this industry, in both the field of academic research and in current business applications. A review follows of three key conferences which were held in the UK over the last year. Certain elements were common to all events, important amongst those were the fact that these conferences were attended by both representatives from the academic and business sectors which gave a more practical and rounded approach to the themes and content of the presentations and the ensuing debates. This sector of the economy has been slow to recognise the strategic, tactical and operational advantages that IT can provide. There now appears to be a critical mass in the area of research development where movement forward seems imminent in the diffusion of technologies to all sections of the hospitality business.

The emerging themes from the three conferences are:

- the growing influence of the internet and intranet as the new communication and distribution channel;
- the focus on how to utilise these channels to best advantage; and
- how small and medium sized enterprises (SMEs) are offered a unique, affordable marketing channel via the World Wide Web.

These themes were illustrated by papers, presentations, exhibitions and workshops which varied from proponents of navigators for tourism purchasers and electronic transactions through the Web (for the large tourism operators) all the way down to smaller applications such as designing Web pages (for SMEs). What was evident from all three conferences was that the larger organisations were optimising their use of IT, while the small- and medium-sized organisations were still failing to perceive these opportunities and consequently risk being marginalised in the electronic marketplace.

At the HITA Conference, over 60 delegates attended over the 3 days and particitated in a series of presentations which covered teaching methods for hospitality and IT, recent academic research and talks from industrial experts on the actual implementation of solutions in the hospitality industry. With HITA's mission being to promote interaction between users, suppliers and educators, the conference went a long way towards achieving this.

Academic presentations were launched by a presentation from Cornell University delegates who demonstrated the use of the internet for internal promotional activities and for promoting information distribution within the school. This session continued with an investigative research on whether aroma could change purchasing patterns by manipulating moods. A case study approach was used by Fenders demonstrating the work he was doing in Canberra where his college was in partnership with a software firm using IT both as a real management tool and as a front office system. Also presented was an interesting contribution about...
gaming on the Internet in this session.

Several researchers had focused on the use of technology in small- and medium-sized enterprises. Some preliminary results were reported from a survey undertaken on levels of IT competency, technical usage and customer satisfaction in hotels and had attempted to contrast the differences in the USA, Canada and the UK. This theme continued with research outlining the level of usage in Irish hotels. A paper was also delivered on IT usage in surveys in Wales and in the Aegean islands, emphasising the low take-up in the independent sector and in SME organisations in general. Yield management was also explored by looking at the changing power base within hotel organisations.

Moving to the more advanced end of technology, Doreen elaborated on her field of research on intelligent agents to alleviate search strategies on the net and information overload that proves to be a barrier to net usage. A knowledge navigator was proposed which was designed specifically for the tourism and hospitality Web site. The use of virtual reality in tourism experiences was given an innovative and practical demonstration via a walk through scenario of some Irish tourist attractions, where the visitor could participate in the tourism experience directly and reacting to the virtual environment.

Criticisms of the use of technology were also offered. Peacock emphasised the proliferation of technophobia in technology writing, and Baker explained about the level of computer failure in organisations and why they fail to make a significant contribution to the management of hotels.

The industrialists and consultants took the stage for the final presentations. The marketing manager of Holiday Inns gave a revealing presentation about how this group deals with yield management and reservations. Powell predicted more open systems, with a diversity of distribution and buying channels for the hospitality sector. He also proposed as the hotel consumer became more IT literate and dependent, technology would be brought right down into the bedroom for guest use. Barrie, the Global Management Technologies director also was a proponent of technology in yield management. He outlined his company's software for human resource scheduling by utilising pattern recogni-

tion, and emphasised that the utilisation of the human resource element was crucial to the revenue optimisation of the hotel. Prologic also carried forward this theme and stressed that all users must be impressed with the importance of entering all details into a management system for the use of all levels of management, or that system will ultimately fail, particularly if they did not contribute to profit.

There have been many consolidations throughout Europe by IT providers, as outlined in presentations from various tourism consultants, and again the importance of the Internet as a provider and platform for all sizes of hospitality organisations emerged. Interact outlined their proposed collaboration with the Scottish Tourist Board which would link all hotels into a bookable 'bed bank' that was accessible to all customers 24 hours a day. This was still, however, at the development stage and dependent on collaboration with existing software and hardware providers and EC funding, but would obviously help lever the smaller organisations onto the electronic marketplace.

A review of some of the websites available to industry was given by Orbital technologies. Such sites were frequently inadequate and gave a poor impression of what was on offer and in fact proved more of a disincentive to purchase. Doreen advocated the use of the Tourist Boards as information providers, as they had the product knowledge and the information bases and manpower to manage these sites effectively and ensure that the massive potential of attractions and accommodation was ensured for the future.

A full spectrum of technology applications was exhibited at the conference from virtual concepts in the visitor experience to property management systems and this proved to be an enlightening and interesting element of the proceedings, particularly as it involved contributions from all the major stakeholders in the hospitality and technology industry.

Though not focusing specifically on hospitality, the Yield Management Conference gave extensive coverage to the use of technology with particular reference to yield management and revenue optimisation. It can be fairly said that yield management (revenue optimisation) has now come of age. Born and nurtured in the airline industry after deregulation in the United States, it has now grown to maturity in the 1990s.

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and is used by airlines large and small as a tool (or set of tools) to try to maintain profitability, or at least to minimise losses, in today's turbulent and competitive environment, by providing flexible pricing strategies for perishable products in an era of sophisticated purchasing and fluctuating demand. More recently, yield management has been adopted by the hotel, rail and shipping industries, to try to help solve their problems of oversupply and increasing competition.

Given this background, Napier University (UK), Northern Territory University (Darwin, Australia) and Birmingham College of Food, Technology and Creative Studies (UK) decided to host the first UK conference on yield management which would allow scope for interaction between academics and industrialists in all the service sector industries which use, or could use, yield management. It is reasonable to state that the conference exceeded all expectations and attracted over 80 delegates from Europe, North America and Australia.

The papers contained a wide ranging group of studies which addressed many different aspects of yield management. In the area of hotel usage of yield management, Peters, an academic, and Reilly, an industrialist, collaborated on this project and took us through the implementation of yield management in the Hilton National Hotel in Warwick, outlining some of the high and low points in the process. Complementing this, a review was undertaken of the implementation process from the point of view of a hotel manager and how s/he can be helped to effect a smooth transition of change in practice and culture. A further paper reviewed the utility of Customer Profitability Analysis and how it may enhance the basic decision support provided by a yield management system.

Two of the studies were applied to the application of yield management in small- to medium-sized (SME) hotels. One considered the applicability of yield management techniques to SMEs and concluded that such techniques are appropriate, but required a difference of approach due to the unique objectives and cultural identities of these small independent operations. The other focused on the extent of collection and use of information in SME hotels. They concluded that a change of culture, possibly driven by external forces, will be required to induce these enterprises to utilise revenue optimising techniques.

The use of a two-step matrix model to evaluate the performance of a hotel was demonstrated, showing how the model can be used to assess the effectiveness of a yield management strategy by using the relationship between efficiency and return in the context of leverage or risk. A brief paper reviewed the potential for use of yield management in the developing Russian market economy, concentrating on the case of mass catering. They reviewed some features of the developing market economy and how yield management may operate in this unusual and unstable environment.

Short-break holidays and how they may be used as part of a yield management strategy was the basis for another paper by Edgar. This showed how short-break strategies may be used as a capacity management tool to optimise use of rooms and supplementary spend. An innovative look at the use of yield management for boat tour ventures in an aboriginal reserve in Australia was presented. In this case, a compromise has been struck between optimising revenue for the aborigines on the reserve, but at the same time ensuring sustainability of the ventures by conservation. The process of replacing a manual yield management system by a computerised system in Jersey European Airways, a small independent airline, was an excellent example of a case study in action.

Much of the work on yield management has concentrated on the decision support element of the process, neglecting the people element of the system. One particular paper by Yeoman and Watson took us through some suggested approaches to provide a suitable framework for organisational approaches to yield management systems. This was complemented well by looking at the customer perspective of yield management, reviewing some of the legal and ethical issues that may be grey areas in the application of yield management and how providers and customers may perceive the practice of revenue optimisation.

It is clear from the papers and discussion that yield management, once the domain of large organisations, has percolated down to viable applications for SMEs. This has been facilitated by the use of technology and recent software developments, such as the Windows environment, which have provided a platform to collect,
The role of intranet and internet was expanded upon by some of the UK delegates and particularly their roles as powerful advertising and marketing tools and the new opportunities provided to the industry by these emerging technologies. There was also discussion on the quality and content of some of the websites and linkages to other allied products. SME applications were discussed by Buhalis and Main along with their stagnant position and the possible marginalisation of SMEs, who have poor IT skills and who face increased competition from the chain hotel groups as they target the 'budget' market segment of the hospitality industry.

The industry topics reflected the current focus on BA's use of technology. Starting with the keynote speech by Sir Colin Marshall on his global perspective for travel and tourism in the digital world. Several industry leaders spoke of reaching the customers both globally, nationally and locally via the emergent technologies. The focus from AT&T's Ian Tait was on the 'wired customer' and 'seamless connectivity'. Anna Pollock elaborated on creating the intelligent destination systems for the future and the concurrent issues that accompany that achieving on-line sales, the prospects for interactive kiosks and securing electronic transactions.

The fate of intermediaries was aired with leaders in these fields, such as Aulana Poon of Caribbean Futures, putting forward their perspectives on the future of travel agents, tour operators and other traditional intermediaries, highlighting the threats but also the opportunities for those prepared to form strategic alliances.

As with the academic discussion there was a lot of emphasis on the use, exponents and promotion of the internet as the chosen future path with workshops on designing effective websites and building intranets for organisations and destinations. Using IT to empower employees and the focus on the human resource element, easily overshadowed by the sophistication of the technology, was also considered and discussed in papers and workshops. However, given the nature of the keynote speakers and the participants such as national tourist boards and major banking groups, the predominant theme of these proceedings was 'strategic vision' in the use of technology.

COMMON THEMES FROM THE CONFERENCES

The conferences demonstrated the following themes:

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The internet is gaining in credibility and reliability and will be one of the key media of the future for the demand and supply side of the hospitality sector. The design of web sites will be of crucial importance as will the linkages embedded in them to search engines and other complementary tourism products. Even though there appears to be contention on how soon electronic payments become secure and feasible via the Web, it is clear that eventually as consumers of hospitality products become more sophisticated in their use of technology they will 'pull' technology through the hospitality sector. This allied with the 'push' effect that the banks will adopt as the Web becomes the media/channel of choice, will draw all the major players into the digital marketplace.

The travel and tourism industry in general have been slow to embrace the new technology. The larger hospitality and tourism organisations are now acting to utilise technology and make maximum efficiency and gains. They can gain from the experiences of other industry sectors, particularly in areas such as legacy systems.

As business process reengineering is becoming more prevalent to maximise benefits from the technology it is evident that hospitality organisations need to examine their systems to maximise gain from the available technology. Major players in the banking industry seem to differ on the time frame for the widespread use of payment transfer via the Web, but seem to agree that it was imminent within the next year or so and trading via the Web would become part of our business culture.

The human resource element is crucial to progress. The co-operation and dependency between the academic and business sectors is crucial to drive technology forward in research and by educating the hospitality, travel and tourism students of the present. This can only be done by equipping them with the necessary skills in their educational processes, both during the formal academic stages and in the consequent professional and vocational training.

It was evident in many of the papers and workshops and discussions that the advent of the Web could provide the connectivity and presence on the electronic marketplace at reasonable cost for all hospitality providers. The role of traditional intermediaries, such as Tourist Boards and GDSs, are changing and they must plan to adapt to the emerging channels of distribution and communication highlighted by these conferences and the open forums they present and the exchange of ideas.

Finally the synthesis of the key stakeholders, i.e. the tourist boards, the hotels, the tourism attractions, the tour operators and agents, destinations and educators with the technology is finally emerging.

However, in spite of the available software, the infusion of technology and solutions, there is a real division between the 'technology rich' (which tend to the larger, affiliated hotels) and the 'technology poor' (the small- and medium-sized hotel operators). Both for hotels as individual products and for hotels as part of packages there is a real division between the privileged few which have real-time electronic distribution channels that is both distributed by automated travel agents and directly to customers on the Web and all the rest, who are not represented or visible on electronic or technical media at all.

We live in turbulent times and the process of change will continue. With the speed of technology turnover it is important, particularly for the survival of SMEs, to maximise the advantages offered by current technology and establish a presence on the electronic marketplace.

FURTHER INFORMATION

Yield Management: contact Ian Yeoman, Napier University, Edinburgh, UK.
ENTER: contact Dr A. Min Tjoa, Institut fur Softwaretechnik Technische Universitat Wien, Vienna, Austria.
HITA: contact Galen Collins, President of HITA Worldwide, Northern Arizona University, Box 5638, Flagstaff, AZ 86011, USA.
role in the market environment and competitive advantage. The sum of income is determined by the following:

- The system of producing surplus product and its distribution according to technological stages in the process of the end product manufacturing (monopoly of some producers and their specialization, degree of integration).
- Integration processes of yield formation and their joint utilization by suppliers. The integration presupposes the development of separate branches and production lines to achieve maximum revenues gained by each participant.

Yield management as a system includes:

- optimization of commodity and raw material flows at enterprises;
- creating effective incentives for the workforce to make maximum profit and minimize expenses;
- rationalization of cash flows securing high financial stability of enterprises and their revenues;
- the creation of adequate material and resource basis for an enterprise;
- effective application of financial instruments of yield optimization in order to minimize possible losses from business operations;
- creating an inner system of financial and economic adaptation of an enterprise to changes of macro-economic policy in the field of yield formation and management.

Key determinants of yield management in mass catering:

- a number of enterprises perform social functions (serving schoolchildren and students), which means that social interests prevail over business ones;
- conservatism in the organisation of leisure and meals at the above-mentioned enterprises, which predetermines a relatively low yield level;
- intense competition with trade companies selling food;
- mobility of development of mass catering enterprises including fast food places and their compatibility with large supermarkets and hotels;
- high cost of selling the produce and outlays (yield management).

The level of yield manageability can be defined as the degree of the yield effect on managerial decisions. It is determined by the ownership share of the participants in the formation and distribution of yield: the state – the enterprise – the employee.

The ownership relations between the state and the enterprise and the formation of yield includes:

- the ownership relations concerning yield formation of (the degree of the state participation in determining the sum and level of yield including pricing);
- relations in the process of realizing yield and the aggregate product;
- relations in the process of distributing the yield of the enterprise (compulsory payments to the budget and non-budget funds);
- relations concerning yield allocation;
- relations concerning yield acquisition.

These issues are regulated by the law. The relations of ownership between the enterprise and the employee concerning the creation and distribution of the surplus product are formed on the basis of:

- the role of the participant's contribution in the formation of human and materialized labour;
- their shares of yield;
- the conditions of yield acquisition.

The strategy of yield management includes five stages:

- Stating and adopting (by top management) of the goal of yield formation and distribution based on the analysis of the legislation, the company's potential, objectives and structure.
- Elaborating the steps and the action plan to meet the objectives.
- Determining necessary resources (material, labour, finance) to achieve the goal of yield management after the consideration of acting laws, the company's potential and the character of yield formation and cash flows.
- Forming a system of yield management and strategy implementation. (This stage includes the selection of the most efficient forms of management, economic and financial development of the enterprise and its profits, working out proposals on obtaining state support for the most important measures set out in the strategy).
- Transforming the strategy of yield management to include the customer and the employee, deadlines for each performance objective, proposals on organizational and economic aspects of the strategy implementation.

The evaluation of a yield strategy should be carried out according to the following indicators:

- the ratio of the yield (profit) to the value of the company's own and leased capital;
- the company's net profit and its correlation with the value of fixed and circulating capital;
- the effectiveness of yield reproduction with regard to inflation and the distribution of financial flows, which in general characterizes the effectiveness of yield strategy.

These evaluative criteria are dependent on the resource capacity supporting strategy implementation.

Research in brief

A preliminary study of data utilization by small to medium-sized hotels

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Introduction
Tourism destinations are traditionally dominated by small and medium-sized tourism enterprises which provide an amalgam of products and services such as accommodation, catering, transportation, attractions and activities. They are by definition not affiliated with the major hotel chains and are the largest segment of the hotel sector[1,2]. Predominantly, independent hotels have fewer than 50 rooms, often employ fewer than ten people, operate in the lower reaches of the market and are
located in coastal and country resorts, i.e. tertiary locations[3,4].

The number of small hotels around the globe demonstrates their dominant role in international tourism. More than 90 per cent of the accommodation establishments worldwide are small, independent, flexible, seasonal and family managed[5-8]. This is evident in several countries such as the UK, Switzerland, France and the USA, where more than 90 per cent of the local hotels have 50 rooms or have fewer than 50 employees[9,10].

Small/independent hotels are currently threatened in a number of areas. They are being pressured to join consortia, a trend that only prevalent in the USA[11]. They lack the economies of scale available to large hotels and chains both externally in their purchasing and marketing function and internally in economics in resource management. In addition, lack of access to capital, due to the "family" nature of the business, the lack of assets, which can guarantee loans, and the comparatively poor market performance of independents, jeopardizes their ability to expand and improve their cash flows. They are also being challenged at the lower market level by the chains using budgets and bonuses.

The main emphasis of this article is on the use of information in small SMES, medium-sized enterprises hotels, with particular reference to the actual or potential use of information to manage data for revenue optimization and competitive advantage. A number of studies have examined the use of yield management in hotels, mainly in the USA notably [12-15]. Kynse[15] defines yield management as: "Allocating the right capacity to the right customer at the right price at the right time as to maximize the business." One of the few UK-based studies[16] examined the use of yield management in 11 hotels in Birmingham (UK) city centre. Despite the fact that these were all three- and four-star large chain hotels, it was perhaps surprising that the workers found that only three managers had heard of yield management and only one was actually using a yield management system of any sort (in fact, a manual system).

Independent studies by Main[17] and Ingoli (unpublished results) found that the use of information technology in small hotels was minimal, as was a knowledge or understanding of yield management. Indeed, in some small hotels managers had little understanding of the relationships between fixed costs, variable costs, working profit and real profit (or loss). When asked how they set their prices, many managers sought to mirror those of competitors down the road. Forecasting is seen as some "black art" which has no place in filling hotel rooms. Small wonder then, that in times of recession in particular, with downward spiralling prices, so many small hoteliers simply go out of business. Given this, the aim of the study is to attempt to discover whether systematic collection of relevant data, analysed on a microcomputer, with clearly presented reports, could have any place in improving the profitability of small to medium-sized hotels. Equally important, the study is aimed at finding whether the hoteliers would actually make use of such a system.

The preliminary study
This project is a preliminary study of the requirements and use of data collected by small hotels, with particular reference to data manipulation of data using micro-computer technology. Since this was seen as a pilot study, there was no attempt to randomize or stratify the sample in any way, as the results are not intended to provide a generalized overview of SMEs in the UK hotel sector; although this will be considered at a later date. For this study, a convenience sampling was used consisting of ten hotels, six from Wales and four from England. The size of the hotels ranged from 20 to 66 bedrooms.

The research used for this study was the semi-structured interview, and the interviewers were either the proprietor/manager or the duty manager, as appropriate. Interviews were conducted in a setting chosen by the interviewee, to ensure that they did not feel unduly pressured. The structure of the interview was based on the findings of Jauncey Mitchell and Sławek[18] as applicable to SMEs and the interview data were collected in note form, collated and analysed. Jauncey et al.'s findings were further refined for the present study to include consideration of all the data inputs that hotel managers may collect, an assessment of what they currently do with those data, followed by an attempt to elicit what information outputs they may require and in what form.

