

TIM and SAM - Use of Technology to Create New Business Relationships For Tourism

This paper provides a brief account of the technology and services used in a series of trials of multimedia communications services which will form the basis for a worldwide electronic marketplace. Its focus is on the economics of re-configuring value chains in the tourism industry and on the reporting of results from trials.

The world's tourism market is marked by a division between three broad sectors - business travel, package tours and individual holiday travel. The customers

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for each of these experiences are served by a wide variety of vendors, including airline and other transport vendors, tour operators, the hospitality industry and travel agents.

The Tourism Market

By and large business travellers and buyers of package tours are well served by highly competitive services and are the focus of much marketing activity. Airlines and hotels compete for the custom of the business traveller which is placed with specialist traveller agents. Loyalty programs and special promotions abound. Similarly package tour operators provide and strongly market - either direct or through travel agents - a wide variety of products at very keen prices. Their marketing is reinforced by the advertising and promotion of the destination Tourist Boards (TB) which extol the culture, beauty and versatility of regions and nations. The third market - the individual traveller - is, however, less well served. Of course a travel agent will sell tickets, for trains and planes, and TBs will provide information about regions, attractions, accommodation and activities; but normally very little can be pre-booked. The need to search for somewhere to stay and for things to do is, for many people, part of the attraction of individual travel and a reason for rejecting package tours, but it lacks appeal for many people who wish to stay in smaller hotels and guest houses and to visit areas which are not part of the mass tourism culture which develops in the wake of the package tour. The difficulty of finding reliable and timely information, as a direct input to practical holiday planning, has, therefore, limited the scope of the market for individual or customised tours, particularly in areas which are outside the scope of the confident and prosperous (Provence has no difficulty in attracting holiday makers who book and organise their own holidays) or that of the adventurous (young backpackers will always find their own way).

Individualised travel is, however, an enormous market [1] which is growing rapidly. As air travel gets cheaper, as new tourism markets open and expand (e.g. SEE Asia, Eastern Europe, South Africa) and as people get more experience of and more confident in travel, they demand a more varied, more flexible type of holiday, away from the kind of people they meet at home. Travel agents are, however, usually not well placed to meet this demand: their margins are so low (as a result of fierce competition in the airline and package tour businesses) that they cannot afford to employ staff who can provide authoritative advice on routes and destinations; and they have no means of trading with and placing bookings with small and remote organisations. They miss an important part of the existing business, whose size is itself limited by the lack of a retail industry.

Meanwhile, hotel and resort owners - and the TBs that represent them - see their business controlled and limited by the activities of tour operators whose buying power sets commercial terms and who funnel disproportionate amounts of tourist traffic to a limited number of locations. Many of these organisations have a vested interest in a more even utilisation of tourism assets in a region or country and in attracting the business of the more up-market, less disruptive and higher spending individual traveller. But how, do they reach them and get them to pre-book large parts of their itinerary?

Technology and Change - The Development of New Markets

Technology offers a potential solution to these commercial imperatives by enabling the development of an electronic market place. 1994 saw an explosion of interest in the Internet as a medium through which holidays and travel could be bought and sold. There are still problems with the Internet - security mechanisms and transaction systems are not properly developed whilst transmission speed and consistency of service often leave much to be desired; but there is no doubt that it will become an important part of the infrastructure that supports electronic trading, in tourism as in many other industries.

Provision of a telecommunications infrastructure is, however, only part of the story. In tourism, for example, an elec-

tronic marketplace needs to provide linkages to global reservation systems and must develop common standards of practice and procedure; and it must cater for the needs of the largest and most sophisticated organisations and for those of more modest enterprises. In short, it needs to be organised. For these reasons a programme of trials began in 1992, organised by a consortium which includes travel and tourism interests allied to computer and telecommunications companies.

TIM

The Tourism Information and Marketing Project - TIM - ran from April 1992 to July 1995. With funding of 6MECU from the Commission of the European Communities RACE [2] programme and rather more from the partner companies (including the Tourist Boards of Catalonia, Greece, Tuscany, Umbria, Department of L'Herault, the Troll Park Region of Norway; Thomas Cook and subsidiaries of France Telecom and DBP Telekom), the project developed services that allow tourist vendors (hotels, resort owners, TBs) to create and distribute multimedia information. This data, which is organised in folders, is described in terms of standard attributes (developed by a taskforce of tourist organisations) and may describe bookable products (hotels, packages, events) or may provide background information on regions or cities. This information is distributed to or can be retrieved by travel agents or other points-of-offer who are thus provided with a distributed multimedia database, which is, moreover, linked to CRS services (including Galileo and Amadeus and regional reservation services).

TIM was based on the use of basic rate ISDN but ATM [3] linkages were tested in a related project MNET [4] (Marketing through NETworks) which used the TIM application to compare objective measures of the speed of folder distribution and retrieval, across Europe, between ISDN and ATM. It also assessed user perceptions of the impact of using the broadband ATM service.

Two further projects began in late 1995: MAT (MNET Advanced Trials) and SAM (Services and Applications for a worldwide Market in tourism). MAT is continuing the trials of trans-European ATM linkages [5] and is investigating the business case for an international tourism service that uses powerful broadband communications services to provide linkages between national or regional service providers. These RSPs have several functions:

- marketing and promotion
- recruitment as users of travel agents and other retailers (Points-of-Sale), TBs

and holiday vendors who wish to distribute information (Points-of-Offer) and organisations that wish to provide kiosk information services (Points-of-Information);

- operating or providing links to local booking services;
- provision of communications service to local PoS, PoO and PoI organisations using local telecommunications infrastructure, including cable TV networks, data networks, ISDN and the public telephone network. This includes acting as a transit node in the international network, so that information can be sent and retrieved between PoOs and PoSs in different countries; and the maintenance of a database of holiday information for local PoOs.

The key issue for MAT is the role of the RSP which will be determined by the cost-effectiveness and ergonomics of various ways of using telecommunications networks whose performance and costs vary. Different patterns of usage and of allocating storage, transmission and retrieval resources will all affect the business case for an international electronic market place in tourism.

SAM

SAM extends the MAT concept to a global scale and includes access through the Internet (and hence the public telephone network) to the use of ISDN and ATM. The European sites are joined by Regional Service providers in South Africa, the USA, Canada, SEE Asia and Japan.

The TIM Application

The TIM application is common to all of these projects. It provides support in the key tasks of :

- *Creation of folders* (at PoO). TIM provides a co-operative working environment within the PoO organisation. Original material can be digitised, viewed, discussed and edited by staff at every PoO. Once the folders are created they must then be defined by the PoO user against the database search attributes that will be used at PoS. A typical folder contains pictures, text, video, speech and sound, and can be as large as 5 Mbit;

The schedule of folder creation is specific to and controlled by each PoO user;

- *Distribution of folders* (at PoO). Folders can be distributed from PoO to specific database locations which will minimise the cost of retrieval for targeted customers at PoS. Integration of new information and updates into the

database is automatic. The schedule of distribution of folders is specific to and controlled by each PoO user;

- *Viewing of folders* (at PoO & PoS & PoI). Folders can be searched for by "dropping down" through layers of maps, or by directly specifying the folder type. An electronic note can be made of any product the viewer finds interesting. All folders are known and are accessible from all PoS and PoO, irrespective of storage location;
- *Packaging* (at PoS & PoI). A multi vendor package of products can be constructed during the sales process from the available offers, structured as a diary. The electronic "notepad" created under the Viewing Service is available for transferring offers directly to the diary. At PoS sites each product can be checked for availability and purchased via a variety of on-line reservation systems, but through one standard TIM booking interface;
- *Administration* (at PoO & PoS & PoI). These services provide the basis for the users to manage the application. PoO users can request feedback on the use that has been made at PoS of their marketing information. PoS users can request integrated access to customer records. Any accredited user can update product attributes and add maps;
- *PoO-PoS negotiation* (at PoO & PoS & PoI). Direct marketing services will create many occasions where discounts and commissions need to be negotiated. In addition, there may need to be direct requests to PoO to amend a

product line or the marketing information. These will be principally conversational and messaging tasks.