Findings

internal information
To the extent that our small sample reflects the independent SMEs, these hoteliers seem to be either information rich or information poor, with little in between. The independent hotels' internal information mainly consists of guest records and accounting information, including data kept for tax and legal purposes. Reports are typically produced on a monthly basis, mainly to supply accounting information. None of the hotels produces any in-depth statistical analysis on the data collected, e.g. trends or comparisons. Rather, the data tend to be lists or counts such as guest lists or number of meals served, etc.

Those hoteliers who do gather internal information tend to store the data "individually", which suggests that they may not have an understanding of the relevance or timeliness of the information collected.

Most of the managers in the survey realized that they had "gaps" in their information supply, but they were unable to identify what these were. However, one manager stated that he would like to retain information on the average guest spend during their stay. Only half of the respondents generated internal reports for staff members as a matter of routine, and these were usually weekly or monthly function sheets.

Most internal communication was word of mouth and responding to immediate actions and needs. The other half of the sample agreed that they did generate reports if they were requested. A majority of the hotels kept records on re-shows, drop-ins, cancellations and pre-bookings, but these were usually filed away with no analysis being carried out.

Customer information
Most of the sample hotels held some information on their previous guests, but this information was limited to simple name and address lists, together with any balances due. Very little additional information beyond this seemed to be collected by any of the sample hoteliers. The information was collected at the time of booking or check-in and kept in a filing cabinet or booking diary. When pressed as to why no information was not collected, the reasons were:

1. "We don't think it is necessary."
2. "We don't have the time for it."
3. "We don't have the means to collect it."
ranged from "disinterest" through "lack of time" to "staff not aware of the importance of collecting information". Some useful information is collected informally but is seldom stored because the systems in use are inappropriate to deal with such information. Many of the hoteliers were able to suggest useful information that could be collected, but was not currently gathered, e.g. "date last in", "frequency of visit", "date to personalize the visit". One hotelier used customer feedback questionnaires to elicit customer responses to service quality issues, etc. but this was not followed up. The sample hoteliers had no information about potential guest markets and they do not target market segments.

**External information**

It was evident that the sample independent hotels used little or no external information. Some were members of a professional hoteliers association or their local tourist board, but took no active role. None of them used consultancies or external bodies to help run their businesses. They seldom share information with other hotels, unless there is some family connection. Their pricing policies seem to be largely influenced by the prices charged by the surrounding hotels and they may ring around their local competitors to judge the local price competition. They do not seem to think that external factors affect the running of their businesses, except for one seaside hotelier who was of the opinion that the weather was important to his business. A small proportion expressed a wish to receive information about local trends and the local economic picture. On the rare occasions when such information is acquired, it is stored and any analysis is by inspection and intuitively interpreted.

**Use of computers**

Most of the hotels had a rudimentary computer capability which was used only for word processing, generating lists, etc. In those cases where a system was used for handling any other type of data, it seemed that the system itself often restricts or dictates the nature of the information collected and how it is processed. In some cases the computer was used to store information but not to process it in any way. Given this base of low computer application, one challenge is to reconcile the complexity of any framework for data handling, and user acceptance of such a framework.

**Yield management**

A yield management system is characterized by a number of key features[18]. Typically, this consists of the use of historical data to build a model of the pattern of demand for forecasting purposes. Moreover, the identification of different market segments is vital to allow the effective provision of variable room rates and categories. Finally, the system should monitor the actual demand and provide advice which takes into account deviations from the model's predictions. The model presented in Figure 1 is proposed to meet these requirements.

The model identifies a number of key processes and data objects. Moreover, the system was separated into a number of modules (the shaded regions), with each module encapsulating an area of specialization, and the boundaries between them forming relatively "clean" interfaces; aiding the design and implementation of an actual system.

The primary source of historical data is provided by databases of customer and inventory details. The databases may be extensions of existing records and their collation can follow as closely as possible any existing procedures to facilitate user compliance; for example keying-in customer details during reservation or check-in. An additional source of data, described as "external", enters the system via the module concerned with data analysis (the inference engine). External data include any data from agencies outside the SME which may become more widely available in the future, for example online databases supported by regional or national tourist boards[19].

The role of the inference engine is to derive any underlying patterns within the various sources of data. This process may involve the use of various data mining techniques; for example algorithms have been devised which have shown some success in the prediction of creditworthiness based on small databases of a few hundred cases[20]. Ultimately the aim is to predict the future pattern of demand.

Even with the most precise forecasts the task of deciding on a course of action is likely to be highly complex and demanding. For instance to obtain the optimum yield of room rates and occupancies there must be a strategy for the allocation of rooms to various market segments, and the application of restrictions on reservations depending on the pick-up of each room category[21]. Consequently there is a need for the provision of some guidance by the system; carried out by the system adviser. In effect the role of this module is to translate the system's forecasts (moderated by circumstances such as actual demand) into suggested courses of action that can be delivered by the operational staff to optimize revenue for the small hotelier.

**Implications**

The profile and personality of the independent hotel manager is seen to be one of the major limitations to implementing a yield management system. Previous research by Maini[17] indicates that this category of manager tends to be poorly educated and a non-user of technology. These factors would have obvious training and implementation barriers. The preliminary interviews also indicate a reluctance to collect data and possibly a resistance to implementing a yield management system that may minimize their control and individuality. In the longer term, even if a yield management system were introduced, this could invoke hostility to the system, leading to sabotage or the overriding of the system, rendering it redundant.

Cost would also be a major consideration. For those who have already made an initial investment in hardware, the cost could be minimal if based on a Windows or Lotus Notes platform. However, for the 50 per cent of independent hotels that have not made that initial hardware investment, and those who would have to upgrade their hardware, the cost of hardware, software and the necessary training may well prove prohibitive. Size would also be a major barrier to a successful system, as there is little advantage in a system that is more costly than the benefits that could be accrued, particularly given the short-term financial view taken by these hoteliers.

There are also marketing considerations that should be examined. The manager must be customer oriented and willing to implement marketing strategies, and the market must be segmentable. Market data must be
Research in brief

Figure 1
Requirements of a yield management system

*Areas of advice may include:
- Restrictions on bookings
- Manipulation of room rates
- Possible levels of cancellations

available to build both an internal and an external profile of the market. At present there are fewer historical internal data stored, and external market data are both limited and expensive. This study supports our previous findings, that this group of managers have little eye for their target markets and have little understanding of market segmentation.

Limitations in terms of the software model are also important. Any system which is going to provide useful and usable forecasting outputs will need to be complex and thus relatively expensive to program, making the software costly, at least initially, when few copies may be sold. To provide forecasts for any reasonable future period, a large historical database will have to be processed after each update. This will necessitate powerful hardware (even if the computer is run overnight) and further expense.

A way forward?
Collaboration between hoteliers and tourist boards is essential and hoteliers will need to begin sharing information, at least locally or regionally. The tourist boards are installing computerized reservation systems, developed by Integra which are linked to their member hotels and the area offices, and beyond that nationally and eventually internationally. This could integrate with current developments on the Internet. A hardware and software system that could take advantage of this connectivity, and the data consequently distributed and collected, would be crucial to building a yield management system for the small independent hotelier.

References
1 Slattery, P., "Unaffiliated hotels in the UK", Travel & Tourism Analyst, No. 1, 1992, pp. 90-102.
4 Moutinho, L., "Strategies for destination development - the role of small businesses", in Goodall, B. and Ashworth, G.
Research in brief

21 Huyton, J. and Ingold, A., "To yield or not to yield – that is the question", unpublished proceedings of an ICHM conference, Bournemouth University, Bournemouth, UK, 1990.
The Use of Smart Card Technology to Develop a Destination Based Loyalty/ Affinity Scheme for SMEs in Tourism and Hospitality

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Abstract
Given the increasingly high cost of creating new customers, organisations have turned to developing ways of retaining the loyalty of existing ones. The current visible exponents of loyalty schemes are the large retail organisations, although some of the major players in tourism and hospitality have started to develop similar programs. In some cases they have forged affinity schemes with their strategic partners, thus allowing participants to earn discounts and points across several product ranges (e.g. BA’s Executive Club). In general, the hospitality and tourism industry fails to take advantage of the marketing intelligence gathered during visitor stays. Smart card technology provides an efficient way to gather extended information about customers and develop a pool of information about buying behaviour and lifestyle that could be used to effectively market the tourism products of a community. This would lead to effective market segmentation and targeting and, ultimately, to one to one marketing of customised tourism products. This paper examines the feasibility of implementing a PC based destination focused loyalty scheme by developing a theoretical model of probable participants and stakeholders. It considers who would be responsible for developing / maintaining such a scheme, and also questions whether the benefits, both to consumers and participants, outweigh the costs of development / implementation. Lastly, it examines the possibility of incorporating such a scheme within an intelligent destination system.

Loyalty Schemes
As the cost of finding new markets increases, the major retail and service organisations are focusing on retaining their existing customers through a variety of schemes. Recently their efforts have focused on loyalty cards, leading examples of which include Boots “Advantage” and Tesco “Clubcard”. These function by responding to customers needs for rewards and recognition based on longevity, buying behaviour and usage patterns.

However, Woolf [45] challenges that schemes such as Tesco’s are barely scratching the surface in that their blanket one percent loyalty offer goes against the true grain of loyalty marketing, which aims to generate super profits by “de-averaging” customers - rewarding the best ones using funds generated by “dis-rewarding” the worst. Marketers should match their investment in customers to the revenues that
they generate. They should deliberately allow some to die on the vine, while nourishing others. Woolf maintains that firms should treat customers like employees and if ultimately they do not perform well there must be a parting of the ways [32,45].

So how then do we build customer loyalty? There must be a focus on which segments ("current loyalists", "switchers", etc.), within the loyalty market itself we are targeting, as evidence suggests that in some segments [16] that there is little correlation between volume and loyalty. An important part of forming a customer retention program and building loyalty is understanding what the customers value.

The first step is to survey customers in a broad dialogue to identify key satisfaction issues before building rewards into the scheme. Having established a dialogue, the key factors are increasing customer satisfaction and giving customers a long term reason to stay with you [33]. This can only be achieved by being close to the customer and knowing their needs and priorities. For that reason, loyalty schemes which are built solely on rewards are unlikely to be effective. The database must be analysed and customer needs and priorities and identified and used as the basis for highly targeted marketing activities.

Woolf, a “loyalty guru”, has identified that there are eleven "P"s to which businesses must adhere to get the best out of a loyalty marketing scheme. These can be summarised as follows; 

Pricing: that given the additional information that you hold on your loyal customers your pricing should be customer specific; Purchases: that you should attempt to make product specific offers; Point flexibility: that you should be able to offer extra points instead of coupons; Partners: that alliances should be formed with other retailers and service providers so that customers can earn and spend points through them; Prizes: that you should have weekly prize draws for participants; Pro bono: that customers should be allowed to convert points into charity donations; Personalisation: that direct mail should be used to give special offers to participants; Privileges: that participants should be invited to specific events; Participation: that the best customers should be invited to take part in variations of the scheme and that the customers should choose the variation; Pronto: that offers should be generated at the point of sale; and Proactive: that information should be used to predict/preempt customer behaviour. An effective mix of these eleven "P"s is crucial and must be tailored to be destination specific.

**Loyalty Schemes in the tourism and hospitality sector**

The hospitality / tourism sector has traditionally been at the forefront of efforts to monitor and track guest preferences. Many hotel groups maintained comprehensive and detailed banks of information about their guests’ needs and spending habits as part of their guest history systems. While these were originally stored on paper index cards and updated manually, developments in computer technology now allow this data to be stored electronically and updated automatically in real time as guest transactions occur [34].
Two technological developments in particular have had a great effect on how guest

history data can be used. Firstly, the reduction in the cost of data storage which has

occurred over the last three decades (from £1 per byte in 1960 to two pence per

megabyte in 1997, according to Price Waterhouse[15]) has made it both feasible

d and economical to store more data about each subject in the database. Instead of data

being limited to the guest’s name, contact details and summary information on the

total number of times they have stayed and their total spend to date, there is an

increasing trend towards what is know as "full folio" storage, where complete details

of all transactions are stored for later analysis. Secondly, the growth in the amount of

processing power which is economically available on the desktop allows more

comprehensive analysis to be performed than could be achieved using manual

methods. Many tourism companies have copied the concept of using a loyalty club

from other industries. In fact, travel related loyalty schemes have become so

numerous and so complex that a 24 page monthly magazine devoted to the subject,

"Inside Flyer", has a thriving following [29]. However it is not all a positive picture,

airlines are an example of where loyalty programmes are achieving only minimal

incremental sales [13]. Their frequent flyer programmes are all so similar that they
do not give a competitive edge.

Criticisms of Loyalty Schemes

There is growing evidence that far from increasing loyalty, the proliferation of

schemes available causes consumer promiscuity [31]. A MORI poll recently found

that 25% of loyalty card holders are ready to switch to rival schemes if it has better

benefits. Another criticism is that someone has yet to explain why we need to

reward loyal customers [30, 31]. If they are loyal, presumably you are already doing

something right. Discounts might get high spenders spending even more but at what

point do the increased revenues really offset the extra costs?[21]

As loyalty schemes become more common, consumer expectations will rise and their

competitive edge will diminish. Loyalty schemes probably have a three year window

of opportunity [45] and now is late to enter the market. People have too many cards
(card constipation) and thus may be reluctant to join another scheme, however a well

designed affinity card would allow customers to park all their other cards and cash

while at a destination. This works best where the resort is in a distinct physical

location - such as on an island or on a cruise ship or in a resort location such as a

Club Med.

A final criticism of loyalty schemes is that they are based on historical data, and thus

they focus on what has happened in the past. In reality, this may have little bearing

on what will happen in the future.
Smartcard technology

One of the main problems in operating a loyalty scheme is uniquely identifying the customer. Unless each customer's transactions are correctly related back to their record in the database, the quality and usefulness of the data warehouse as a whole is compromised. A solution has been to issue participants with a magnetic strip based card, which aids identification and data entry. However, these are limited in the amount of data which they can store, and the sheer number of different cards which people must carry with them today (sometimes known as "card clutter") discourages them from joining a scheme which necessitates carrying yet another.

Smart cards, however, can store more data and are also multi-purpose [33]. As a result, they can store extensive data about customer profiles and purchasing behaviour, and the same card could be used for a variety of different functions. In the travel sector, there are already some examples of multipurpose smartcard use. For example, passengers on Carnival Cruise Lines use smartcards as their electronic door key, for making purchases in the bars or beauty salons, to pay for telephone calls and even to operate video games [11]. As smart cards can also receive data from and share data with their reading device, they remove the need for an on-line connection between the EPOS and the loyalty database. Profile changes, such as for example, a change of address, can be made by the member on a kiosk, and the updated information stored automatically on the chip [15]. This transfers the responsibility for data integrity and maintenance onto the customer themselves [15].

Destinations and SMEs

As can be seen from the above discussion, certain things are necessary for the successful operation of a loyalty program. These include technical knowledge (to design the system), marketing knowledge (to implement a strategy based on loyalty data) and a technology based network (to record the transactions and transfer them to the loyalty database). Within the tourism sector, only large companies such as the airlines and the major international hotel companies are likely to have access to such expertise and facilities.

Unfortunately, the vast majority of tourism enterprises around the world do not fit this profile [42]. Instead they are small or medium in size, are not part of a chain or consortium, and in general are owner operated and managed [9]. Tourism operations of this type tend not to be users of technology, and their lack of marketing knowledge has consistently been identified as a key weakness [24]. Apart from this, most SMEs have a rather limited range of services, and thus their attractiveness to the guest for repeat purchase is questionable. Therefore, loyalty / affinity schemes administered in the conventional way, are unlikely to be successful with individual SMEs.
However, SMEs have the potential to gain the most from the information provided by such schemes. Their small size gives them flexibility which they can use to rapidly respond to changes in their customer needs - assuming, that is, that they can identify these changes in the first place.

An Affinity / Loyalty Model for a Destination

The town of ABC is a resort located on the south coast of England. Like many of its neighbours, its economy is very dependent on seasonal tourism. It attracts visitors from all sectors of the tourism industry - from business on extended visits through package tours to domestic and overseas independent travelers using the resort as a base while visiting south east England and the London area. Although some national and regional chains are represented, most tourism operations are SMEs. These provide a varied and rich range of tourism experiences - from visitor attraction such as parks and exhibitions to leisure facilities such as miniature golf, theatres and swimming facilities to a wide variety of forms of accommodation, including guest houses, caravan parks and business oriented hotels with extensive leisure / conference facilities. Many different channels of distribution are currently used, including travel agents, tour operators and through the local tourist authority, but the most popular distribution media is direct selling.

Many different aspects must be considered when implementing a project of this kind. The first of these is the technology which will be used to drive the system. It is proposed to use smart cards as the means of identifying each individual guest. Each customer would be issued with a smart card at their first point of contact in the destination. For the majority of customers, this would be at check-in in their accommodation. These cards would then be presented at each point of sale during their visit to record their reward points. Use could be encouraged by offering a discount for affinity club members, or by offering rewards in return for specific amounts of spending recorded on the card.

Each sales location - be it a hotel, guest house, restaurant, shop, etc. would be equipped with a smart card reader / writer. These self-contained units would require no technical knowledge on the part of the vendor, who would simply insert the card in the reader and record the customers transactions. The central data warehouse would run on a high specification personal computer, which would automatically poll each reader on a weekly basis to download the stored transaction details. Industry figures [14] say that data is usable in about 12 weeks. The data warehousing, mining and report would be administered by the regional tourist authority, although the day to day operation of the system could be contracted out and paid for by the destination on a per card or per redemption basis.

One of the key success factors would be insuring the use of the smart card by the customer. As was mentioned above, this could be encouraged using a spending
based rewards scheme. However, as each smart card can store about 8 K, alternative strategies could be used. For example, the card could be encoded with "electronic vouchers", which allow the cardholder to visit a series of visitor attractions. The card could be multi-purpose - acting as an electronic door key, collecting reward points and even acting as an electronic purse or debit card through out the resort - thus freeing the guest from having to carry cash. Even after departure, an appropriately designed card would be a useful promotional tool, generating word of mouth publicity while serving as a souvenir of the visit [4].

An Evaluation Of The Model

In evaluating a model such as this, a wide variety of different factors need to be taken into consideration. However, as the emphasis of this paper is on a pilot scheme, discussion will be limited to three factors - the technical requirements, the data considerations and marketing consideration.

Technical Requirements While the large retailers have built their loyalty schemes on top of existing EPOS technology, such systems are usually not prevalent in tourism SMEs. In the pilot scheme, each sales location in the destination would be provided with a smart card reader / writer (at a cost of £100 per outlet) to allow the collection / redemption of points (although more sophisticated devices such as clever tills or new generation PDQ machines could subsequently be used). Similarly, although most existing retail schemes in the UK are mainframe / mini based, it is possible to run a loyalty scheme on a high-end personal computer, and given the wide variety / lack of standards in terms of platforms and applications currently running in destinations, a Microsoft Windows solution might be the most suitable for the initial pilot. A database engine is also required to "warehouse" the data. Partnering with an organisation that has a proven track record in running loyalty schemes would also be advantageous till the destination acquired the necessary expertise.

Data Considerations As was discussed previously, issuing the card and selling the benefits of the scheme to the customer at their initial point of contact in the destination is crucial to the successful operation of the scheme. If the use of the card is insured, then a valuable data warehouse will be built from the participants transactions. This can then be analysed using data mining techniques to produce several levels of data to match market segments and sources of data by grouping together key relevant variables and building / looking for relationships between various tourism activities. From the customers point of view, he / she could get a print out, at any smartcard location, of all their bookings and expenditures.

Marketing Consideration The key benefit to be gained would be the vastly increased quantity and quality of marketing data which would be available to participating organisations. This would facilitate taking care of loyal customers as well as offering incentives to increase their spend in the destination. It would also profile its
trading areas as a result of transaction data and inferred lifestyle data link up with
other companies to offer a wider range of rewards. Data mining will help to reduce
customer defections to rivals and give sharper focus to product lines. One-to-one
marketing of individual tourism products, or the grouping of products based on
customer activity would be a dynamic new distribution channel. Eventually such a
system has the potential to feed into an intelligent destination system, perhaps on a
national basis, which would greatly increase the ability of the scheme to tailor
packages to exactly meet customer needs.

Conclusions

To focus on some of Woolf’s eleven “P”s, we can focus on which factors are
necessary for such a scheme to succeed. Obvious, immediate benefits, Pronto, have
to be offered to the customer. Also one of the most important determinants is
Participation, both from the customer and the supplier side. In order to build up the
data warehouse, participants must be tempted to join the scheme (and thus surrender
their valuable demographic data), and to use the card at each point of sales by
offering suitable rewards (and thus generate valuable transaction data), or the system
will not achieve its objectives. Partnership between the suppliers must also be
achieved in that they must be willing to collaborate and share information and
promote one another’s products although evidence suggests that this is often not the
case. However, an affinity scheme of the type proposed would work best if it
included all of the tourism related outlets within a distinct geographical area and
acknowledging that they have a shared destiny. This would overcome the size /
limited range of products problem, and provide tourism SMEs with an accurate and
up to date source of information on their customers’ spending patterns and levels.
Fears about confidentiality / impartiality should be reduced by having the system
administered by the regional tourist authority.

Personalisation would be easy to achieve, as the data collected in the shared
warehouse would allow any campaigns to be precisely targeted. Making SMEs
proactive with the information they receive could be more difficult, as they often
lack marketing knowledge and thus are unlikely to know what to do with such data
[24]. This could be solved by strategic technology partnering and/or tying the
operation of the scheme to a series of educational programs on database marketing,
thus helping both the marketing knowledge problem and allowing the SMEs exploit
their data and eventually lead to smart micro-marketing.

If the “future-proofers” [20,36] are correct then two of the major trends which will
affect the tourism market in the near future are “mass customisation” and
“disintermediatisation”. A loyalty / affinity scheme based on smartcard technology
would provide the necessary data for the mass customisation of the tourism product
by giving an intimate knowledge of the customer. Given that channels of
distribution are already evolving towards disintermediatisation, this direct contact
will be crucial as suppliers will need to be able to deal directly with customers and establish a loyal, long term, (2-way) relationship [25, 43].

Bibliography

3. Anon (1996)
5. Anon (1996)
12. Cobb, R (1996a)
13. Cobb, R (1996b)
15. Dingley, D (1997)
23. IBM (1996)
27. Lowder, C (1996)

Thomas Cook moots loyalty scheme to rival air miles, Marketing Week, Vol 18 No 31, p9

The electronic loyalty builder, Credit card management, Vol 8 No 4, p48

SJB launches new guide to loyalty schemes, Marketing Week Vol 18 No 41, p37

Affinity Cards put Suntrust in a country state of mind, Direct Marketing, Vol 59 No 8, pp26-29

A me first attitude, Credit Card Management, Vol 9 No 5, p10-12

Sybase nets first loyalty scheme in IT, Precision Marketing, Mar 24

Kingfisher loyalty plan binds empire, Marketing Week

WH Smith aims to capture loyalty, Financial Times, 14 July

Information technology in small/independent Welsh and Aegean hotels, HITA conference proceedings, Edinburgh, UK

Loyalty Boosters, Accountancy, Vol 1117 No 1231, p52

Hospitality goes techno, Hospitality Industry International, Vol 14, p38

Barrier Blues, Marketing, 6th April, pp11

Testing the Ties, Marketing, 6th April, pp23-5

Loyal Following, Marketing, 6th June, pp23-5

Hilton hotels Corporation Joins With American Express And IBM In Smart Card Pilot Tests, Infortec-Travel listserv

Do Loyalty programs really work, Sloan Management Review, Vol 38 No 4, pp71-82

Hotel Frequent Guest Programmes, Travel and Tourism Analyst, Vol 1, pp84-96

The cost of loyalty, Air Transport World, Vol 32 No 2, p79-80

Database Marketing: building customer profiles, Cornell Hotel and Restaurant Administration Quarterly, Vol 31, No 1 pp60-62

The Road Ahead, Penguin, London

Network: Check out the facts: Supermarkets are spending millions of pounds on technology to track what’s in your trolley. But are they getting value for money, The Independent, March 18

Packaging Loyalty products, Bank Marketing, Vol 27 No 9, pp67-72

The Impact of Information Technology on travel and transportation, Hospitalitynet, HTTP://www.hospitalitynet.nl/news/article/53022726.htm

The use of marketing information systems in the hospitality industry, (UK), HITA conference proceedings, Las Vegas, USA

Hopelessly devoted to you: Loyalty is a powerful two way street, Direct marketing, Vol 58 No 7, pp43-45

Does your loyalty program inspire any loyalty, Direct Marketing, Vol 60 No 2, pp48-48

Customer Communications: Building lasting customer loyalty, Executive speeches, Vol 11 No 2, pp23-25
38. Reed, D (1997) Special Report-Customer Loyalty-The good, the bad and the most rewarding, Precision Marketing, May 26
44. Wilson, R (1996) Join the Club, Marketing Week, 12th January, pp47-52
The Use of Marketing Information Systems and Yield Management in the Hospitality Industry

Hilary Main

INTRODUCTION

In this chapter marketing is examined with the concepts of yield management. It is clear that there are key areas of overlap in terms of segmentation, the marketing mix, particularly optimal price and the product life cycle. The focus of this chapter is on the area of information flows common to yield and marketing management and information systems. The methodology and context is by survey of small and medium-sized hospitality enterprises (SMHEs), a case study of a medium-sized UK hotel and review of a larger survey executed in Germany.

SMHEs

The hospitality industry is dominated by small and medium-sized enterprises. In fact the vast majority of accommodation establishments around the globe are small, independent, belong to local entrepreneurs and employ predominately members of the host society. They are generally flexible, seasonal and family managed (Shaw and Williams, 1990; Sheldon, 1993). This is evident in several countries, such as the UK, Switzerland, France, Greece and the USA (Cooper and Buhais, 1992). Small/medium hotels contribute 60 per cent of all hotel capacity in the UK and 96 per cent of all hotel properties, while creating the dominant image of hotels in the minds of the public.

Some hotels are currently threatened in a number of areas, there is pressure to join consortia, they are for the most part missing a presence in the electronic market place and they lack the economies of scale available to large affiliated hotels. This affects external links in the purchasing and marketing functions and internally in economies
and diversity of resource management. There are, however, opportunities available to the SMHEs (Medlik, 1994). They can present a unique lodging experience for the visitor, they can be flexible and appeal to unique niche market segments by being able to alter immediately their portfolio of characteristics and their market mix. They contribute greatly to the local economy of the destination via the secondary spend of the guests and the consequent multiplier effect.

THE MARKETING OF HOSPITALITY ENTERPRISES

There are some important differences in the way that large and small hotels seek to match their markets and product offerings. Large, usually chain, hotel operators are increasingly assessing their markets and setting out to sell their hotel products to identified market segments, e.g. the business traveller (Morrison, 1995). Smaller hotels tend to approach their markets less formally and more intuitively from their detailed, close contact with their guests and their requirements. Importantly, hotel accommodation is increasingly part of the total tourist product and this has important implications for hotel marketing, where channels of distribution and interconnectivity become important elements in the marketing mix and marketing activities.

The investment generally in the UK hospitality sector in marketing activities and indeed in Europe is considerably less than in the USA, Canada, Australia and Pacific rim countries (Worldwide Hotel Industry, 1993). There is evidence (Main, 1994; Buhalis, 1995) that SMHEs fail to focus on strategic issues, such as marketing planning and intelligence gathering, as they are preoccupied with the tactical and operational running of their hotels.

In the hospitality industry, marketing is a term frequently used when referring to selling and advertising (Morrison, 1995). A broader approach to marketing is required. Effective marketing requires planning from the initial conception of a product (aided by relevant market intelligence information) right through to its delivery to the customer and thereafter to the retention of the customer.

Yield Management in SMHEs in the European Union

To practice yield management effectively, a business must be able to measure demand and respond to it in a timely and dynamic fashion. Management must be able to identify and cultivate market segments and to communicate changes in price and availability, as well as special offers. An effective flow of information between an enterprise and its customers, in both directions, is needed, similar to an effective marketing information system.

Where inventory management is not clearly assigned at a high level in the organization, the conflicting interests of different departments may lead to sub-optimal capacity use. Many hotels that have been successful with yield management have assigned overall responsibility for rooms' inventory to one person. An explicit organizational emphasis on yield should be reflected in the ways performance is measured. The effectiveness of yield management can be undermined, for example, if managers are rewarded on the basis of volume alone, without consideration of price.

In small businesses, an entrepreneurial spirit and an interest in yield management on the part of the owner may be the key to establishing the appropriate organizational
atmosphere. One vendor noted that successful results are often achieved when an owner makes yield management a personal ‘hobby’.

It is no coincidence that yield management tends to be most prevalent in those countries where market information is most widely available. This information may take the form of official tourism statistics or business performance data published by chambers of commerce, trade associations or independent consultants. Here it is evident that the information flows are similar to those required by an effective marketing information system (see Figure 12.1).

When considering SMHEs, it is necessary to distinguish between yield management concepts and yield management technology. Many small businesses for which computerized yield management technology is too expensive can and do benefit considerably from the systematic ‘manual’ application of yield management concepts. Andersen (1997) has identified five ‘functional aspects’ of yield management, as follows:

- **Market segmentation.** Identifying distinct groups of customers which behave differently from one another, and which are relevant to a company’s marketing activities, pricing and other business decisions.
- **Price management.** Systematically offering different prices to different customer segments, in response to changes in demand.
- **Demand forecasting.** Forecasting future demand on the basis that a business can more rationally and accurately anticipate the size of different market segments and the prices that each segment will accept.
- **Availability and/or capacity management.** Limiting or shifting the availability of certain products or services according to customer demand.
- **Reservation negotiation.** It is in the reservation or sale processes that management must implement its decisions about pricing and availability. Where the opportunity to negotiate exists, ‘up-selling’ to a more expensive product or ‘cross-selling’ to an alternative product may be attempted.

Yield management is already used in many areas of the hospitality sector. In many other areas, it could be applied, but has received little attention. In general, yield management is applicable and of interest to businesses with the following characteristics:

1. **Perishable inventory and/or seasonal demand,** so that the timing of a sale is important.
2. **High fixed or sunk costs, and relatively low marginal costs of selling an additional unit.**
3. **Fixed capacity,** either overall or in the short term.
4. **Advance purchase** (or, at least, reservation) of products or services.

The hotel industry, at both chain and SMHE level, meets all these criteria. Levels of yield management within each industry area and in the different countries of the European Union vary in the extent to which yield management concepts are being applied and to which yield management technology has been developed greatly from one hospitality business to another. As a framework, four basic categories or levels of yield management are in use among those enterprises which could use yield management. At a low level a small bed and breakfast charges a single fixed price per person during the summer months. It is closed during the rest of the year. In this case no real
Yield management is in use. At the next level a hotel enforces a two or three day minimum stay requirement during large trade fairs, festivals and other major scheduled events. Here we could say that some formal, intuitive use of yield management concepts is applied. The next level is where a hotel manager sets limits on the number of rooms that can be booked by groups (i.e. at lower group rates) on any given day, using computer generated sales reports and 'manually' produced forecasts. In this case we could say that there is some systematic use of management information though no computerized optimization. At a very high level of fully computerized yield management system we would see a hotel chain using its yield management system to determine the contribution to income made by different groups of guests and viability of capacity for each group is adjusted accordingly.

In the hotel industry, awareness and use vary across a broad range, from the small guesthouse operator who believes his rooms have an inherent value (usually based on cost), to the large, international chain using state-of-the-art yield management technology. For the SMHE, awareness is low, but intuitive applications exist. Many make use of yield management concepts on an informal, intuitive basis. The majority of European SMHEs practice at least limited price differentiation. Discounting and overbooking are generally becoming more common. Pricing is a 'hot topic' in most areas of hotel management, for SMHEs as well as large enterprises. Consolidation is seen as giving price advantages to large enterprises, at the expense of smaller service providers.

**Yield Management and the Large Affiliated Hotels**

At the upper end of the sophistication range, automated yield management is really used only by a few large, chain-affiliated hotels. This includes simple implementations on both chain-wide and single-hotel base. To date, Marriott appears to be the front-runner in terms of centralized, chain-wide yield management implementation. Most of Marriott’s full-service hotels are connected to a centralized yield management system, in which is the hotel-specific Marriott’s central reservations system, through which all bookings flow. Pricing and availability decisions are ultimately taken at the property level, where local factors can be taken into account. Holiday Inn is another chain with top-level yield management expertise. The Holiday Inn Revenue Optimization system – HIRO – is intended to be implemented throughout the chain in the next several years, first in North America and then in Europe. The implementation of automated yield management packages by single hotels in Europe is also concentrated among chain-affiliated hotels. Overall, the pattern of implementation reflects the supposition that yield management works best in markets with strong transient demand and for larger hotels.

**MANAGEMENT INFORMATION SYSTEMS AND MARKETING INFORMATION SYSTEMS**

In a constantly changing market place, external and internal information is required to support strategic, tactical and operational marketing decisions and provide a competitive advantage. Thierau (1997) describes an effective management information system (MIS) as one that allows the decision-maker (i.e. the manager) to combine his
Yield Management

or her subjective expertise with computerized objective output to produce meaningful information for decision-making. The ability to use MISs effectively is essential to the successful operations of most organizations (Reynolds, 1992). Information is now considered to be a sixth major resource for most businesses (Thierauf, 1987), and in this information age could be described as the most important resource for some industries. These MISs tend to have subsystems which relate to traditional functional areas of the business, i.e., corporate planning, manufacturing, accounting and finance, personnel and marketing subsystems. A marketing subsystem would have further subdivisions, i.e., sales forecasting, marketing research, advertising, sales order processing and physical distribution.

These systems and subsystems would not be appropriate for all industry sectors and the model may be too complex to be of use to the SMHE manager. As a simpler system which concentrates on continuous and dynamic data, information and intelligence flow to support marketing decisions may be more relevant (Majaro, 1993).

It is evident that marketing efforts can be enriched through the introduction of a system that ensures personnel are motivated and stimulated to communicate their impressions, opinions, factual observation providing bits of intelligence which gives insight into the market. There is evidence (Braham, 1988) that the larger, usually affiliated, hotels have implemented MISs or Marketing Information Systems (MKISs), e.g. the Delphi system used by Hilton, but there is little evidence to suggest that SMHEs are utilizing MKISs.

'Sound marketing information is an effective prerequisite for sound marketing decisions' (Brassington and Pettitt, 1997). Early evidence (Main et al., 1996) suggests that SMHEs do not collect or use information gained internally on market segments and rarely access external sources of information. Not only do they not know their customers but they do not know their market environment. External information is crucial for effective information systems. The demand for accommodation may change for reasons of government action, weather, business booms and busts, tourism fashions, special events, festivals, building projects or simply increased disposable income. Economic, political and environmental changes can quickly affect this volatile industry. A small hotel, particularly, has to fit as a whole entity into the physical and social ambiance of a city or local community. It has to have the relevant information to make wise marketing decisions in terms of positioning, market mix variable, segmentation and targeting. Definitions are available from respected marketing authors. Teare et al. (1994) stated: ‘An MKIS is the framework for the day-to-day management and structuring of information gathered regularly from inside and outside the organisation.’ Dibb et al. (1991) defined MKIS as: 'A formalised set of procedures for generating, analysing, storing and distributing information from internal and external, to marketing decision makers on an ongoing basis.'

O’Brien (1990) makes the point that smaller organisations, in other business sectors, have more advanced information systems than those that even the largest companies had ten years ago. The use of CD-ROM and easy to use databases has put more information at the marketing managers’ fingertips.

Martell (1988) and Mitchell (1988) state that MKISs enhance a products range and customer services and provide a comparative advantage. Pottruck (1988) maintains that information is a strategic marketing offensive weapon. Therefore there is substantial evidence of the need for MKISs, though the form they may take, in the form of an MKIS model, the nature of the inputs, processes and outputs, is still subject to debate.
MKIS Models

Some industries have been extremely successful in implementing successful MKISs, e.g. banking and charities and possibly lessons could be learnt from their experiences. Other studies (Li et al., 1993) would suggest there has been a tendency to keep MKISs separate from other information systems (ISs) as decision support systems evolved in the 1980s to support functional business activities and marketers jumped on the bandwagon of keeping MKISs separate from integrated ISs. (Li et al., 1993) maintain that an MKIS is a conceptual model and was never intended to operate in a stand-alone manner, as marketing must integrate its data from other subsystems and vice versa. Mitchell (1992) suggests that MKIS should be a "natural" element and utilized for a more "sensory information" approach to collecting information and promoting a wider degree of information sharing.

Though there is some published academic research on MKIS and large hospitality organizations there are few or no published data on the use or utility of MKISs to SMHEs. Much of the current published information concentrates on the affiliated sector of the market and focuses on the US market sector (Kotler et al., 1996). Recent research (Ingold et al., 1996) and anecdotal evidence suggests that current marketing decisions are made without reference to data, internal and external, and that marketing plans are rarely used.

Morrison's (1995) model is based on data types from the macro and micro environment, system type (accounting and marketing) and purpose, i.e. planning, executing or controlling was proposed specifically for the hospitality industry. There are obviously several models, with appropriate inputs, processes and outputs, that have to be considered in the development of a MKIS and perhaps the best model appropriate to the SMHEs would incorporate the best features and practices of these different epistemologies.

Buttery and Buttery (1991) suggest there are three main models for MKISs in general use, and these are prescriptive, positivist and phenomenological. Other simpler models exist, e.g. Kinnear et al.'s (1995) model is based on inputs from competitors, government statistics, market research findings, industry data and accounting and sales reports into the system. Li et al.'s (1993) model is based on a framework of the 4Ps (product, price, place and promotion) but linked into other subsystems within the business. Brassington and Pettitt (1997) suggest a similar model with internal and external inputs.

There are obviously barriers which hinder the implementation of MKIS. Anecdotally these are the hotel manager, his or her level of education and the lack of available financial resources (if an IT solution is considered) and sources of reliable, external hospitality data that are timely, accurate, dependable and economic.

Figure 12.1 was consequently extracted and developed as a MKIS model for SMHEs in order to summarize and review the utilization of current marketing data.

RESEARCH AND METHODOLOGIES

Several research methodologies were used for this chapter. First, a broad review of the secondary literature was conducted to form a foundation to the study. An attempt was made to ensure that all relevant literature which might relate to the project was scanned. The literature abstracted and cited in the report is only that which relates
Figure 12.1  Marketing Information System for SMHEs
Hospitality Industry

directly to this study and does not include the broader work relating to the large-scale study of which this report forms a part.

The second research methodology utilized was a telephone questionnaire administered to a selection of SMHEs in England and Wales. These were chosen from the English and Welsh Tourist Board publications for 1996 using a randomization process. The questionnaire was designed to discover what internal and external information was collected by the participant hotels, how it was processed and how it was used.

The third methodology for this research was a case study of a SMHE located in the West Midlands region of England and one from Germany. A review of MKIS models and yield management systems was undertaken. The use of information by the case study hotels was then reviewed in the light of these models and analysed on the basis of the use or potential use of the information for marketing and revenue optimization. In addition a survey is reproduced here that was carried out by DE-HOGE in Germany on 85 hotels that had between 50 and 100 rooms to determine their use of yield management and marketing information.