Users can subscribe to public services with some or all of these functions or can utilise private or closed group facilities to create and offer customised and differentiated versions, with separate branding.

Organisation of an Electronic Marketplace in Tourism

Each of the four trials described are stages on the development of an electronic marketplace: they have developed applications and supporting computing systems, trialled them over a number of telecommunications networks, consulted a wide variety of tourism organisations [7], and established a large and growing number of participating user organisations. The members of this consortium are preparing for the launch of an electronic marketplace service whose key components will be:

- management and operation of a distributed database, so that records are kept and up-dated of the location and use of files, and of transactions;
- one or more linkages - via gateways - to reservation services;
- provision of statistical reports, of information browsed and packages created, in addition to records of bookings and transactions;
- publication - and ownership - of a number of technical and commercial standards covering contracts, network addresses, security and access controls, interfaces and transaction for-

What Are TIM, SAM and SAMSON?

A primer by Karsten Kärcher

TIM

Tourism **I**nformation and **M**arketing is a European multi-media marketing system for tourism products. The project was started in April 1992 and completed in July 1995. The first prototype was presented in April 1993, and the system has been operational since 1994.

SAM

Services and **A**pplications for a Worldwide **M**arket in Tourism is a worldwide multi-media marketing system for tourism products. The project, which included the projects Marketing through Networks (MNET) and MNET Advanced Trials (MAT), was started at the end of 1995, with the system planned to be operational from the end of 1996.

SAMSON

Services for an **A**dvanced **M**arketing **S**ystem on **N**etworks is a European multi-media marketing system for tourism products. The project was started in May 1995.

mats and the coding and classification of holiday objects;

- development, distribution and ownership of software which provides the functionality required to provide all PoS, PoO and Pol functions which are linked to wide-area networks and to the supervisory functions of the distributed database;
- marketing and promotion of a corporate identity and service brand;
- technical support for end-users;
- billing and other administrative functions.

A minimal service of this kind would market itself to PoO and PoS/Pol organisations, would charge for membership of the service and for PoO-PoS transactions. Its application software and user interfaces would permit access through a variety of telecommunications services, depending on local circumstances. The merit and the basis of its branding would be as a way of enabling and facilitating PoO-PoS linkages and the creation of new trading relationships. A more complex alternative would add additional functions to the minimal option:

- linkages to credit card clearing and debiting services;
- ticket and invoice printing at PoS;

Such a TIM service should be sufficiently flexible to cater for the interests of a variety of categories of user organisation and to users to offer differentiated services.

The Business Case - An Illustration

An electronic marketplace service could be used in a number of markets and sectors. Three examples follow:

1. *General Sales Agent (GSA)* which operates its own PoS and markets its own packages, based on close links with PoO vendors. A company like this is most likely to operate in specialist markets (e.g. sporting holidays, tours in remote regions, etc). It could also work closely with one or more TBs, connecting to major destination databases in their regions. A travel agent specialising in, for example, Catalonian holidays would be linked to reservation services in the region, to the database of the regional TB (operated by the Generalitat Catalunya) and to those of major hotel and resort operators. This application is characterised by a relatively small number of PoS sites and a large number of PoOs.

2. *An implant in overseas TB offices.* Many TB's cannot sell holidays and are restricted to a Pol role. A service provider would offer a service to TBs which is, with all forms of regional and municipal pro-

motion (display advertising, catalogue publishing, operation of Pol, etc.), part of the marketing mix. It takes their multimedia destination databases and operates a local CRS service, which are both connected to a limited number of the TB's own Pol/PoS sites (e.g. the French Tourist Board Offices in Piccadilly, London) where the booth is an implant. The service provider makes money from markup/commissions on holidays sold. It restricts its transaction service to relatively high value items as it needs to earn a relatively high fee on each transaction, in order to cover the cost of PoS staff. This application is characterised by small numbers of PoS and PoO sites.