Questionnaires

To the extent that our small sample reflects the SMHE sector these hotels seem to be information-rich or information-poor, with little in between. The data collected from internal sources mainly consisted of guest records and accounting information, including data kept for taxation and other legal purposes. None of the hotels produced any in-depth statistical analysis; instead the data tended to be lists and counts, e.g. number of meals served. Customer information was retained when collected, usually at time of check-in; some useful information is collected informally but seldom utilized. Many identified what data would be useful to collect and perceived a gap in their marketing data. Hotels used little or no external information, though some were members of professional bodies and associations but found them inadequate as sources of market intelligence.

The Case Study

The hotel in the West Midlands has 70 bedrooms, a 100 cover restaurant, 7 conference rooms of assorted sizes and parking for 100 cars (important in the area). The hotel is privately owned and has previously been a member of a consortium, but the proprietor/manager decided that this was not cost-effective, so the hotel is now completely independent.

There are few links with the local tourist board and the hotel makes little use of external information other than making pricing decisions based on those seen as local competitors. The proprietor is entrepreneurial and makes 'seat of the pants' decisions which he (rightly) sees as having carried him through recent periods of recession in the UK.

Staffing in the hotel is based around a very few key full-time permanent personnel, with a large number of part-time workers from the tertiary labour force. Although the owner is autocratic, he will take some account of his employees' ideas, but there is little obvious empowerment of employees.
The owner, and indeed the key personnel, tend to confuse marketing with advertising. Little use is made of any marketing methodologies. Most use of external agencies is for advertising purposes and these are assessed in terms of short-term payback. The proprietor does target a market segment, largely the business market, but does no market research to find out what his customers require.

The hotel has a front-of-house/reservations system which is rich in information. Interrogation of the system shows that a wide variety of business segments are identified as using the hotel. Although the hotel information system is seen as information-rich, with historical data being available in archives dating back five years, these data relate only to numbers of customers. However, information on trends in bookings was available for the previous three years.

The hotel had rack rates which were set on prices of their perceived competitors. Pricing took no account of any actual fixed or variable costs relating to hotel rooms. Indeed, approximations of costings were often worked backwards from the selling price. It is thus a matter of some luck that the hotel has proven profitable, this together with some optimistic vision of the actual position of the hotel in the market place.

Rack rates were seldom adhered to, discounts being offered to business clients as a matter of course. The hotel reservation system showed that more than 150 different rates had been offered in the four months preceding February 1997.

Conclusion

From the questionnaire it is clear that the hotels collect valuable information both formally and informally but cannot either extract it from their software package or shape it in manual form to meaningful, usable information.

Frequently marketing intelligence from external sources is no more than monitoring and matching competitors’ activities. There is little use of external sources of data, consultancies, trade associations or tourist boards. They make little use of loyalty schemes to encourage repeat business and there seems to be no effective measurement in terms of cost-effectiveness of marketing activities. They are ‘too busy being busy’.

If the hotel, in the case study, is to operate a yield management system which could optimize revenue, make best use of resources and compete in its market niche, then it needs to take account of a number of factors. It must develop its computerized decision support system, develop an effective internal communication system, from management to staff to customer, and the reverse, and it must undertake market research to understand fully the market environment it is operating in, keeping up to date. It should also be aware of the broader economic environment and the hotel team should keep abreast of external information for this awareness.

If the hotel takes due cognizance of these factors then it should begin to develop a realistic understanding of the importance of the marketing mix.

The manager must be willing to share with his key personnel all the information he has from the decision support system, together with his vision for the future of the organization. Instead of the role of gatekeeper of information, he must become the team leader, developing the sharing of ideas and information.

The staff will need to be educated to take responsibility for decisions which may be seen to be high risk in strategy in the knowledge that the manager will support them. Staff must understand that lower rates can only be offered if costs are reduced; thus inclusive cheap packages cannot be offered as a matter of course. Closing out strategies will need to be adhered to. The hotel will need to understand what information is
important and needs to be collected. Information on go-shows and no-shows, for example, will need to be retained and used to develop an overbooking policy.

The information collected and analysed in this case study demonstrates how one SMHE could move to a position whereby it could use a MKIS effectively to move to a situation of improved profitability and stability in a dynamic operating environment. Future research will follow the changes that are implemented in this hotel in order to take a more market-orientated approach to revenue optimization and customer focus.

**Review of Survey of Hotels in Germany**

The results of a survey carried out by Arthur Andersen and DEHOGA, the German hotel and restaurant association in Germany help to illustrate the range of sophistication with which many European hotels — especially medium-sized enterprises — apply yield management concepts. Eighty-five hotels responded to the survey questionnaire. All had at least 50 beds, and most had fewer than 100 rooms. Only 6 of the 85 respondents reported having made an investment in yield management technology or know-how.

One of the six had purchased an automated yield management system. However, 67 per cent stated that they use yield management. Still larger numbers indicated they use specific tactics related to yield management:

- 82 per cent reported offering special packages or discounts aimed at particular market segments;
- 73 per cent indicated they vary prices according to time of year;
- 69 per cent stated they conduct demand forecasting;
- 72 per cent said that they vary the availability of special offers according to the overall demand situation.

Several hotels' pricing policies were based on cost and/or the idea of an 'inherent value', independent of changing demand patterns. These were the exception rather than the rule, however, suggesting that the importance of the supply-demand relationship in determining price is now broadly accepted in the industry. What is most frequently lacking is a degree of systematization and precision in the management of prices and capacity, as illustrated by the following observations.

While 69 per cent of respondents said they practise demand forecasting, only 34 per cent reported using a computer to make forecasts. Only 56 per cent had calculated the variable or marginal cost of selling an additional room. While 82 per cent of the hotels said they track actual demand (i.e. rooms sold), only 46 per cent reported keeping track of cancellations or no-shows and only 33 per cent of 'turnaways' (i.e. would-be guests who cannot be accepted because the hotel is fully booked).

**CONCLUSION**

The obstacles and success factors noted above may pertain to businesses of all sizes. In the course of the research a number of points were identified of specific relevance to SMHEs, with respect to the practice of yield management: SMHEs are not homogeneous. The definition of an SMHE is quite broad, encompassing the majority of
businesses in some sectors (such as hotels), and there is often a need to distinguish between 'small' and 'medium' or between 'small' and 'very small'. In some of the countries researched, 'medium' would actually be considered 'large'.

In general, medium-sized enterprises are better positioned than the small or very small to implement relatively sophisticated yield management techniques – in some cases even automated forecasting and automated yield management. They are more likely to have an intuitive grasp of yield management concepts, more likely to have skilled personnel and more likely to have some information systems (whether electronic or not) already in place. They are also more likely to be active members of trade associations through which they could learn about new management techniques and technology.

Many truly small enterprises require more basic marketing and financial management skills, before any more than the rudiments of yield management could be effectively applied. Unfortunately, small enterprises are least likely to belong to trade or other professional organizations through which marketing and yield management know-how might be derived.

SMHEs often lack highly skilled personnel. SMHEs often lack the human resources (in terms of skill and time available) to carry out complex, systematic pricing and capacity management strategies. Their own business data may be too limited to reflect an accurate picture, whereas large businesses in dynamic markets have a particular advantage in that their own experience is likely to be generally indicative of the market as a whole.

For a large city hotel, for example, diligently counting turnaways, cancellations and no-shows as well as actual sales will give a reasonably good picture of overall demand patterns. For smaller enterprises, it may be much more difficult to gain an adequate understanding of total demand in the market. Moreover, small businesses are less likely to be involved in the kinds of benchmarking exercises, surveys and information exchanges that provide many larger enterprises with an overview of the markets in which they compete. Adopting forecasting and other yield management techniques without understanding total demand can result in the reinforcement of historical, suboptimal sales patterns.

Where past practices and background data have not been adequately documented (as is likely for many small businesses), measuring the specific benefits of new policies may be impossible. Similarly, the lack of formalization of procedures that is common in independent businesses may make the results of particular actions difficult to isolate and measure.

SMHEs frequently do not have the same access to capital enjoyed by larger firms. This makes the development or purchase of expensive, automated forecasting and yield management technology unworkable for many. The smaller a business's capacity is, the less flexibility management has to manage that capacity in a sophisticated way. Clearly, this factor restricts many small enterprises.

**IN SUMMARY**

The constructive use of information is pivotal to support effective management. It is therefore evident that successful management of these two areas is crucial to SMHEs. A MKIS would provide the necessary information system to build up a database of external and internal information where predictive modelling and the analysis of
historical data would enhance the decision-making of the SMHE operator. Evidence suggests (Main et al., 1996) that current yield and marketing decision-making is made without reference to marketing intelligence data and many firms do not link their marketing plans with company-wide information systems. These MKISs and YM systems can be manual or computer-based, though recently re-engineering of business processes has come to be associated with computerization and technology has provided useful tools for marketing communications with customers, suppliers and colleagues. In a technology-driven environment IT has become one of the most vital elements of effective information flow as it can collect, process and distribute data and information rapidly.

In this era marketing and revenue management can no longer be an area of a few specialists; everyone within an organization should be involved. Many firms do not link their marketing plans with company-wide information systems and consequently crucial access is denied to important decision-makers. Automated, centralized, accessible information systems make that crucial information available to all relevant decision-makers. In an increasingly competitive market place, locally and globally, an effective system would provide the SMHE operator with the necessary tools to support the marketing mix and revenue forecasts to formulate a vital competitive edge for survival.

Automated yield management is several steps away for most SMHEs. No more than a handful of SMHEs are using automated yield management technology, and, for most, the implementation of such technology is not immediately feasible. Even if the price of computerized technology could be overcome, most SMHEs would still lack the necessary training, information and organizational focus on yield to use that technology successfully. As a result, the immediate need is for a greater degree of logic and precision in the pricing and capacity management process. In most cases, this could be achieved through intermediate steps, such as the introduction of basic information systems, or the implementation of computerized forecasting.

Appropriate technology is not readily available. The developers and vendors of yield management technology have not had an economic incentive to develop automated systems for small businesses. Worldwide, there is still sufficient demand for yield management technology and services among large enterprises to support the rather small pool of true yield management experts.

Immediate opportunities are for greater ‘low-tech’ yield management. The immediate opportunity among SMHEs is for greater, more systematic ‘manual’ application of yield management concepts, through training and the improvement of informational tools and analytical skills. In some cases, the training needs are quite basic: small businesses are often run by professional hosts, enthusiasts, etc., rather than by professional, skilled business managers.

The business environment blocks even low-tech yield management in some locations. The most frequent problems are the lack of sufficient transport and tourism infrastructure to support market segmentation and price differentiation efforts by individual businesses, and the reliance of individual SMHEs on tour operators and other contractors, which essentially take over control (and the associated risk) of the SMHEs’ inventory.

The hotel industry is probably the single most important area of tourism in terms of the potential for further utilization of yield management concepts and technology. The industry is both large and highly fragmented, with enterprises spread across the broadest possible range of sizes and levels of sophistication. Increased competition is a common feature across Europe, making pricing a topic of great interest. Awareness of
the term 'yield management' and of yield management as a formal discipline varies greatly among countries and different types of hotel.

Awareness seems largely to be related to the overall level of information system vendors have in the different markets, the penetration of local markets by international hotel chains and the propensity of hoteliers to read national and international trade journals and generally to follow business management and technological trends. The lack of local-language discussions of yield management almost certainly contributes to the very low awareness levels.

REFERENCES


THE USE OF THE INTERNET BY HOTELS IN WALES—
A LONGITUDINAL STUDY: 1994-2000

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ABSTRACT

Hotels are pivotal in the ability of destinations to benefit from tourism as well as to satisfy demand for rooms. This paper is based on research undertaken in collaboration with the Wales Tourist Board (WTB) into the use of technology, specifically the Internet, in hospitality venues in Wales. It discusses the changes which took place from 1994 to 2000 in the profile of technology and Internet users within the independent hotel sector in the principality of Wales. The response to the 2000 survey was sufficient to reach some comparisons about the growth of the Internet in this sector (as compared to the previous survey of 1994), the applications that managers are utilizing, and provided some insight into the opinions of hotel managers who did not use technology or the Internet.

INTRODUCTION

A vast majority of accommodation establishments around the globe are small and medium-sized. They belong to local entrepreneurs, are often family run, and predominantly employ members of the host society. In this respect, Wales reflects that profile, with less than 5% of its hotels affiliated. The majority of hotels operate as independents and a few belong to consortia. Despite their size, small- and medium-sized hospitality organizations (SMHOs) are extremely important to both national and European economies as they provide stable employment opportunities and support the integration of local economies in peripheral areas, even during recession periods. In Wales, the tourism/hospitality sector employs 9% of the total workforce. Typically, a small/medium sized hotel has, by definition, less than 50 rooms, employs less than 10 people, operates in the lower reaches of the market, and it is often situated in tertiary locations (WTO, 2000). In Wales a majority (60%) of the hotels have 20 rooms or less.

SMHOs provide a variety of benefits for destinations by enabling tourists to come in direct contact with the local character and the host population of a particular area. They contribute significantly to the authenticity and quality of the “tourism experience,” while delivering a unique “lodging experience” (Cooper & Buhais, 1992). Their size provides a competitive advantage in flexibility and specialization, and they are capable, more so than large, rigid, affiliated hotels, to identify niche markets and to promote customized accommodation. SMHOs also have the flexibility to alter their portfolio characteristics, as well as form horizontal and vertical alliances to achieve economies of scope. They attract tourism spending to the host destination, and the consequential “secondary spend” stimulates several rounds of economic activity at destinations (Edgar, 1996).
However, SMHOs also suffer from a wide range of disadvantages, which effectively jeopardize their profitability and competitiveness as well as their contributions to regional economies. These disadvantages tend to result from (a) lack of capital, (b) deficient economies of scale and under-utilized economies of scope, (c) peripherality, (d) insufficient management, (e) poor marketing skills and expertise, (f) inadequate bargaining power within the distribution channel, and (g) lack of representation in the emerging electronic marketplace (Buhais, 1993).

To the degree that the public and private sectors need to enhance their competitiveness and reinforce the prosperity of enterprises and destinations, decision makers should identify methods in order to encourage the utilization of the strategic tools introduced by Information Technologies (IT). This paper provides an analysis of research undertaken in Wales and attempts to identify the use/non-use of technology and the Internet in SMHOs in Wales. A total of 166 hospitality organizations were researched, providing a broad basis for solid inferences.

TECHNOLOGY AND THE GROWTH OF THE INTERNET

Technology is gradually becoming a main source of sustainable competitive advantage, especially in the tourism and hospitality industries, due to the pivotal role information plays in the description, promotion, distribution, amalgamation, organization, and delivery of hospitality and tourism products. Technology can offer significant advantages in operational (e.g., property management systems), tactical (e.g., financial modeling, yield management), and strategic management areas (e.g., decision support systems) to SMHOs. Distribution networks and partnerships with other tourism product providers might offer SMHOs wider distribution networks and partnerships with complimentary products. Increasingly, the use of IT is a major prerequisite in forming strategic alliances, developing innovative distribution methods, and communicating with consumers and partners while satisfying consumer demand (Chaffey, 2000). Both customers and partners alike tend to place greater value on organizations which utilize IT to a greater extent than their competitors (Hewson, 1996).

Despite the technological revolution experienced in the tourism industry, hospitality organizations have traditionally been reluctant to utilize IT (Beaver, 1995; Morrison, Morrison, & Taylor, 1999). Cho and Connolly (1996) note that many hotel managers remain sceptical about the value of investment in IT, and argue that their main failing is in not realizing the genuine length of time it takes to see actual results. Investing in IT requires strategic vision and commitment. This, in turn, will secure future diffusion of benefits among the industry and other stakeholders. So, involving crucial stakeholders in the design process of hospitality IT provides the opportunity to match their needs with designs suggested by IT suppliers.

Recent research demonstrates that technology is under-utilized in SMHOs in most European destinations, such as the Aegean islands, Wales, and Alpine French resorts (Buhais, 1997; Main, 1994; Sigala, 2000). In these studies it was revealed that less than 50% of hotels use IT at all, and that those that do use it tend to concentrate on operational and insignificant tasks, such as word processing and accounting. Very few SMHOs use technology for tactical or strategic management decision-making or for management information.
The Use of the Internet by Hotels in Wales—a longitudinal study, 1994–2000

linking and/or building innovative information and communication networks. SMHO managers who use IT have tended to be “dabblers,” and they have purchased technology piecemeal with no long-term plan or even specific business use. Some are “technophobes” who may have expensively invested, in technology in the early stages and who lost faith when it did not live up to their expectations.

A more recent surge in the use of technology has been credited to the Internet (Jupiter Communications, 1999). From its humble beginnings in the 1960s, the Internet has blossomed in the new millennium. Estimates vary as to the use of the Internet, but businesses have been scrambling to have an electronic presence in the Worldwide Web. The potential of the Internet is appealing to many sectors of the hospitality industry. All are keen on building relationships with customers, cutting costs in the supply chain, gathering customer information, and they see this new media as a way to facilitate these processes. Research indicates that the sale of travel/tourism products over the Internet is extremely popular. For example, the Travel Industry Association of America estimates that by the year 2002 between 6 to 10% of all lodging bookings will originate from the Web. In the past, hotel chains have been quick to capitalize on new technology, and the same can be said of Web technology, with most major chains having representation and reservation ability on the Internet. This is tempered with some reservations about the sales potential of the Internet, with still, “many lookers but few bookers.” People still prefer the traditional methods of phone/fax to make their final reservations. Some instability is also present in the market with the recent collapses of dot.com companies. This same pattern of adoption of technology by major chains has not occurred with independent hotels. They have been slow to adapt to technology for a variety of reasons: lack of management skills and training, financial risk, and reliance on traditional paper-based methods.

THE ROLE OF THE WALES TOURIST BOARD (WTB)

Tourism regions are often managed by destination managers and tourist boards who usually belong to the public sector. These boards aim at coordinating and regulating the tourism industry at the destination level. The WTB is an independent statutory body whose main function is to encourage the provision and improvement of tourism in Wales. In its “Framework Development Strategy,” a key policy was to take a more focused approach to the marketing of Wales, using a combination of creative image building advertising and “finely tuned database techniques.” Additionally, in its “Tourism 2000—A Strategy for Wales” document, it looks at creating a centralized computerized system for reservations. Not only are their stated policies crucial to the adoption of technology, but their personal characteristics, development, and attitudes are also critical for the position they adopt towards IT. However, a rational destination manager would probably promote the networking of tourism and hospitality products in order to facilitate interaction between local suppliers and to improve the communication with consumers. This would enhance the quality of tourists’ experience, while improving the multiplier effects at the destination level. The WTB has had limited success with their promotion of new technologies to the hotel sector. It would be fair to say that the execution of these strategies has been piecemeal at present. Their current Web-based system does not offer tourists the ability to book either from The Tourist Information Centers (TICs) or via the Web. They are currently in the process of reengineering their Website for the third time in 5 years. While other destination systems have been more successful and advanced (e.g., TiScover in the Tyrol),

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the WTB has not yet fully met the IT objective as stated in their strategy documents, namely to develop an integrated destination management information system.

**Methodology**

The research that is reported here carries on from previous work using the same population, (i.e., hotels in Wales) that examined the use of computer-based technology in the independent hotel sector in Wales (Main, 1994). The survey in 2000 was similarly structured and used the same sampling technique: 400 hotels were chosen at random from a population of approximately 1000 member hotels of the Wales Tourist Board. Some key results collected in the 2000 survey could be compared to data collected in 1994. Whereas the 2000 questionnaire included additional questions about the use of the Internet by the hotels, there were no questions pertaining to Internet use in 1994 as the Internet was not yet a viable commercial entity.

It was clear from the lack of data about the use of the Internet in Wales, either collected by the WTB or any other body, that this section of the survey would be mainly exploratory. Of course, there are existing surveys regarding Internet usage, but various methodologies have been used in terms of vocabulary and measurement instrument which has lead to difficulties of comparison for the hotel sector in Wales.

The 2000 questionnaire was comprised of several sections. Data was collected regarding the hotel itself and its main source of revenue, the manager and his/her background, customers’ profiles and their use of technology in general, and the use/non-use of the Internet. The survey was similar in format to the 1994 survey. The questions were mostly closed-ended with three open-ended questions included for further expressions of opinion by the hotel managers. Twelve hotels completed a pre-test of the survey, and modifications were subsequently made to the questionnaire. The survey population comprised all hotels in Wales, and a random sample of 400 was targeted with a mail-back questionnaire. One hundred and sixty-six (166) questionnaires were returned fully completed, which represented a 42% return rate, acceptable by mail survey standards. This compared well with the 1994 survey, which was also a survey sent to a random sample of 400 hotels with a return rate of 38%. The questionnaire was coded, entered, and analyzed using SPSS. The main statistical tools used at this early stage were frequencies, cross-tabulations and chi square tests. At this level of data refinement, very few statistically significant results, in terms of chi square tests, emerged. However, in comparison to the data of 1994, some longitudinal evaluations could be proffered for discussion.

**Preliminary Results**

Profile of the Hotel, the Manager, and the Customer

Of the hotels surveyed, 83% were independent, had less than 20 rooms, and had two to three stars in the WTB rating system. More than half were situated in peripheral locations, and their main source of revenue was from selling rooms. A lesser source of income (26%) was from food and beverage sales with additional contribution to revenue from events and functions.
Respondents were predominately male, aged 46 and above, with an A level (high school equivalent) or degree level qualification. A vast majority had never attended an IT course, with 75% never having attended a course of any description, and only 17% having attended an IT course in the last 2 years. These managers were seemingly better educated than those of 1994, although this may be accounted for in terms of an increasing number of individuals progressing into higher education.

Their customers reflected previous profiles (Main, 1994) in that their visits were primarily for leisure purposes, with only 20% of them staying in hotels for business purposes. These leisure customers (67%) stayed for two to three nights, and they chose their hotels by word of mouth; 90% booked through traditional media (phone or fax). Bookings were also made over the Internet, and 60% of the managers reported that they had received bookings through this method. However, it was evident that this was the managers’ perception of booking methods, and no indication was sought in this survey as to the trail from which the bookings originated. These customer statistics substantiated many of the official WTB visitor surveys. In 1994, almost no bookings were made by centralized reservation systems; the Internet was in its infancy, and only chain or affiliated hotels could take electronic bookings.

The 1994 survey indicated that less than half of all hotels used any technology at all, whereas the 2000 survey showed an increase in technology usage to 70%. PC-based hardware applications tended to be the norm, but this is to be expected in small businesses. This usage was looked at in terms of applications, and it was found that accounting and payroll software were the predominant applications (70%). This was a shift away from the focus in 1994, which revealed that word processing was the key application. Additionally, the 2000 survey showed that 63% of the hotels were using their computers for marketing and advertising purposes, and that 50% of the applications were for front office and room bookings. Most of the IT users felt they were making the best use of technology and were “comfortable” with it, a significantly larger number than in 1994. The barriers to the use of technology shifted from “time” as a factor, to “not needed” as the predominant view.

Training, or lack of it, continues to plague this sector of the industry, particularly in the independent hotels, and the statistics that confirm this remain fairly constant in both surveys. Certainly, these indicators show that for hotels in Wales, e-commerce is not as widespread in the year 2000, as only 22% of SMHOS used the Internet to contact suppliers, financial institutions, or other business entities (See Table 1).

Some comments in response to the general open-ended questions included: “need a better response than from the WTB,” “Internet inevitable,” “bookings have increased via the net,” “50% bookings from the net,” and were typical for managers who are currently utilizing the Internet and generally reflected impact of the Internet. In 1994 the leading comment was “not enough business to justify the costs.” Even though there seems to be some change in attitude towards technology, it can probably be accounted for in general terms with the pervasion of technology into our domestic and business lives.
The Use of the Internet by Hotels in Wales—a longitudinal study: 1994-2000

Table 1. Use of technology and the Internet-1994 and 2000

<table>
<thead>
<tr>
<th>IT Question</th>
<th>1994</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology user</td>
<td>45%</td>
<td>70%</td>
</tr>
<tr>
<td>Hardware used</td>
<td>60% PC based</td>
<td>85% PC based</td>
</tr>
<tr>
<td>Main business use</td>
<td>32% word processing</td>
<td>70% accounting</td>
</tr>
<tr>
<td>Making best use?</td>
<td>No—34% yes—65%</td>
<td>No—25% Yes—75%</td>
</tr>
<tr>
<td>Barriers to using IT</td>
<td>Time 31%</td>
<td>Not needed 38%</td>
</tr>
<tr>
<td>Attended IT course</td>
<td>Never 78%</td>
<td>Never 74%</td>
</tr>
<tr>
<td>Use of e-commerce</td>
<td>Unknown</td>
<td>22%</td>
</tr>
</tbody>
</table>

The 2000 Survey

In 2000, 70% of the 118 technology users had begun using technology during the previous year, and 76% of these had their own Websites, an indication that Internet applications have "pushed" technology usage. Fifty-five percent (55%) of the respondents managed their Websites themselves, and 41% of the respondents contracted the service to an Internet Service Provider (ISP). Fifty percent (50%) were under the illusion that the WTB was managing their site for them, though this cannot be the case as the WTB Website only provides a portal. Only a few of these hotels (22%) contacted members of their supply chain via the Net. This could be due to one or more of the following reasons:

1. The supplier did not have Internet capability;
2. Business partners did not support the use of technology;
3. They were still in the early learning stages of the adoption curve.

Over 60% of the SHMOs advertised and received bookings over the Internet, although they did not seem to accurately track these forms of reservation, relying on the customer at check-in to determine if they used the Internet. This was reinforced by the fact that only 6 respondents indicated they had used a formalized database or tracking system for bookings.

In terms of cross-tabulations and tests of significance, the age of the owner had little effect on the use of the World Wide Web for advertising and bookings, but there was a tendency for younger managers to maintain and manage their own Websites, and not rely on an ISP. The same indications were true of gender, with males more likely than females to manage and maintain their own Websites.
The independent hotels were also less likely to use the Web for advertising and reservations. All the affiliated hotels and consortia managed their Web presence, while almost half of the independents were looking to the WTB or an ISP to provide expertise, as were hotels with less than 20 rooms using the services of an ISP.

While most of the hotels surveyed began using the Internet in the last year, these results indicated that the majority of independent and smaller hotels had accelerated their adoption of technology. Age and educational background of survey respondents had little influence, nor did attendance in recent IT courses. These factors were all statistically significant in the previous survey in 1994.

The Hotels and Managers Who are not Using Technology in 2000

Of the 50 respondents who were not using technology in any form, the reason most cited was that it was “not needed.” Few were worried about costs or lack of training. However, 70% of the non-users responded that they would be using technology and the Internet in the future. Some comments expressed by this group were “Internet is important but overrated,” “waiting for the WTB to get a site,” “suspect charges,” “complicated,” and reflected the continued reluctance of some hotel managers to embrace technology.

CONCLUSIONS

There has clearly been an increase in the use of technology by SMHOs in Wales. Previous research in 1994 indicated that the following factors played a key role in the use of technology: (a) demographics, such as the size of the hotel (in terms of number of rooms); (b) age; (c) education, and (d) gender of the hotel manager, in addition to her educational background. There was no supporting statistical evidence from the 2000 survey to indicate that these factors had a significant impact on the hotel managers of today.

Lack of training continues to plague this sector, with few managers attending IT courses. This does not seem to impede their use of technology, however, since 70% of those using technology had not attended a course in the last 2 years. This may imply that they were self-taught or taught informally by friends and colleagues. It may also be an indication that technology is easy to purchase by the box and “load and go,” or that they were failing to maximize the potential of their hardware and software purchases. Purchasing technology may also be perceived as a low risk activity with relatively minimal cost consideration, or, after years of caution, technology has finally established itself as part of the business and social infrastructure. A more detailed qualitative study would be required for fuller analysis, though certainly technology training continues to be a key issue for the small- and medium-sized hotel sector.

For those respondents in 2000 who did not use technology, they acknowledged the inevitability of utilizing it in the future. In all probability, the key drivers in the industry and in the supply chain will eventually force technology on its customers and suppliers in order to deliver products and services, and consequently, SMHOs will be forced to adapt and adopt. It is clear to all sectors of the hospitality industry in Wales that the Internet is having an impact on their operations, though indications are that
the independent sector is in the early stages of adoption with full e-commerce capability not yet fully explored.

**RECOMMENDATIONS**

The development of the Internet and the Intranet enables and empowers SMHOs to distribute and promote their hospitality products at an affordable cost. A 2000 NUA survey indicated that reaching a customer via the Internet costs less than 1% of the cost of contacting them by traditional promotional methods. Chaffney (2000) also cites several areas where cost reductions can be achieved through the use of the Internet, such as (a) reductions in the cost of traditionally printed materials, (b) expense of acquiring new customers, (c) building relationships for repeat business, and (d) operational costs in terms of staff and salaries.

Increasingly, SMHOs must familiarize themselves with the potential of Web-based networks, the Internet, Extranets, and Intranets. This does not always mean maintaining and developing their own Websites, but having a presence via a hotel specialist ISP such as Smoothhound. Smoothhound provides a portal on the Internet (whether the hotel has a site on the Internet or not). It contains a directory of hotel members by city, region, or destination, and provides on-line reservation ability to hotel customers.

A cost-benefit analysis and evaluation of on-line contributions would illustrate that SMHOs can displace some of their marketing and promotional expenditures to the new media, which promise a much wider coverage of the market and a much more efficient reservation mechanism. SMHOs could gradually learn how to take advantage of the Internet in order to reduce their overall costs.

SMHOs realize that, in order to cooperate with the travel trade, they will need to utilize IT, particularly Web-based technologies. To a certain extent, this becomes the standard of the tourism industry, and whoever is lagging behind will be unable to attract customers for their products. This is clearly demonstrated as travel agencies refuse to search for accommodations at establishments that are not represented electronically, because the costs (including commission collection) far exceed the benefits. As a result, they channel all their bookings through hotel chains that are represented internationally and that have clear and efficient procedures for commission payments.

The most pivotal change is the revolution experienced through the development of the Internet. The Internet is gaining commercial viability and is particularly suited to small businesses in that it enables the small business to keep its doors open 24 hours a day to customers all over the world at minimal cost. Already, there are some success stories of small businesses enlarging their distribution channels on the Internet (Hewson, 1996). Software is now designed for those Inter- and Intra-net connections allowing access to internal databases and applications and securing access from external sources. Secure financial transactions are now being established, and the Internet emerges as a means of achieving true electronic interconnectivity with business partners. SMHOs that are not represented will fail to bridge this distance with consumers and will suffer competitive disadvantages.
The Use of the Internet by Hotels in Wales—a longitudinal study: 1994-2000

The Internet is one of the most silent pull factors in the incorporation of IT in SMHIs. Once the initial hardware purchase has taken place, proprietors can often identify other applications which can offer direct and tangible benefits, and the Internet will provide a platform for the Web-enabled applications of the future. These applications could include training via the Internet, forming virtual organizations for specialized local events, such as (a) the Hay-on-Wye literary festival (www.hifest.co.uk), (b) developing customer relationships via sophisticated means, (c) customized use of e-mail, (d) e-procurement, and (e) extensive market environment information and competitor analyses for the hotel sector. In addition, with the advent of interactive digital television and the availability of broadband connections at a domestic level, the convergence of technologies such as the Internet and television will place a familiar medium in the living room of most families and will create an even wider range of multimedia technologies the hotel manager can use in operating his/her hotel business.

REFERENCES


The Use of the Internet by Hotels in Wales—a longitudinal study: 1994-2000


THE EXPANSION OF TECHNOLOGY IN SMALL AND MEDIUM HOSPITALITY ENTERPRISES WITH A FOCUS ON NET TECHNOLOGY

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In several earlier studies it was revealed that small/independent hotels are being marginalized from the mainstream tourism industry due to their inability to participate in the transformation of best practices due to their reluctance to utilize information technologies. Wales is a good illustration of a peripheral region with predominately small independent hotels and as such is reflective of the profile of the independent hotel sector in Europe. This article is based on research undertaken in collaboration with the Wales Tourist Board (WTB) via postal surveys in 1994, 2000, and 2001 into the use of technology and, specifically the latter surveys, focused on the penetration of the Internet in hospitality organizations in Wales. The responses to the surveys were sufficient to reach some comparisons over a period of time about the growth of technology and the Internet in this sector, the factors that influence the use of technology, and additionally some insight into the opinions of hotel managers who are nonusers of technology and the Internet. This article concludes that penetration is high in 2001 and the WTB has acted neither as a facilitator nor an influence in its adoption by its members.

Small and medium enterprises Hotels Information technology Internet

Introduction

The vast majority of accommodation establishments around the globe are small and medium sized, belong to local entrepreneurs, are family run, and predominately employ members of the host society. In this respect Wales reflects that profile with less than 5% of hotels being affiliated and the majority are independent with a few belonging to consortia. Despite their size, collectively, small and medium sized hospitality organizations are extremely important to both national and European economies as they provide stable employment opportunities and support the integration of local economies in peripheral areas, even during recession periods. In Wales, tourism/hospitality represents 9% of total employment and is therefore a major player in the sector. Typically a small or medium-sized hotel offers by definition less than 50 rooms, employs less than 10 people, operates in the lower reaches of the market, and is often situated in tertiary locations (WTO, 2000). In Wales the majority (60%) of hotels have 20 rooms or less.

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Small and medium-sized hospitality organizations (SMHOs) provide a variety of benefits for destinations by enabling tourists to have direct contact with the local character and host population. Therefore, they contribute significantly to the authenticity and quality of the "tourism experience," while delivering a unique "lodging experience" (Cooper & Buhalis, 1992). Their size allows flexibility and specialization and thus they are able, more so than large, rigid, affiliated hotels, to identify niche markets and promote customized accommodation, achieving differentiation and competitive advantage. SMHOs also have the flexibility to alter their portfolio characteristics, as well as form horizontal and vertical alliances to achieve economies of scope. They attract tourism spending to the host destination and the consequent "secondary spend" stimulates the multiplier effects, generating several rounds of economic activity at destinations (Edgar, 1996).

However, SMHOs suffer a wide range of disadvantages that effectively jeopardize their profitability and competitiveness, as well as their contribution to regional economies. These disadvantages tend to result from their lack of capital; deficient economies of scale and underutilized economies of scope; peripherality; insufficient management and marketing skills and expertise; inadequate bargaining power within the distribution channel; and lack of representation in the emerging electronic marketplace (Buhalis, 1999; Furr & Bonn, 1998). Therefore, to the degree that the public and private sectors need to enhance their competitiveness and reinforce the prosperity of both enterprises and destinations, decisions makers should identify methods in order to encourage the utilization of the strategic tools introduced by Information Technology (IT). This article analyzes quantitative research undertaken in Wales and attempts to identify the use/nonuse of technology and the Internet.

Technology, the Growth of the Internet, and the Role of the Wales Tourist Board (WTB)

Technology has become a main source of sustainable competitive advantage and a strategic weapon, especially in the tourism and hospitality industries due to the pivotal role information plays in the description, promotion, distribution, amalgamation, organization, and delivery of hospitality and tourism products. Technology can offer significant advantages in operational (e.g., property management systems), tactical (e.g., financial modeling, yield management), and strategic management (e.g., decision support systems) to SMHOs (Gilbert, Powell Perry, & Widjoso, 1999). Distribution networks and partnerships with other tourism product providers also might offer SMHOs wider distribution networks and partnerships with complementary products (O'Connor, 1999; Palmer & McCole, 2000). Increasingly the use of IT is a major prerequisite in forming strategic alliances, developing innovative distribution methods, communicating with consumers and partners, and satisfying consumer demand. Both customers and partners also tend to place a greater value on organizations that utilize IT (Hewson, 1996; Thomas, 1998).

However, despite the technological revolution experienced in the tourism industry, hospitality organizations have traditionally been reluctant to utilize IT. Beaver (1995) and Connolly, Olsen, & Moore (1998) note that many hotel managers remain skeptical about the value of investment in IT and argue that their main failing is in not realizing the genuine length of time it takes to see actual results. This requires strategic vision and commitment to technology, which will secure future diffusion of benefits through the industry and stakeholders. Involving crucial stakeholders in the design process provides the opportunity to match their skills and needs in design by IT suppliers.

Recent research demonstrates that technology is underutilized in SMHOs in most European destinations, such as the Aegean islands, England, Wales, and Alpine French resorts (Buhalis, Keeling, Lacorte, & Reynolds, 1997; Main, 1994; Segala, 2000). In these studies it was revealed that less than 50% of hotels use IT at all and those that do tend to concentrate on operational and insignificant tasks, such as word processing and accounting. Very few SMHOs use technology for tactical or strategic management decision making or for linking and/or building innovative information and communication networks. SMHO managers who use IT have tended to be "dabblers" (i.e., have bought technology piecemeal with no long-term plan or even specific business use) or "technophiliacs," who may have invested, expensively, in technology in the early stages and perhaps have lost faith when the technology did not live up to expectations.
A more recent surge in the use of technology has been credited to the Internet. From its humble beginnings in the 1960s the Internet has blossomed in the new millennium with explosive growth, including commercial networks and services. Estimates vary as to the usage of the Internet but businesses have been scrambling to have an electronic presence. The potential of the Internet is appealing to many sectors of the industry, which are keen to build relationships with customers, cut costs in the supply chain, and gather customer information, and they see this new media as a way to facilitate that. Research has already shown that travel/ tourism products are already one of the most popular products sold over the Internet. For example, the Travel Industry Association of America estimates that by 2002 between 6% and 10% of bookings will originate from the Web. In the past the hotel chains have been quick to capitalize on new technology and the same can be said of Web technology, with most major chains having a presence and booking ability on the Internet (Gilbert & Powell Perry, 2000). This is tempered with some reservations about the sales potential of the Internet, with still "many lookers but few bookers," and with people preferring the traditional methods of phone/fax to make the final reservation.

Some instability is also present in the market with the recent collapse of dot.com companies (e.g., Boo.com), and speculation about the viability of Amazon.com was widespread at time of writing. The same pattern of adoption of technology extant in other industry sectors cannot be said of independent hotels, which have been slow to adapt to technology for a variety of reasons: lack of management skills and training, risk and cost involved, and reliance on traditional paper-based methods (Buhalis, 2000; Morrison, Taylor, Morrison, & Morrison, 1999).

There is also in this sector some confusion in the channels of distribution, for customers and hotel managers. While hotels may have cooperated with each other in the past and relied on traditional channels of distribution, the Internet has introduced more intermediaries into the arena, with hotels having their own Web sites, using specialist ISPs to distribute their product, destination management systems (DMS) providing online booking, and various other links and sites (O'Connor & Frew, 2001).

Increasingly, tourism regions are managed by destination managers and tourist boards that tend to belong to the public sector and aim to coordinate and regulate the tourism industry at the destination level. The WTB is an independent statutory body whose main function is to encourage the provision and improvement of tourism in Wales. In its "Framework Development Strategy" a key policy was to take a more focused approach to the marketing of Wales, using a combination of creative image building advertising and "finely tuned database techniques." Additionally, in its "Tourism 2000—A Strategy for Wales" document it looks to a centralized computerized system for reservations. Its stated policies are crucial to adoption of technology and also, within the membership of the WTB, their personal characteristics, development, and attitudes are critical for the position they adopt towards IT. However, a rational tourism/destination manager would probably promote the networking of tourism and hospitality products in order to facilitate interaction between local suppliers and improve the communication with consumers. This would improve the quality of tourists' experience, while improving the multiplier effects at the destination level.