3. *Provision of Pol functionality at overseas TB offices.* This is very similar to scenario 2, but with no requirement for transaction capability. The terminals would not require dedicated staffing and would be part of the TB set-up. The service provider would make a small charge for each retrieval but would recover its costs by charging the TB for the service provided. We can develop an illustrative business case for a small service provider by combining the revenues and costs for each of these lines of business. The result is a modest but profitable business [8]. The business begins to make profits in the third year of operation and reaches peak payback in the fifth year, with positive cash balances appearing in year 6. The peak investment (or borrowing) requirement approaches 6 MECU in year 3 - for a business turning over 4 MECU in that year and 10 MECU in year 5. In that year profits are 3.7 MECU. Results vary for each of the three applications, with the General Sales Agency business moving into profit in year 3 whilst the two TB businesses do not earn profits until years 4 (provision of Pol services) and 5 (for the retail operation). The 10 MECU turnover in year 5 is earned by a business which serves, in that year, less than 1000 PoO sites and fewer than 400 PoS establishments. A worldwide service, of the kind which is being trialled in SAM, would be many times larger - in investments, costs and revenues - but this simple analysis of the business case shows that the provision of an electronic marketplace for tourism can be a successful venture and can

start on a limited basis, before growing. Table 3 shows the annual costs of using the TIM system, for each type of user, under each scenario. These costs must be considered in the light of the business opportunities for each class of user. In the GSA scenario the annual costs are relatively modest, compared to an expected throughput of 50 transactions per year for each PoO and 800 for each PoS. The retail PoOs which supply retail implants in TB sites will each generate 1000 transactions per year whilst the volume of bookings at those PoS sites will also be 1000. For the Pol business in TB offices the costs can be compared with those of other publicity/information media.

Outstanding Issues

It is clear that the development of new computing technologies and the clear need in the tourism industry for new distribution channels and routes to market will combine to create the conditions in which electronic marketplace services will flourish. The potential market for such services is enormous: in Europe only, advertising and promotion of holiday services are estimated to total more than \$10 billion [9] or roughly half of the global total. If only a fraction of this expenditure is allocated to new forms of trading and marketing there is enormous potential for new services, even without the growth in tourism that they are likely to generate.

The TIM and MNET trials have tested and proved a technology and concept that is easily adopted, and works on standard personal computers, using an architecture that is scalable and adaptable to local telecommunications environments; and have developed an outline business case. The user interfaces have been found to be generally acceptable after repeated cycles of user testing and incorporation of recommended changes.

Practical considerations limited the scope of the TIM and MNET user trials to controlled experiments and so constrained the amount of available data on browsing and booking patterns. The MAT and SAM trials now provide an opportunity for interested parties, particularly groups of organisations - Points-of-Offer and Points-of-Sale that wish to trade together - to experiment and participate in a collab-

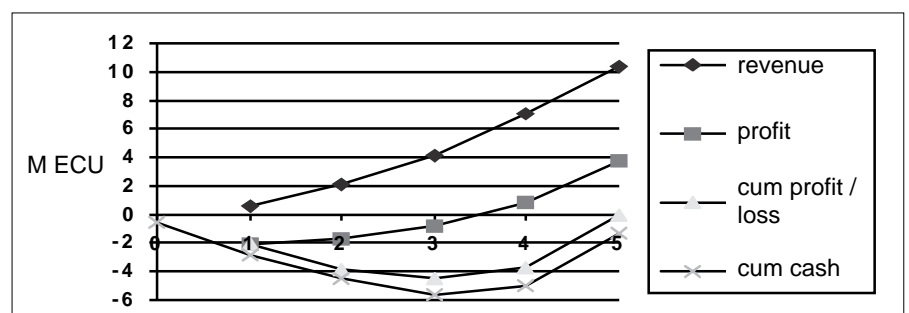


Figure 2: Illustrative profit-and-loss account

ECU per site		Connection	Annual Costs
PoO	gsa	2000	1675
	TB - retail	6000	17000
	TB - POI	6000	50750
PoS	gsa	0	6000
	TB - retail	0	34500
	TP - POI	7500	8750

Table 1: User costs of marketplace service

orative development of procedures and methods; and to observe the behaviour of their own staff and their customers as they use the system to buy and sell holidays. Business plans for user organisations of varying kinds can then be established and reviewed. The case for an international electronic marketplace will then be established and marketing will accelerate.