The WTB has had limited success with its promotion of new technologies to the hotel sector. It would be fair to say so far that the execution of these strategies has been piecemeal. The current state of play sees the destination management system for Wales under major redevelopment for the third time and there has been much speculation regarding the new destination management system (DMS). Perceptions range from it being an unnecessary burden that is being foisted on an unwilling tourism industry to a feeling that it is a panacea that will solve all of Wales' tourism problems (WTB, 2001). The DMS is one of the most revolutionary developments in the history of the tourism industry in Wales. It will allow visitors' needs to be directly linked to what the industry has to offer. It will have online capability that will include accommodation availability and booking. While other destination systems have had similar systems for some time (e.g., TISCover in the Tyrol), this is the first time that the WTB will have a dynamic online database of information that will cover accommodation, events, etc., throughout Wales and provide flexible ways of accessing that information. It also proposes to provide an extranet for information sharing and ultimately for joint purchas-
ing of key supplies and to provide training in technology and marketing via the new Net technology.

The Study

Methodology

Secondary data were used to identify critical areas that merited further investigation; however, every situation demands consideration of the type of approach to data collection and that means making presumptions about the respondents that will be interviewed, in this case hotel owners and managers. Although alternative research methodologies were considered, including personal interviews and focus groups, the questionnaire instrument was chosen for comparison purposes; the survey in 1994 had been conducted successfully by postal questionnaire. In addition, the questionnaire was seen as most suited to the task of gathering a broad base of mostly factual information from a widely dispersed population. In the case of all three of these surveys, preliminary semistructured interviews were carried out in an attempt to highlight the issues in the current literature and to clarify the understanding of the target respondents regarding terminology. Having addressed these issues, a structured questionnaire was designed and piloted prior to each of these surveys. The WTB provided a mailing list of all member hotels in Wales from which the surveys emanated. Member hotels numbered 623 in 1994 and 605 in 2001; therefore, there is little variation in the number in the population to be sampled, though economic, technological, and social changes will, of course, have occurred in the time frame under discussion.

However, it was clear from the lack of data giving any preliminary insight into the use of the Internet in Wales, collected by the WTB or any other body, that the surveys of 2000 and 2001 would be mainly quantitative and exploratory regarding Internet use. Of course, existing surveys on Internet use exist, but various methodologies have been used in terms of vocabulary and measurement instruments and this may lead to difficulties for comparison purposes. The 1994, 2000, and 2001 questionnaires were in several similar sections. They contained data about the hotel itself and its main source of revenue, about the manager and his/her background, about customers’ profile, about use of technology in general, and, additionally in 2000 and 2001, about the use/non-use of the Internet. The questions were mostly closed with three open-ended questions included for further expressions of opinion by the hotel managers. The population was all hotels in Wales, and a random sample of 400 was targeted with a postal questionnaire in 2000 and 2001. There were 166 returned questionnaires in 2000 and 200 returned in 2001, which represented a 42% and 50% return rate, acceptable by postal survey standards. This compares well with the survey in 1994, again a postal survey to a random sample of 550 with a return rate of 38% (300 responses). The responses contained a well-proportioned cross section in terms of size of business and variety of locations.

The questionnaire was coded, input on SPSS, and analyzed by the software. The main statistical tools used at this early stage were frequencies, cross-tabulations, and chi square tests of significance. At this level of data refinement statistically significant results were revealed in 1994 and are commented on here again, though the surveys of 2000 and 2001 did not reveal the same statistically significant results using the same tests of significance (i.e., the chi square test). For chi square tests in this research a significance level of 0.05 is used. However, the 2000 and 20001 survey data can be proffered for discussion, and cross-tabulations provide some possible insights into relationship between variables such as gender, age, training, and use of technology.

Results

The three surveys produced some similar findings in terms of the demographics of the hotels and their managers. Of the hotels surveyed, 80% of the sample are independent, have less than 20 rooms, and have two to three stars in the WTB rating system. More than half are situated in peripheral locations and their main source of revenue is from rooms. A lesser source of income is from food and beverage sales at 26%, and though some contribution to revenue is made from events and functions, by far the major source of revenue is from rooms; 85% state that it is their main source of revenue.

The managers are predominately aged 46 plus, male, and have an A-level (high school equivalent) or degree-level qualification. A vast majority have never attended an IT course, 75% have never at-
tended a course of any description, and only 17% have attended an IT course in the last 2 years. The managers in 2000 and 2001 are seemingly better educated than those of 1994, although this may be accounted for in terms of the higher numbers of people in the 1990s in the UK progressing into higher education than previously and could be a general trend, unrelated to the hotel industry.

The customers of 2000 and 2001 reflect previous profiles of the 1994 survey, in that their visits are for leisure purposes with only 20% staying in hotels for solely business visits. Leisure customers, some 67%, stay for 2–3 nights; they choose hotels by word of mouth (90%), and book by traditional media (i.e., by phone or fax). Bookings are also made by Internet; 60% of managers’ report that they have received some Internet bookings. However, as most of these managers did not track from where bookings originate it can be presumed that this is the managers’ perception of booking methods and not necessarily valid. These customer statistics substantiate much of the official WTB visitor survey figures in terms of visitor profiles. In 1994 almost no bookings were made by centralized reservation systems, the Internet was in its infancy, and only the chain/affiliated hotels could take electronic bookings; therefore, no comparisons can be drawn.

The survey in 1994 showed that less than half of all hotels used technology at all, whereas the later surveys indicate that technology usage has grown to 70% in 2000 and 85% in 2001 (Table 1). There is still mainly a PC-based hardware application being used, but this is to be expected in small businesses. This usage was looked at in terms of applications and it was found that accounting and wages application predominates with 65–70% of applications. This shows a shift away from the focus in 1994, which revealed that word processing was the key application. In addition, the surveys in 2000 and 2001 reveal a growing number are using their computers for marketing and advertising purposes (63%) and less than 50% of the usage is shown to be front office and room bookings. Most of the technology users feel they are making the best use of their technology and are “comfortable” with technology, significantly more than in 1994. The barriers to the use of technology have shifted from “time” as a factor of nonuse to “not needed” as the predominant view in 2000 and 2001. Training, or lack of it, continues to plague this sector of the industry, particularly in the independent sector, and the statistics that confirm this remain fairly constant in both surveys. Certainly these indicators show that e-commerce is not widespread in 2001 (only 22%) and, of course, e-commerce was an unknown concept in 1994.

Table 2 reveals that in terms of tests of significance, the age, gender, education, and training of the owner bears no statistical relationship in terms of their technology use in 2000 and 2001. In 1994 these demographic factors were statistically signific-

### Table 1


<table>
<thead>
<tr>
<th></th>
<th>1994</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology users</td>
<td>45%</td>
<td>70%</td>
<td>85%</td>
</tr>
<tr>
<td>Hardware used</td>
<td>60%</td>
<td>85%</td>
<td>83%</td>
</tr>
<tr>
<td>Main business use</td>
<td>32%</td>
<td>70%</td>
<td>85%</td>
</tr>
<tr>
<td>Making best use?</td>
<td>no: 34%, yes: 65%</td>
<td>no: 25%, yes: 75%</td>
<td>no: 20%, yes: 80%</td>
</tr>
<tr>
<td>Barriers to using IT</td>
<td>time: 31%</td>
<td>not needed: 38%</td>
<td>time: 28%</td>
</tr>
<tr>
<td>Attended IT course</td>
<td>never: 78%</td>
<td>never: 74%</td>
<td>never: 78%</td>
</tr>
<tr>
<td>Use of e-commerce</td>
<td>unknown</td>
<td>22%</td>
<td>30%</td>
</tr>
</tbody>
</table>

### Table 2

Manager and Hotel Demographics and the Use of IT: Results Using Chi-Square Tests of Significance

<table>
<thead>
<tr>
<th>Significant Factors</th>
<th>1994</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>The manager</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of manager</td>
<td>0.012</td>
<td>0.13</td>
<td>0.14</td>
</tr>
<tr>
<td>Gender of manager</td>
<td>0.007</td>
<td>0.17</td>
<td>0.11</td>
</tr>
<tr>
<td>Education of manager</td>
<td>0.009</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>Training of manager</td>
<td>0.001</td>
<td>0.07</td>
<td>0.08</td>
</tr>
<tr>
<td>The hotel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of rooms</td>
<td>0.000</td>
<td>0.21</td>
<td>0.33</td>
</tr>
<tr>
<td>Hotel rating (WTB)</td>
<td>0.006</td>
<td>0.06</td>
<td>0.08</td>
</tr>
</tbody>
</table>
cant as were the number of rooms in the hotel and the WTB rating it held.

Focusing on the two most recent surveys it is evident that 70% of users started using technology in the last 12 months; 68% of those have their own Web sites, which would seem to indicate that the net applications have "pushed" technology usage. Fifty-five percent of respondents manage their Web site themselves and 41% rely on their Internet Service Provider (ISP) to manage it for them. Some 5% are under the illusion that the WTB is managing their site for them, though this cannot be the case as the WTB Web site only provides a portal. There were similar findings in the 2001 survey.

In terms of general comments about the use of technology, the Internet, and the role of the WTB in 2000 and 2001, the responses vary from "need a better response from the WTB," to "internet inevitable," and "bookings have increased via the net," and "50% bookings from the net" are typical from managers who are currently utilizing the Internet and reflect generally the impact of the Internet. In 1994 the leading comment was "not enough business to justify the costs." Even though there seems to be some change in attitude towards technology it can probably be accounted for in a general terms with the pervasion of technology into our domestic and business lives, not to any specific activities by the WTB. The survey in 1994 also made reference to the lack of support from the WTB regarding technology.

Some general findings can be drawn from cross-tabulations of the data in 2000 and 2001 in terms of the use of the Internet. All the affiliated hotels and consortia manage their Web presence while almost half of the independents are looking to the WTB or other ISPs to provide expertise, as were smaller hotels with less than 20 rooms using the services of ISPs. The independent hotels are less likely to use the Web for advertising, making bookings, and managing their own Web sites.

There is also tendency for younger managers to maintain and manage their own Web site and not rely on an ISP. The same indications are true of gender, where males are more likely than females to manage and maintain their own Web sites. While most of the hotels surveyed only started using the Internet in the last year, these results indicate that the majority of independents and smaller hotels have accelerated in their adoption of technology in the last 12 months.

Some innovative uses of the Internet were cited in the survey of 2001. Hotel managers are using the Internet and e-mail for viral marketing campaigns, text messaging to remind clients of bookings and directions, and using the Internet to perform market and competitive scanning. These are limited incidences but, nevertheless, indicative of proactive technology management of some hotel managers.

Of those who were not using technology in any form, in 2000 and 2001, the most cited reasons for not using technology were "time" and "not needed." Few were worried about costs or lack of training. However, 70% of these nonusers responded that they would be using technology and the Internet in the future. Some comments expressed by this group were "Internet is important but overrated," "waiting for the WTB to get a site," that they, "suspect charges," viewed it as "complicated," and in general, reflect the continued reluctance of some hotel managers to embrace technology.

Conclusions

There has clearly been an increase in the uptake of technology in this sector. The previous research in 1994 indicated that some factors played a key role in the use of technology. These were mainly demographic factors, such as the size of the hotel (in terms of number of rooms), the age, education, and gender of the hotel manager, and his/her educational background. All were found to be statistically significant factors in the use of technology. There is no supporting statistical evidence in this survey to indicate that these have a significant impact on the use of technology in the surveys in 2000 and 2001. The role of the WTB was minimal in 1994 in terms of advocating and promoting the use of technology. In the past 5 years that role has changed and the relevance and importance of technology as a business driver has been recognized by the WTB. In the coming year the WTB is focusing on the DMS under construction, which needs the full participation of its member hotels and tourist attraction to be a success. It is a priority that cost will not be a barrier to anyone wishing to be represented on the DMS. This is one of the lessons learned from the Scottish DMS model, Ossian (WTB, 2001). The success of
the new DMS remains to be seen as it is still at a developmental stage.

Lack of training continues to plague this sector, with few people attending a recent IT course. This does not seem to impede their use of IT; 70% of those using technology have not attended a course in the last 2 years. This may imply that they are self-taught or taught informally by friends/colleagues. This may also indicate that technology is easy to buy by the box and load and go, or perhaps they are failing to maximize the potential of their hardware and software purchase. It may also mean that buying technology is now perceived as a low-risk activity with relatively low cost considerations, or, after years of caution, that technology has finally established itself as part of the business and social infrastructure. A more detailed qualitative study would be required for fuller analysis, though certainly technology training continues to be a key issue. If the promised training from the WTB emerges, this gap could be filled in the near future. Though informal training via the general pervasion of technology in our homes progresses the use of technology, it should be emphasized that formal training, maximizing and exploiting the full range of facilities that technology has to offer, cannot be overlooked.

The surveys in 2000 and 2001 reveal that over 60% advertise and receive bookings over the Net, though they do not seem to accurately track Internet bookings. Managers are relying on asking the customer at the point of check in or filling in of the registration form. This is reinforced by the fact that of those that responded that they had Internet bookings only six mentioned a formalized database or tracking system for bookings from the Internet. The development of the DMS in Wales should provide tracking and archiving facilities that will allow data mining of the centrally collected information to provide meaningful marketing information to the hotels.

For those respondents at present who do not use technology they at least acknowledge the inevitability of using it in the future. In all probability the key drivers (e.g., WTB, customers, or financial institutions) in the industry and in the supply chain will eventually force technology on its customers and suppliers in order to deliver products and services. Consequently, these current nonusers will be forced to adapt and adopt. There may always be those who resist technology and prefer a “hands-on” approach or choose to keep their business information in manual form rather than release it for wider consumption.

It is clear to the whole of the hospitality industry, chain, consortia, and independents that the Internet is having an impact, though indications are that the independent sector is in the early stages of adoption in terms of e-commerce capability and not yet fully exploited. This may be due to the confusion in the distribution channels for hospitality products and exacerbated by the additional intermediaries emerging on the Internet or because the WTB, or anyone else, has not taken a clear role so far in forging these e-commerce links. Hotel managers, certainly the independents, have several options available to them. This does not always mean maintaining and developing their own Web site but having a presence via a hotel specialist ISP such as “Smoothound,” which provides portals in geographic segmentation in the UK and also a presence in the Wales DMS.

Recommendations

A cost and benefit analysis would illustrate that they can displace some of their marketing and promotional expenditure to the new media, which promises a much wider coverage of the market and a much more efficient reservation mechanism. SMHOs could learn gradually how to take advantage of the Internet in order to reduce their operational cost.

Similarly with the strategic partners, SMHOs realize that in order to cooperate with the travel trade they will need to utilize IT. To a certain extent this becomes the standard of the tourism industry and whoever is lagging behind will be unable to attract custom for their products. This is demonstrated clearly as travel agencies refuse to search for accommodation establishments that are not represented electronically, as the cost of locating and arranging accommodation in hotels not represented in electronic media, as well as attempting to collect their commission afterwards, far exceeds the benefit. As a result, they channel all their bookings through hotel chains that are represented internationally and have clear and efficient procedures for commission payments.

The most pivotal change is the revolution experienced through the development of the Internet. The
Internet is gaining commercial viability and is particularly suited to small business where it enables the small business to keep its doors open 24 hours a day, at minimal cost to customers all over the world. Software is now designed for those inter- and intranet connections allowing access to internal databases and applications and secure access from external sources. Flat rate access, now widely available in the UK, should simplify the pricing structure of the Internet for all users. Secure financial transactions are now being achieved and the Internet emerges as a means of achieving true electronic interconnectivity with business partners. SMHOs that are not represented will fail to bridge this distance with consumers and suffer competitive disadvantages.

The WTB is entering a key stage in the development of its destination management system, with full implementation scheduled for 2002. This should provide the final “push” for SMHOs to develop their technology capabilities, reach a larger audience, and develop Web-enabled applications. Perhaps their late arrival of the DMS scene will provide the WTB with the insights from the catalogue of mistakes other regions and countries have made in the development of their own DMSs and valuable lessons can be learned.

Biographical Note

Hilary C. Main is a senior lecturer at Swansea Business School and specializes in marketing and technology, currently pursuing a Ph.D. She has an M.Phil titled “The Application of Technology in Independent Hotels.” Her particularly research area is the use of technology in the hotel sector and she is an editor for the international Journal of Hospitality and Information Technology. She has contributed to the ENTER conferences and various other international journals and conferences.

References


Developing the use of Viral Marketing in the context of Web based Marketing Communications Strategy for City Destinations

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Abstract

Recent press coverage has been widespread about viral marketing, both about its effective use and its irritating misuse. Certainly it now seems to be one of the key tools that have been used to spread the message about products and services on the Internet and has been incorporated into the e-marketing activities of major organisations e.g. Guinness, Thomas Cook. The concept of viral marketing is very simple; create a piece of marketing collateral that customers will want to pass via e-mail onto their friends and acquaintances. The Internet is ubiquitous and media rich and forms an ideal channel through which viral marketing can travel. Users can e-mail each other items of interest or links to sites and easily spread viral marketing collateral very quickly and effectively. This preliminary, qualitative research looks to gauge the effectiveness of viral marketing in terms of consumer acceptance and also looks to evaluate from a city’s perspective whether this could be an effective communications tool. Investigation will be carried out on both these issues, the consumers will be surveyed in order to reveal some initial views about the use of viral marketing and cities will be contacted to give their opinions in terms of efficacy of viral marketing as a marketing activity. These results will be inspected and analysed and preliminary conclusions drawn about the appropriateness of viral marketing and current e-mail and viral campaigns within city marketing activities.

Keywords: Internet, e-mail, viral marketing, cities.

1 Introduction

Cities are both dynamic and chaotic and there are real and perceived stereotypes to overcome. They are a complex mix of both product and services and must satisfy the needs and requirements of a great many customers, including residents, visitors and businesses (West 1997). The desire to be a recognised tourist city destination presents a difficult marketing challenge (Kotler et al, 2000). Some places have few economic choices than to be a tourist destination, due to such factors as location, climate, resources and cultural heritage, whereas other cities have a wide choice in how they market themselves and project their image in a variety of ways e.g. as a business centre, a living environment, a governmental centre and/or a tourist destination. Political pressures, the effects of the macro destination, what constitutes the core, augmented and extended product (goods, services and experiences) and the intricacies of the city product itself all add to the complexity. National tourism offices, chambers of commerce, consortia, local government tour and event operators, amongst many, market cities. Some activities are paid for out of taxes and some are
paid by a mixture of private and public contributions, these factors all contribute to increased fragmentation in the marketing activities and sometimes confusion about the image of a city (Ward, 1998).

A city’s attractiveness can be diminished by violence, political instability, natural catastrophe, ease of reach and overcrowding- all perhaps beyond the control of those who seek to market the city effectively. Cities can benefit from tourism in terms of employment, the multiplier effect, support industries and tourism taxes but also suffer from severe overcrowding during the peak traffic months, degradation of the landscape from traffic and loss of industrial based industries, (Krager as cited by Kotler, 2001)

Patterns of vacationing point towards a trend towards shorter and more frequent trips and cities are a major destination when tourists consider their leisure spending. The city break has seen a huge growth in popularity since the mid 80s. It is estimated that in the UK alone there are 12.1 million city breaks taken. Mintel suggests that the market is expected to grow by 20% between 2000 and 2004 (http://www.euromonitor.com [March 9,2002]). Tourism planners must consider how many tourists are desired and which segments to attract and tourism marketers must know actual and potential customers and their needs and wants; determine which target markets to serve and decide on appropriate product offerings, services and marketing strategies.

A review of both current trade publications and research literature indicates the decline of the mass market and growth of niche markets in tourism (Hsu and Kang, 2002). City breaks appeal most to families without children though demand comes from a broad section of the population (http://www.scotexchange.net [March 10,2002]) Therefore, to target these niches with specific offerings may be crucial to city tourism and this research will focus on several key areas, on direct marketing, word of mouth and an emerging marketing communications tool, “viral marketing”. The role of the Internet and e-mail are also considered, as they seem to offer the capacity to facilitate these communications tools.

2 The Internet, Direct Marketing, e-mail Marketing and Word of Mouth

The Internet is a growth channel for purchasing tourism products e.g. 13% of all Austrian travel bookings are through the Internet (European Internet Travel Monitor, 2002). A variety of statistics show that the Internet is becoming an increasingly important means of marketing and selling travel products, particularly flights and accommodation and provides extended choice and the means for consumers to choose and book without paying travel agent’s commission. Most major European cities have an Internet presence, in various forms, ranging from a simple brochure style website to a portal for cultural, travel, tourist amenities within a destination e.g. Tiscover.

A key way to focus on target markets is by the use of direct marketing. The term direct marketing has taken on new meanings over the last few years. It has broadened
in focus from simply a form of marketing in which products or services move from producer to consumer without the use of an intermediary to a much broader definition that encompasses the use of one or more media to affect a measurable response and/or transaction at any location. Direct marketing allows precision targeting, personalisation, privacy and measurability. It usually means utilising a marketing database and incorporating some kind of call to action. Direct marketing has already been extensively used in the marketing of cities. The city of Cleveland ran a direct marketing campaign in 1995 and received 70,000 visitor information requests in one quarter as a result, more than the whole total of inquiries for all of 1994, (Kotler, 2000).

A recent report has forecast that the market for e-mail marketing will be worth well over USD 1 billion by 2003 (http://www.nua.com[March 18, 2002]). The main benefits of e-mail marketing are simplicity, cost effectiveness and strength in customer retention. Though there is no available data on statistics on Internet city marketing activity, Wober et al (2002) indicated that most cultural institutions within cities have a low e-mail usage rate, varying from 6-11% of cultural establishments in European cities and have not fully realised the potential of e-mail and Internet for marketing activities and the possibility of reaching potential Internet customers, whose demographic profiles would seem to match the segment profiles that cities are targeting. However, more generalised statistics indicate that consumers are receptive to e-mail marketing, particularly where permission has been sought, (http://www.e-marketer.com[March 23rd, 2001])

This synergy is reinforced, somewhat, by recent research (Hsu and Kang, 2002) in the USA in that Internet leisure users were more exploratory, active and independent. Internet users also took more vacations than non-users. Art and cultural attractions were favoured by well-educated, female Internet users and well educated Internet users were also found to be independent and exploratory in their leisure purchasing. Their findings support those of Bonn et al (1999) who made predictions about behavioural profiles of travellers on the basis of Internet use segmentation and suggest that destination marketers could benefit by knowledge of the determinants in Internet users characteristics. This knowledge, Bonn suggests, permits consumers, service providers and marketing professionals to efficiently contact particular market segments through the Internet. Internet users are also more likely to be interactive with suppliers in terms of customer relationship management (Marketing Week, 14th March, 2002). The potential is there for city marketers to expand from a broadcast mass marketing medium to a tool that is useful for micro marketing and one-to-one marketing. For cities and destinations this could mean the potential to reach visitor groups and niche segments that are not motivated by typical city promotional activities.

In an era where the public are more cynical about marketing activities the role of "peer to peer conversations" becomes a more important influence in the consumer buyer process. One of the most effective promotional activities is that of word of mouth- the process by which an innovation is communicated through certain channels over a period of time among the members of a social system, (Fill, 1999). Fill
concentrates on the importance of early adopters in speeding the adoption process and believes word of mouth to be one “the most powerful marketing communications tools” adding that, if “an organisation can develop a programme to harness and accelerate the use of personal recommendation effectively, the more likely it will be that the marketing programme will be successful”, (Fill, 1999:18). However, he suggests, it does not work in isolation and mass media communications need time to work before word-of-mouth communications can begin to build effectiveness.

It is clear that as the popularity of relationship marketing increases and the trust and confidence of the public in business decreases that word-of-mouth campaigns become a key aspect of an integrated marketing communications campaign. Marketers are well aware of the power of word-of-mouth, both positively and negatively. It has been suggested that customers operate on different levels either as suspects, prospects, customers, clients or champions. Where champions are the vehicles for a word-of-mouth campaign.

The problem with word-of-mouth campaigns is that you may simply rely on sheer luck. The question that marketers have come to increasingly ask is what would happen if you could market a brand, product or service to champions? Is it possible to manage and control a word-of-mouth campaign? Is viral marketing the method of communication that will empower marketers to produce effective word-of-mouth campaigns?

3 Viral Marketing

There are many terms that have been coined in the Internet era and the term “viral marketing” has been referred to as “contagion marketing”, “propagation marketing”, “inertia marketing” and “multi-connected marketing”. Nonetheless, it has been described by many observers as the one of the most effective marketing methods on the Internet and Wilson (2001) describes viral marketing as a virus to be admired. Viral marketing is a strategy that encourages individuals to pass on marketing messages to others creating the potential for exponential growth in the messages exposure and influence. Viral marketing, in effect, encourages others to pass on the message with the consequent potential to multiply rapidly and communicate the message to thousands, or even millions mainly with the objective of driving business to your website. The strategy is simple:

- Attach a simple tag or collateral and,
- Then stand back while people e-mail to their own network of friends and associates,
- Who see the message,
- Sign up and then
- Propel the message still wider to their own ever-increasing circles of friends and associates."

(http://www.wilsonweb.com [May 25, 2001])

Hotmail represents the classic example due to its enormous, early success and signed up 12 million subscribers within 18 months of the 1995 launch of their web-based
email service, spending less than $500K on marketing into the bargain. By March 2000, Hotmail was signing up 150,000 new subscribers a day, worldwide. (http://www.business2.com, [March 1, 2000])

The similarities of word of mouth to viral marketing are clear with speed being the contrasting factor. The speed at which early adopters communicate a viral message to others is dependent only on the number of e-mails they send and to whom - without the need for mass media communications. The Hotmail example shows how, given the right conditions, it can be extremely fast. The speeds at which oral messages are communicated are dependent on the social system.

However, word- of- mouth can be a double-edged sword, “that can cut both ways for marketers... negative word-of-mouth is weighted more heavily by consumers than are positive comments” (Solomon et al 1999:81).

It is unlikely that viral marketers will wish to send negative messages about their products via attachments but unscrupulous competitors or consumers may take advantage of the opportunity! These will need to be directly communicated orally by detractors, or direct action must be taken to communicate such a message electronically, whereas the positive viral marketing message is communicated indirectly.

Wilson (2001) has identified six characteristics of a successful viral marketing strategy i.e. it gives away products or services, it provides for effortless transfer, it scales easily from small to very large, it exploits common motivations and behaviours, it utilises existing communications networks and takes advantage of others’ resources.

3.1 Examples of viral marketing activities

Viral marketing can be broken down into examples that are voluntary and involuntary. Willing participants e.g. at “Dilbert’s site”(www.dilbert.com) are given the option as to whether they want to send on the cartoon of the day to their selected recipients or not. The cartoon provides not only amusement but also the opportunity to promote Dilbert products to like-minded people via the websites. Other examples like Levi’s and Lee have been at the forefront of the viral concept. Both claim to have been successful at penetrating the "underground" - a term they have coined for that segment which is in their late teens to early twenties, - with their viral marketing campaigns. Interestingly, Levi’s formed a sub-brand on which to experiment their viral marketing campaign and hired TBWA Chiat Day to design and launch their campaign. IKEA, the home furnishings retailer, have experimented with the concept, via discount offers. A major player in the travel sector in the UK, Thomas Cook, have set its sites on capturing and building a database of e-mail addresses by using viral marketing techniques where site visitors are encouraged to pass on e-mail addresses in return for special offers.

Some viral messages are passed on involuntarily. Hotmail have used viral marketing to spread the word about their range of products and services by appending an
advertising message to every outbound e-mail from their clients. Consequently every e-mail message sent conveyed an advertisement and a subtle endorsement by the sender, even though some balked at the addition to what was essentially a private message. Some examples are complex and intriguing and use viral marketing in conjunction with other media e.g. The Nokia Game, where SMS technology and e-mail were used and the platform of a game running for several weeks enhanced the experience for users.

This research seeks to look at viral marketing from both these perspectives, i.e. sender and recipient, in a study of city marketers Internet based campaigns and to review the impact on consumers as "recipients" and "forwarders" of viral marketing messages.

4 Methodology

Primarily this is an exploratory piece of research, which takes a look at two key areas of viral marketing, the companies that send them and the consumers that view them. Therefore the survey instrument for the city marketers had to provide an opportunity for discussion and many of the questions were open-ended. As this survey was targeted towards those who had the technology in place to send and receive it obviously precluded those cities and those recipients that were not Internet users.

From the consumers point of view the key areas to be examined are: their e-mail activities in terms of the frequency, location and volume of e-mails that they are exposed to; their response to viral marketing activities in terms of source of the message and also their propensity to propel the message on to their peer groups and the use of incentives. This was established by means of e-mail questionnaires to recent travellers to city destinations- a pilot study was executed and then 50 were sent out and 34 returned completed. These questions were mostly closed, multiple choice and were analysed in a quantitative manner though the small sample at this stage precludes any realistic detailed statistical analysis.

In order to achieve a representative impression, a cross section of European cities in terms of size and geographic spread was selected to take part in the survey. The marketing departments and marketing intelligence units were contacted via e-mail and further supplemented by semi-structured interviews. The cities marketing activities were then examined in terms of their general Internet and e-mail marketing activities, their use of databases and mailing lists and their use and awareness of e-mail and viral marketing as a tool. They were also questioned about measures of control of the campaigns conducted via e-mail and barriers perceived.

12 city marketing departments were contacted and 6 fully returned questionnaire and/or interviews were completed. In addition, an inspection was conducted of 16 major European city tourism websites- this was to identify if they had "web forms" or similar data collection system in place that collect e-mail addresses of prospective customers, though it is acknowledged that this is not the only means of collecting e-mail addresses.
The results of the survey were analysed by inspection and the data is presented in both a quantitative manner in the case of consumer respondents and in a qualitative manner in terms of clusters of answers and generic themes in the city responses. In both cases respondents were guaranteed anonymity.

5 Results

The results of the surveys are presented in two sections here, firstly the consumer responses and following, the city responses.

5.1 Consumer survey

As far as demographic profiles of the respondents are concerned these respondents are male, 59% and female, 41%, within the age range 26-45, 92%, and employed in mostly managerial or professional occupations. The key findings are as follows and is some cases (*) the data is combined to produce aggregated results.

<table>
<thead>
<tr>
<th>E-mail activity</th>
<th>At home</th>
<th>At work</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many times do you access e-mail in a week</td>
<td>4.56</td>
<td>48.8</td>
</tr>
<tr>
<td>How many hours do you spend on e-mail-hours per week</td>
<td>1.7 hours</td>
<td>15.26 hours</td>
</tr>
<tr>
<td>How many e-mails do you send in a week</td>
<td>17.5</td>
<td>78.5</td>
</tr>
<tr>
<td>How many do you receive in a week</td>
<td>49.6</td>
<td>159</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-marketing messages- received</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you received unsolicited e-marketing messages</td>
<td>88%</td>
<td>12%</td>
</tr>
<tr>
<td>Were you correctly targeted (*)</td>
<td>61%</td>
<td>39%</td>
</tr>
<tr>
<td>Did you open if you recognised the sender</td>
<td>64%</td>
<td>36%</td>
</tr>
<tr>
<td>Read if a topic or title was of interest</td>
<td>52%</td>
<td>48%</td>
</tr>
<tr>
<td>The source or sender of message is very important</td>
<td>64%</td>
<td>36%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-marketing messages- sent on</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send on to a carefully selected few</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Send on to a mixture of friends and business colleagues (*)</td>
<td>32%</td>
<td>68%</td>
</tr>
<tr>
<td>Does an incentive to forward a message influence you</td>
<td>24%</td>
<td>76%</td>
</tr>
</tbody>
</table>

It is indicated in Table 1 that most respondents access their e-mail more frequently at work than they do at home, spending an average of 15.26 hours in a week on e-mail activity at work. They also, unsurprisingly, receive a high volume, 88 %, of unsolicited e-mail messages in a week and that the source, sender and topic were all positive indicators of their propensity to open and read the e-mail message. A percentage, 60%, sent on these messages and this research indicates that an incentive does not necessarily influence them.

Most respondents expressed their opinions on products and services from which they would not like to receive messages and products that they would welcome e-marketing messages- the most frequent of these were travel, holidays and last minute breaks.
5.2 City marketers Survey

The city marketers all managed their Internet marketing in house but did not have designated budgets for e-marketing—tending to see that budget as part of the general IT spend—those that did spend placed it at less than 5%. There was little certainty about the numbers of customers who made their first contact point via the website and responses here varied from “do not know” to 12-13%. They all viewed their website as a passive marketing activity as and drove business to their websites by traditional means, via hot links to partner hotel groups and transport providers, own brochures, search engines, banner advertisements and traditional promotional tools, e.g. advertising.

All cities had traditional mailing lists that were compiled as a result of fulfilment, 5 of the cities also caught data on forms from the websites and one bought in a variety of mailing lists, traditional and e-mail, from list brokers. However there was a wide discrepancy on the integrity of these lists as some were on a pay for use basis and in only one case were the various lists stored on a central database where it could be mined and harvested for customer profiling.

Three of the city marketers currently engage in e-mail marketing activities— one targeted travel and tour operators and two specified individual customers with specific campaigns and in off peak times, particularly where there is excess capacity within the city. They find these campaigns “difficult to track” and success of these campaigns were measured “to some extent” or “found difficult to measure” or “measured via the page hits where the offer was located”. Those campaigns that were directed towards individual consumers also provided some incentive—a prize draw, vouchers or gift to engage the customer.

None of the cities that responded had conducted a viral marketing campaign—though one stated that they were considering it. Barriers that were perceived were “intrusion” “lack of expertise” and “cost justification”.

6 Discussion

Conclusions at this stage can only be tentative due to the nature of the small sample used and therefore only preliminary suggestions are made at this stage in the research. For city marketers, with databases and e-mail capture in place to mine relevant information and perform viral campaigns, it would seem that there is a window of opportunity. Customers are overwhelmed and, indeed, disinterested in traditional mass marketing techniques and they could utilise viral marketing, “peer to peer conversations”, as a way of promoting the city to target market segments. It also provides an opportunity to nurture product champions and build customer relationships. All city marketing departments in this research were in possession or construction of the necessary databases and all they needed to do was design the necessary viral message for an initial, receptive target audience. Viral marketing also provides the opportunity to be creative about the type of viral message—this could take the form of a video clip about the city itself. No incentive may be necessary if, in
fact, the collateral is appealing and/or humorous. It could have several purposes for
the city marketer, it could be utilised to generate awareness of the city as a
destination, as reminder advertising to existing customers or as part of a specific call
to action in terms of specific campaigns and at times of low occupancy. A viral
marketing campaign has a relatively low cost for development, depending on its
 sophistication, and is within budgetary constraints of most city marketing
organisations.

Customers have indicated in this research that they are receptive to permission-based
marketing and messages from a recognised source and therefore would possibly
engage in a viral campaign from a city. The growing number of people on-line and
using e-mail in Europe, both at home and at work, would make this type of direct
marketing a realistic proposition, particularly considering the target market segments
for cities are also a “good fit” with Internet and e-mail users.

One of the major disadvantages of viral marketing campaigns may be that they are
difficult to measure and control. Their contribution to revenue streams may be
difficult to assess and in some of this research it was clear there was no designated e-
marketing budget and where it existed it was intermingled with the technology budget
and therefore difficult to determine the success of funds spent. This may have to be
balanced against the low penetration and return expected of direct marketing
campaigns, some returns have been as low as 1-4%.

In some cases there was a lack of awareness of some city marketers about the concept
of viral marketing and they expressed their concern that it could be viewed by their
customers as an intrusion or they did not want to be seen to be delivering junk mail
and also felt their customers suffered from information overload in general. It is,
therefore, vital that whatever viral message is used it is “something worth sharing”.

Certainly a recommendation may be put to city marketers that viral marketing should
be a part of their integrated marketing strategy, even if only as an experimental
exercise while the tool is examined in terms of its long term viability. A possible
recommendation for further research would be to focus on customer choice and for
cities to investigate which channels their target market would prefer.

As competition between cities increases, any competitive advantage becomes
important and viral marketing has further rewards for cities in that it could be an
effective means to harvest e-mail addresses for further marketing activities, it can
help to build relationships with product champions and it can also be used help build
stronger links with tourism partners, internal markets and other stakeholders. Viral
marketing may help make your website work harder for you and extend the depth and
width of customer relationships.
References


European Internet Travel Monitor, Internet Booking Statistics, March, 2002.


http://www.business2.com, [March 1, 2000]


http://www.euromonitor.com, [March 9, 2002]


http://www.nua.com [March 18, 2002]

http://www.scotexchange.net [March 10, 2002]
An Investigation into how Data collected by Destinations Websites are Utilised as a Direct Marketing Tool, in A. Frew, M. Hitz, P. O’Connnor (eds) Proceedings of ENTER- *International Conference on Information and Communications Technologies in Tourism*, Helsinki, New York, SpringerWein
An Investigation into how Data collected by Destination Websites are Utilised as a Direct Marketing Tool

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Abstract

As buyers become more sophisticated in the use of the Internet when purchasing travel and tourism product, the wealth, breadth and depth of information collected as a result of site visits becomes massive. Therefore, the careful mining of this data becomes crucial to match customers and product offerings. Destination tourism planners must consider how many tourists are desired and which segments to attract and tourism marketers must know actual and potential customers and their needs and wants; determine which target markets to serve and decide on appropriate product offerings, services and marketing strategies. This new media offers the chance to improve the richness and reach of marketing communications with their target segments, particularly through e-mail marketing. The purpose of this paper is to examine how UK destinations collect, analyse and utilise their marketing data from their websites and transform them into meaningful marketing information that can be used in well-targeted direct marketing campaigns.

Keywords: direct marketing, destinations, database, e-mail marketing

1 Introduction

A variety of statistics show that the Internet and websites are becoming an increasingly important means of marketing and selling travel and tourism product, particularly flights and accommodation. Most major European destinations at city, regional and national level have an Internet presence, in various forms, ranging from a simple brochure style website to a fully developed portal for all tourist amenities within a destination.

A key way to focus on target markets and develop deeper customer relationships is by the use of direct marketing. The term direct marketing has taken on new meanings over the last few years and has broadened in focus from simply a form of marketing in which products or services move from producer to consumer without the use of an intermediary to a much broader definition that: "encompasses the use of one or more media to affect a measurable response and/or transaction at any location" (Thomas and Housden, 2002:4). Direct marketing allows precision targeting, personalisation, privacy and measurability. It usually means utilising a marketing database, incorporating some kind of offer and a specific call to action. Traditional direct marketing (i.e. via postal services) has already been used in the marketing of destinations (Kotler et al, 2000).
Many destinations have traditional mailing lists compiled as a result of fulfillment and also buy in mailing lists (Main, 2002). However, they fail to maximise the potential of the data collected internally from the websites and from direct e-mail enquiries. Additionally, there was a wide discrepancy on the integrity, integration and recency of these lists and the various lists were rarely stored on a central database where they could be mined and harvested for customer profiling. Some destinations actively engage in e-mail marketing activities e.g. to specialist travel and tour operators and to individual customers with specific campaigns. They find these campaigns difficult to track and the success of these campaigns was not always measured.