Impact

The impact of these developments on the international tourism industry could be profound. An electronic marketplace will:

- provide TBs, resort owners and a large number of small and medium sized enterprises that run hotels, restaurants and attractions with a way of trading with travel agents and of developing targeted communications strategies;
- allow travel agents, TBs and local service providers to create and market packages, often at very short notice and for a limited period;
- provide travel agents with new products to sell, with a consequent increase in the scope and size of their market;
- permit inbound tour-operators to find new routes to market;
- and allow all of these parties to sell directly to the home user, through the Internet or any other access mechanism (e.g. Cable TV) that is available.

The challenge for the tourism industry is to accept that the value chain will be reconfigured and that the use of an electronic marketplace will create new opportunities, provided the attention paid to technical development is matched by careful attention to the organisation, procedural and human issues associated with the creation of new trading relationships. ■

Acknowledgements

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Notes

- [1] 33% of international tourist trips greater than five days and originating in European countries are made without advanced booking: Source Urlaub & Reisen 1994.
- [2] Research and development for Advanced Communications technologies in Europe - a pre-competitive R&D programme focused on the development of technical concepts, products and services for broadband communications.
- [3] Asynchronous Transfer Mode.
- [4] Carried out and partly funded under the auspices of the Commission of the European Community's Trans-European Networks - Integrated Broadband Communications programme.
- [5] With further funding from the CEC's Trans-European Networks - Integrated Broadband Communications programme.
- [6] Point-of-Information - a public terminal at which information can be browsed and retrieved but without the provision of booking, reservation or transaction functions.
- [7] A congress organised by the MNET project in Paris, in February 1995, attracted more than 200 delegates.
- [8] This business case is based on a large number of assumptions about usage and tariffs, which have been the subject of extensive review and discussion with tourism companies. The impact of taxation has been ignored.
- [9] Source: estimates prepared by Detecon Marketing Consulting GmbH.

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Touristic Web Award

First touristic World Wide Web Award at the ENTER '96 Conference.

ds. In the face of the ever increasing importance of the World Wide Web in Tourism, the ENTER '96 conference featured a competition for the best Web offer. Two collaborators of the IWI, Nico Tschanz and Lukas Bachmann, organised the competition via the Internet: announcement, communication with the jury and participants as well as the publication of the submitted pages (<http://www-iwi.unisg.ch/events/enter96/award.html>).

Among the 22 world-wide participants, the Tourismus Info Internet (TII, URL <http://www.tii.de/>) won first prize. The TII provides a wide-ranging offer of touristic information, like flight and rail timetables, hotels, conferences and links to providers of touristic services world-wide. Prof. Klaus Frank of the Fachhochschule Worms welcomed the award of the prize as important and having certainly very positive effects on his staff.

In second place came the Tirol Informations Systeme GmbH, Austria (TIS, URL: <http://www.tis.co.at/tirol/>). TIS is the official vacation information service of the Tyrol and since recently Carinthia, too. The offer is sponsored by Austria Tourism. In third place we find Hyde's Travel Agent Resource (URL <http://www.hyde.com>) This organisation publishes travel related information for Travel Agents. The Hyde Consulting Group provides consulting services to Travel Agents throughout North America. The touristic pages of the Electronic Mall Bodensee (URL <http://www.bodan.net>) also did well by coming in fourth. ■

Business On The Web 5th WWW Conference, May 6th - 10th, Paris, France

ds. The second part of the 5th WWW Conference was dedicated to the topic 'Business on the Web'. Organised jointly by the European Commission and the W3Consortium it focused on success strategies for SMEs to gain a Web presence. Lectures by Bernard Verges of Microsoft, Steve Fink of Digital and Intels Steve McGeady opened the event. The speeches focused on general issues like Internet business potentials. Later that day Netscape's Jim Clark spoke in more general terms about their future strategy and strive to stay ahead of competitors for some six months. On the second day a cluster of workshops on successful Internet Strategies was followed by the first 'Best European Business on the Web Award' ceremony. ■