A review of both current trade publications and research literature into e-mail marketing and destinations indicates the growth of direct marketing as a marketing tool (Desai et al. 2001) and the decline of the mass market and growth of niche markets in tourism (Hsu and Kang, 2002). As markets have become more segmented we see the growth of, for example, city breaks which appeal most to families without children and the decline of the package holiday (http://www.scotexchange.net [March 10, 2002]). Therefore, to target these niches with specific offerings is crucial to destination marketing.

This research looks at how UK destination websites collect data from site visitors and enquiries, both overtly via web-forms and covertly via “cookie files” and sophisticated tracking software. It then investigates the utilisation of that data, focusing on direct e-marketing activities, predominately in e-mail marketing and viral marketing.

2 Issues: Destinations and Marketing

2.1 The Internet and Marketing

The Internet is a growth channel for purchasing tourism products e.g. 13% of all Austrian travel bookings are through the Internet (European Internet Travel Monitor, 2002). A variety of statistics show that the Internet is becoming an increasingly important means of marketing and selling travel products, particularly flights and accommodation and provides extended choice and the means for consumers to choose and book without paying travel agent’s commission. Most destinations have an Internet presence, in various forms, ranging from a simple website to a portal for cultural, travel, tourist amenities within a destination e.g. Discover, VisitScotland. Most official destination websites are developed by National Tourism Offices and have public or quasi-public government funding. However this does not mean that the official tourist boards have exclusivity on the marketing of the destinations, by traditional means or electronic. Some regions divide responsibilities for promoting tourism and hospitality business between public and private sectors. In other situations there can be internal conflict within the destinations over promotion. The same can be said of their websites where destinations frequently have a variety of private and public agencies promoting their products and services. Therefore the control of the marketing activities for a destination, its image and communication with its stakeholders, is not solely in the hands of the official Tourist Boards.
A key way to focus on target markets is by the use of direct marketing. Direct marketing connects with individual customers to obtain an immediate response and generate lasting customer relationships. Direct marketing via websites is interactive and immediate. It reduces costs, can be timed accurately and offers flexibility (Kotler, 2000). Today's buyers are better informed and more selective (Thomas and Housden, 2002). There is more choice, more information available and greater pressure on consumer budgets. Whilst buying patterns and preferences have been changing, the major advances in technology mean that destinations can now identify the needs and motivations in diverse groups of customers and fulfil those needs cost efficiently. It is possible to identify "profiles" of customers from information collected from websites and use them to develop a whole series of selling propositions, which closely meet the real needs of our customer segments. This enables destinations to be more customer-focused in the truer sense. Direct marketing has already been extensively used in the marketing of cities. The city of Cleveland ran a direct marketing campaign in 1995 and received 70,000 visitor information requests in one quarter as a result, more than the whole total of inquiries for all of 1994, (Kotler, 2000).

2.2 Database Marketing and E-Mail Marketing

Database marketing has played an important role for many travel and tourism operators. Technological advances and the growth of data collection through Internet sites have fuelled the increase in database marketing. The travel and tourism sector has not been associated with sophisticated marketing practices (Alford, 1999). Recent evidence supports the theory that the travel and tourism industry is adopting more sophisticated techniques in database marketing. Alford would argue that there is a distinct difference between direct marketing and database marketing and that database marketing adopts a more holistic approach. Thomas and Housden would contend that a database is an essential component of direct marketing (Thomas and Housden, 2002). It is a the heart of market communications planning and, if correctly used, enables the destination to identify the right target for a particular communication, according to their potential value and their propensity to be interested in the offer. It tells us the right time to send the information and the right form of words to use. The database helps us to record and analyse the response in order to prioritise and target in the future. The scope, integrity of data that is fed into the database is crucial. Discussion seems to revolve, for many authors (Marinova et al. 2002; Mitchell, 2002) on the "intimacy" of the relationship between seller and consumer and the degree of information the customer is willing to impart and the level to which the seller can mine the data on the customer. Ultimately the level of the relationship will be limited by the customer, who perhaps does not want to be loyal or disclose data. Shaw proposes that to practise database marketing successfully it has to be part of a "virtuous planning" cycle where trust is established and built up over a lengthy period of time (Shaw, 1991).

A recent report has forecast that the market for e-mail marketing will be worth well over USD 1 billion by 2003 (http://www.nua.com/surveys/index.cgi[March 18, 2002]). The main benefits of e-mail marketing are simplicity, cost effectiveness and
strength in customer retention. Companies which have tested e-mail marketing have predominately used their own lists. Increasingly, externally created e-mail lists are being used. The Henley Centre speculates that by 2009, 85% of UK consumers will be on-line, 2 hundred billion e-mails will be sent in 2004 and outsourced e-mail marketing activities will create a 3 Billion pound industry (Gibson, 2000).

E-mails are cost effective, have global coverage, are fast and interactive. If they are personalised and use appropriate subject line headings then they are more likely to be read. On the negative side, there are no benchmarks established. There are, additionally, problems in areas such as: spamming, privacy and legislation. Ecommerce times reports that spam now represents a third of all e-mail sent, which marks a 15 per cent increase in the number of spam e-mails sent during 2001 (http://www.nua.com/surveys/index.cgi [Oct 1 2002]). The concerns about privacy are being addressed with the European parliament reviewing all aspects of the subject and have presented their findings in a document entitled "The Common Position" with a view to the adoption of the Directive of the European Parliament and of the Council concerning the processing of personal data and the protection of privacy in the electronic communications sector". It also proposes to ban e-mail "spam" throughout the EU. Consumers International's recent report highlights the fact that 58% of sites that collected information had a privacy policy but only a third highlighted any privacy policy when collecting data from sites. It also points out that very few of the privacy policies that did exist contained more than a bare minimum of information about the control consumers has over their own information. The cost of compliance with UK data protection laws and the directives emerging from the EU are a major concern for companies handling marketing data. (http://www.which.net/whatsnew/pr/jun01,[Oct 1, 2002])

There is little available data on statistics on destination's e-mail marketing activity, however, there are indications that most cultural institutions within cities have a low e-mail usage rate varying from 6-11% of cultural establishments in European cities (Weber et al, 2000). He states that they have not fully realised the potential of e-mail and Internet for marketing activities and the possibility of reaching potential Internet customers, whose demographic profiles would seem to match the segment profiles that destinations are targeting. However, more generalised statistics indicate that consumers are receptive to e-mail marketing, particularly where permission has been sought, (http://www.e-marketer.com/articles.htm [March 23rd, 2001]). Predictions about behavioural profiles of travellers on the basis of Internet use segmentation suggest that destination marketers could benefit by knowledge of the determinants in Internet user characteristics (Bonn et al. 1999). This knowledge, Bonn suggests, permits consumers, service providers and marketing professionals to efficiently contact particular market segments through the Internet. Internet users are also more likely to be interactive with suppliers in terms of customer relationship management (Marketing Week, 14th March 2002). The potential is there for destination marketers to expand from a broadcast mass marketing medium to a tool that is useful for micro marketing and one-to-one marketing. For destinations this could mean the potential to reach visitor groups and niche segments that are not motivated by typical promotional activities. Customer and prospect databases are now an increasingly
valuable asset. Consumers are demanding better targeting, so segmentation is going to have to work much harder and profiling must be accurate.

In addition, there have been reviews of web activities in destinations in Germany (Dierich et al., 2002). 47% of these destinations “did not have knowledge about their target group” though 66% had stated that they had built up information sources via incoming e-mails, online bookings and through participation at online contests and games. This author also goes on to state that out of these 66%, only 70% used the information gathered for promotional strategies, 92% are not familiar with user profiles and 40% got no information about website promotion efficiency.

In an era where the public is more cynical about marketing activities, the role of “peer to peer conversations” becomes more important influence in the consumer buying process. One of the most effective promotional activities is that of word of mouth, the process by which “an innovation is communicated through certain channels over a period of time among the members of a social system” (Fill, 1999:142). The Internet equivalent of word of mouth is “viral marketing.” There are many terms that have been coined in the Internet era and the term “viral marketing” has also been referred to as “contagion marketing,” “propagation marketing,” “inertia marketing” and “multi-connected marketing.” Nonetheless, many observers have described it as one of the most effective marketing methods on the Internet and is viewed as a virus to be admired (Wilson, 2001). Viral marketing is a strategy that encourages individuals to pass on marketing messages to others creating the potential for exponential growth in the messages' exposure and influence. Viral marketing, in effect, encourages others to pass on the message with the consequent potential to multiply rapidly and communicate the message to thousands, or even millions, mainly with the objective of driving business to your website. Can destinations target and nurture a key group of customer to be “champions” of their product and add creativity to their direct marketing campaigns? Limited research has been carried out on the use of viral marketing in the tourism sector, however, recent research reveals that, though viral are being considered by city destinations in Europe, they are not yet being utilized (Main, 2002).

2.3 Permission Marketing

Permission marketing is the idea where the marketer attempts to “cultivate a relationship with customers who have given him the go-ahead to send them information about a product, service, special offer or sale” (Godin, 1999). The main driver behind this concept is in the efficiency and efficacy of the marketing efforts of an organisation and, in direct marketing terms, this should decrease the mailing volume and raise the percentage for success. Permission marketing has been likened to “dating a customer” and that it requires a long-term process that requires an investment of time, information and resources by both parties (Godin, 1999). The result is an active, participatory and interactive relationship between customer and supplier. Customers may grant various levels of permission to engage with them and a key part is the level of trust established with the customer. They, the customers, may grant increasing levels of access from a limited access, one-off contact to the highest
level of contact and trust where the customer trusts the marketer to make buying decisions for them. Permission marketing will improve the image of e-mail marketing where customers will choose to "opt-in" to receive marketing communications. Generally "opt-in" lists are targeted e-mail lists, which offer a "politically correct" way to reach the target audience on the net. Though targeted e-mail is more costly it has been proven to be more cost effective.

3 Methodology

The selection of the methods as well as the sample had to take into account some key considerations, destinations and their websites are marketed by a variety of agents via websites from brokers e.g. last minute.com to publicly funded sources, e.g. Wales Tourist Board. This study focuses on the publicly funded destination websites that are in the UK and contact details were retrieved from their websites. The destinations in this case, regional tourist boards, were contacted via semi-structured questionnaires by mail, at first, then followed up by fax and e-mail as the postal response rate was poor initially. Limitations must be acknowledged here in terms of response rate and bias introduced by the varied methods of data collection but this was minimised by using identical questionnaires and covering letters for all channels of communication with the tourist boards ensuring consistency in approach. Almost 42% of the regional tourist boards' marketing departments responded to the questionnaire with 26 being contacted and 11 completing the questionnaire. A semi-structured questionnaire was chosen as it was clear from the literature review that though the key issues and criteria were apparent that little published data was available in terms of the issues highlighted in this paper and therefore responses were difficult to anticipate. The results of the survey were analysed by inspection and the data is presented in both a quantitative manner and in a qualitative manner in terms of clusters of answers and generic themes in the responses to the open-ended questions. Respondents were guaranteed anonymity.

The questionnaire itself was divided into 4 key sections which were: 1: The traditional mailing list, direct marketing activities, sources, frequency of use, targets, 2: The database, sources, recency, maintenance and integrity 3: The destination's website, use of forms, cookie files, data collection opportunities and 4: The direct marketing activities, the campaigns, asking permission, intermediaries, measurement, incentives and creative use of e-mails and "virals".

Limitations are acknowledged in the scope of the survey in that it is UK based and therefore subject to similar public funding mechanisms and to the government policy in vogue. However by concentrating on a specific sector, contextual factors and cultural considerations may be minimised and a picture revealed of the utilisation of direct marketing activities of UK destinations.
4 Results

In terms of their traditional direct marketing activities, the destinations still used traditional mailing list, however only one respondent was still compiling mailing lists manually, all were catching data on the websites and only two respondents that they bought their mailing list from a broker. These mailshots were conducted by 45% of respondents 1-3 times a year, the remaining number engaging in more frequent campaigns, 4-8 times a year. These were targeted at specific segments of the travel market, which were group travel organisations, travel trade and short break. Some traditional mailshot campaigns were targeted at individual customers but focused mainly on the trade. Direct mailshots were not the only form of traditional direct marketing these tourist boards engaged in, many also used inserts in magazines and direct response television advertisements as part of their direct marketing strategies.

The data on all destination database was compiled from similar sources i.e. existing and loyal customers but was only updated “continuously” on a real-time basis by 55% of respondents, the remaining were updated weekly or monthly. Only one respondent used various internal sources as a way of upgrading and supplementing the data and one used data from a “swap/ share” source. 36% of respondents maintained their database “in-house” with the remaining 73% outsourcing this activity with those outsourcing more likely to have their databases updated less frequently. Front-end access was via “Access” for all respondents. All but one respondent had their websites linked to their existing legacy database and this respondent stated that they maintained their websites database intact from data retrieved from other sources.

Their websites claimed traffic of between 23,000 and 100,000 unique visitors per month, though consideration must be given to the fact that website traffic may be “counted” in a number of ways. All the websites used “forms” to collect data about visitors to their websites, though only 73% used “cookie” files to track site activity and behaviours on their websites itself. The Tourist Boards stated that there were on average, between 1- 5 other opportunities to collect data from clients while they were on site. This included forms of various lengths, “opt-in” sections and joining interest groups and mailing lists. All respondents produced some form of reports or analysis from the data collected from their websites. When asked to specify which particular types of reports, they all fell into the category of web based statistics, web trends, page impressions, referral to member sites, number of hits etc. and only one stored web customer profiles.

All websites responded that they engaged in direct marketing via e-mail and these took the form of e-brochures, targeted e-shots and seasonal offers. Only two sought to personalise these campaigns. All specified that these campaigns were directed at specific market segments e.g. gardeners, attraction goers. All but a small percentage sought “permission” to contact their customer with direct e-mails, with 73% adopting an “opt-out” approach as opposed to the remainder who chose the “opt-in” approach. Two respondents used intermediaries to design or execute their direct marketing for them though no indication was given in terms of level of involvement between
agency/ intermediary and Tourist Board. They all measured the success of direct e-mail campaigns via a selection of methods e.g hits on the “landing page”, voucher redemption, response via advertisers. The incentives offered in their campaigns were limited to competitions and prize draws with no real innovative approach in terms of a “call to action”. No real creative use of e-mail or virals was indicated in the responses.

In response to the open-ended questions, the issues that concerned respondents were those of privacy, “annoying customers with too much contact” “e-mail addresses changed frequently” and “compliance with legislation”.

5 Discussion and Recommendations

A good clean well maintained customer database is arguably any company’s best asset (Murphy, 2002). The problem arises here for destinations in that customer data seems to reside in different areas of the business and few seem to spend the time keeping the data up to date. Once in place it opens up a wealth of possibilities for marketing purposes, enabling the segmentation of markets according to types of products of interest, time of year they are likely to buy, their purchasing history and demographic profile. The destination websites researched seem to focus on what they wished to offer as opposed to how customers choose to buy. Ideally the database should be split into a front end and back end. A back end where the data is continuously updated from websites and legacy systems and the front end, the revenue-earning end, with software tools that can help design effective campaigns.

There appears to be minimal activity on customer profiling. With the volume of traffic to websites and the variety of products and services marketed there, it may seem to be an insurmountable task. However, the profiling could be done incrementally as visitors return to a site or focused on a particular segment. Destinations seem to utilise direct marketing to fill up spare capacity, whereas a better approach might be to be customer focused and use direct marketing campaigns that match their customer needs (Mitchell, 2002). There are sophisticated tools available that design campaigns and sophisticated CRM solutions, the drawback being the expense, and the statistical ability of the marketer to mine the data. There is evidence to suggest that by using pro-active, consumer- alerting technology, such as e-mail, suppliers and providers can not only deepen customer relationships, but can also reduce service costs by 33 per cent. (http://www.jmmm.com/xp/jmm/press, [Oct 1, 2002]).

Concern was expressed about “pestering” the customer too frequently, respondents did not want e-mails to be viewed by customers as an intrusion nor they did not want to be seen to be delivering junk mail. They also felt their customers suffered from information overload in general. This makes profiling more important and gaining permission to contact them crucial, via “opt-in” rather than the destination’s choice of “opt-out”. However, getting the timing and frequency of contact is essential. Recommendations are that contact is made every 20-30 days (http://www.htmail.com/article6.html,[Oct 4, 2002]) and that keeping your name in
front of the customer builds trust through familiarity. It is, therefore, vital that whatever message is used it is "something worth sharing" and relevant to the customer profile. Certainly, gaining permission and personalising the offer will increase the positive reception of an e-mailed marketing communication.

There were limited incentives used in their e-mail marketing activities and no real creative use was revealed in this survey on e-mail marketing. Customers are overwhelmed and, indeed, disinterested in traditional direct mass marketing techniques and they could utilise viral marketing, "peer to peer conversations", as a way of promoting the destination to target market segments. It also provides an opportunity to nurture product champions and build customer relationships. All destination-marketing departments in this research were in possession of the necessary databases and all they needed to do was design the necessary viral message for an initial, receptive target audience. Viral marketing also provides the opportunity to be creative about the type of viral message - this could take the form of a video clip about the destination itself.

This research indicated that the breadth and depth of data collected via the websites is not being exploited. Web statistics are limited to those of general trends, hits and page impressions. A more detailed analysis of logging files and customer tracking files would produce more meaningful statistics for marketing purposes e.g. exit information, time spent on page etc. would all assist in designing the website to meet customer criteria.

As competition between destinations increases, any competitive advantage becomes important and direct marketing has an important role to play in developing customer relationships. Viral marketing has further rewards in that it could be an effective means to harvest e-mail addresses for further marketing activities, it can help to build relationships with product champions and it can also be used to help build stronger links with tourism partners, internal markets and other stakeholders. Viral marketing may help make your website work harder for you and extend the depth and width of customer relationships.

If destination marketing fails to meet the challenge of direct marketing, perhaps they should consider outsourcing this function to agencies or intermediaries that could effectively manage and harvest the data and create successful direct marketing campaigns on their behalf.

References


http://www.wilsonweb.com/extricate/serials.html (May 25, 2001)
http://www.euromonitor.com/gmidv1 (March 9, 2002)
http://www.nua.com/surveys/index.cgi (March 18, 2002)
http://www.e-marketer.com/articles.htm (March 23rd, 2001)
http://www.nua.com/surveys/index.cgi (Oct 1, 2002)
Appendix B
Individual Contribution (by HM) to Selected Publications -


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Dimitrios Buhalis

Hilary (Main) Murphy
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Anthony Ingold
Hilary (Main) Murphy
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Hilary (Main) Murphy

Peter O’Connor
## RESEARCH PUBLICATIONS

### ARTICLES and BOOK Chapters

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<td>Main H</td>
<td>1995</td>
<td>&quot;Information Technology and the Independent Hotel - Failing to Make the Connection?&quot; <em>International Journal of Contemporary Hospitality Management</em> Vol. 7, No6, pp 30-33, (ISSN 099-6119)</td>
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<tr>
<td>Main H &amp; Buhalis D</td>
<td>1998</td>
<td>“Information technology in peripheral and small and medium hospitality enterprises: strategic analysis and critical factors”, <em>International Journal of Contemporary Hospitality Management</em> Vol. 10, No 5, p198-20 (ISSN 0959-6119)</td>
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**CONFERENCE PAPERS & PUBLISHED PROCEEDINGS**

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<td>“Emerging technologies and their role in developing a marketing information system (MKIS) for tourism and hospitality products”</td>
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Main H 2001


Main H, Jenkins, L Fleming, W 2001

"Viral Marketing- Is It Word of Mouth?", The Academy of Marketing Annual Conference, Cardiff, U.K. July 2001

Main H 2002


Main H 2003

"An Investigation into how Data collected by Destination Websites are utilised as a Direct Marketing Tool" ENTER Conference on Information and Technologies in Tourism, Proceedings of the International Conference in Helsinki, 2003 (forthcoming)