Tourism
in the Real-Time World:

An Opportunity to Enhance the Performance of the Tourism Industry in New Zealand

September 2003

Tourism
in the Real-Time World:

An Opportunity to Enhance the Performance of the Tourism Industry in New Zealand

September 2003

MARTECH
Consulting Group

Disclaimer

This publication and the research involved were made possible by a grant from the Foundation for Research, Science and Technology.

Any views or opinions expressed do not represent the official view of the Foundation.

Written by:

M J Stoke and A G Aitken

Martech Consulting Group Limited
PO Box 31-308, Milford, Auckland 9
Phone: +64 (9) 303-2930 Fax: +64 (9) 489-6845

http://www.martech.co.nz

ISBN 0-473-09938-1

Martech is a strategy consultancy that works with organisations to improve their ability to respond to a changing operational environment.

We work with:

- **sector representative groups** to develop sector-based strategies, achieve consensus on co-ordinated actions, improve innovation processes and improve governance
- **science providers,** and organisations which interact with science providers
- **small to medium size enterprises** that are starting an ***expansion phase***, having piloted new products or services OR are preparing for their next big jump in size through ***growth***, ***acquisition*** *or* ***strategic partnership*** OR are deciding whether to enter into a ***new venture*** OR are in a ***turnaround*** situation OR have owners who wish to ***realise value and exit*** the business
- a variety of other organisations including **government**, **Maori**, **community** and **non-governmental** organisations.

Martech Consulting Group is a partner in ***The Wyder Group***, established in 2001 with Good Earth Matters Consulting Ltd to provide the combined resources of themselves and their associates in one entity, enabling their collective skills to be applied to projects that the partners could not take on individually. ***The Wyder Group*** has staff in Auckland, Palmerston North and Christchurch.

The Wyder Group promotes sustainable, best practice business solutions in **economic and financial analysis**, **environmental engineering and auditing**, **strategic planning**, **project development and resourcing**, **governance** and **performance management**. Its services include specialist advice, in-depth investigation, facilitation and consultation processes.

Executive Summary

This document reports the findings and recommendations of a project that investigated opportunities for small and medium sized (SME) tourism businesses in New Zealand to benefit from e-commerce. In this document, we:

- outline the business issues found to be affecting SME operators and agents, and the problems experienced by tourists
- present inventory management in real-time as the best way to deal with these issues
- review the business case for the proposed solution
- present our recommendations and an implementation plan.

It has become clear that there are substantial benefits available for all participants in the industry, and there are risks for current intermediaries that choose not to take advantage of the opportunity to improve the value they provide to their customers:

Benefits Available	Tourists	Agents (VIN, etc)	Inter-mediaries	SME Operators	Large Operators
Dramatic reduction in time required for researching and booking	√	√			
Ability to do own itinerary management ('dynamic packaging')	√	√			
Improved quality of service		√	√	√	√
Better travel experience	√				
Greater spend on tourism product / utilisation	√			√	
Reduced IT investment cost, by: □ avoiding duplicate development □ reducing the risks of proprietary development		√	√	√	√
Far easier on-selling of other tourism product	√	√	√	√	√
Improved productivity / reduced operating cost			√	√	
Improved quality of life				√	
Opportunities for new, innovative services		√	√		

It should be noted that the large tourism operators (airlines, rental agencies, chains) do already, in most cases, manage their own inventory in real-time. However, they are not well placed to on-sell tourism product outside their own portfolio or to have their product sold by other agents because their technology does not use accepted standards (there currently are none in this area). The solution proposed here addresses their inter-operability issues.

First, **the context** in which this project has been run.

- The Tourism industry is one of the largest industries in New Zealand: it generates 15% of all export earnings, represents about 14% of GDP, and provides nearly 16% of all jobs. Demand for New Zealand tourism is projected to grow by an average of 5.7% per annum over the next ten years.

  The industry is unique in many ways:

  □ It provides perishable, time-specific inventory that cannot be shipped to the consumer.

- Consumers cannot try before buying – their buying decision is based only on information about the product. The internet has proven a valuable medium for this and is now widely used for travel research.
- Each supplier provides only one element of the consumer experience. Collaboration with other suppliers for service delivery can be difficult, and is rare for marketing or sales.
- The industry is highly fragmented—it consists of very diverse, mostly small businesses, and has a long, complex and often expensive distribution chain.

- The Project resulted from a tender let by the Foundation for Research, Science and Technology (FRST) in 2001, for research into the role that information technology might play in enhancing business capability within small and medium size enterprises (SMEs) in the Tourism sector.

  The brief required specific areas to be addressed, including:

  - The development of new technologies (including communication technologies) that would enhance linkages to markets within NZ and internationally and also enhance the experience of the customer
  - Improvement in the performance and profitability of businesses
  - The development of an understanding of how to encourage business managers to take up new information and technologies.

  Martech Consulting Group was commissioned by FRST in July 2001 to carry out this research over a two-year period. The project was planned with four phases:

  1. Define need and specifications. This phase included a survey of tourism operators and another of free and independent travellers (FIT), both done by interview in person (these surveys are documented in two attachments to this report, and have been published on the Martech website).
  2. Identify technology solutions and candidate providers
  3. Prepare a business case
  4. Determine a commercialisation process.

  Martech worked closely with the industry and potential technology providers, in an attempt to build support and ownership for the eventual solution.

The first phase of the project identified a range of issues to be addressed.

Issues Identified during the Project

- **Issues facing SME operators**

  Small tourism operators are typically unsophisticated users of technology. They manage their businesses using paper diaries and charts, and have 'brochure' websites hosted by various aggregators. The average operator is heavily reliant on the phone—calls may come at any time of the day, and all calls missed may mean business lost.

  The manual process also affects agents (including staff in Visitor Information Centres), who have to use the phone to check availability or make bookings, and may have to make several calls before finding an operator with a vacancy. In turn, this translates to poor service received by the traveller, who must spend an inordinate amount of time planning and managing a trip.

  For most SME operators, the booking process is entirely manual.

  They must be near a phone at all times.

- **Consumer demand**

  Consumers are increasingly frustrated with the lack of functionality currently available. They are demanding the ability to create, manage and update itineraries (**'dynamic packaging'**), expect to be able to do so, and until very recently have found that they are not able to do so.

  This functionality, if available, would enable agents, the Visitor Information Centres and other intermediaries to provide vastly improved service.

  Consumers must currently:
  - visit multiple independent websites to plan their trip
  - register their personal information multiple times
  - spend hours or days waiting for response or confirmation
  - make multiple payments by credit card

- **Use of the Internet**
  - The tourism industry appears to be ahead of most other New Zealand industries in its use of the internet, but participants are not prominent users of e-commerce.
  - For consumers the internet is now the principal source of travel information.
  - Consumer demand is forcing the industry from its product focus to a customer-centric environment, and new intermediaries are forming to satisfy this demand. Some of these early adopters are already very successful businesses (such as US-based Travelocity or Expedia).
  - New opportunities are emerging from other trends, such as the evolution of location-based services, coupled with changes in consumer behaviour as a result of the emergence of sophisticated communications technologies.

The SME operator with manual inventory management and the consumer and agent inability to do dynamic packaging are opposite ends of the same issue—availability can only be confirmed by personal interaction directly with operators. This makes the process extremely inefficient and time consuming.

Investigation into possible solutions to these issues resulted in one simple strategy to manage them – inventory should be managed in real time (and therefore online).

The Solution - Real-time inventory management

If inventory could be managed in real-time, many of the problems described would be eliminated, and all parties would benefit. A viable solution must, for the entire industry:

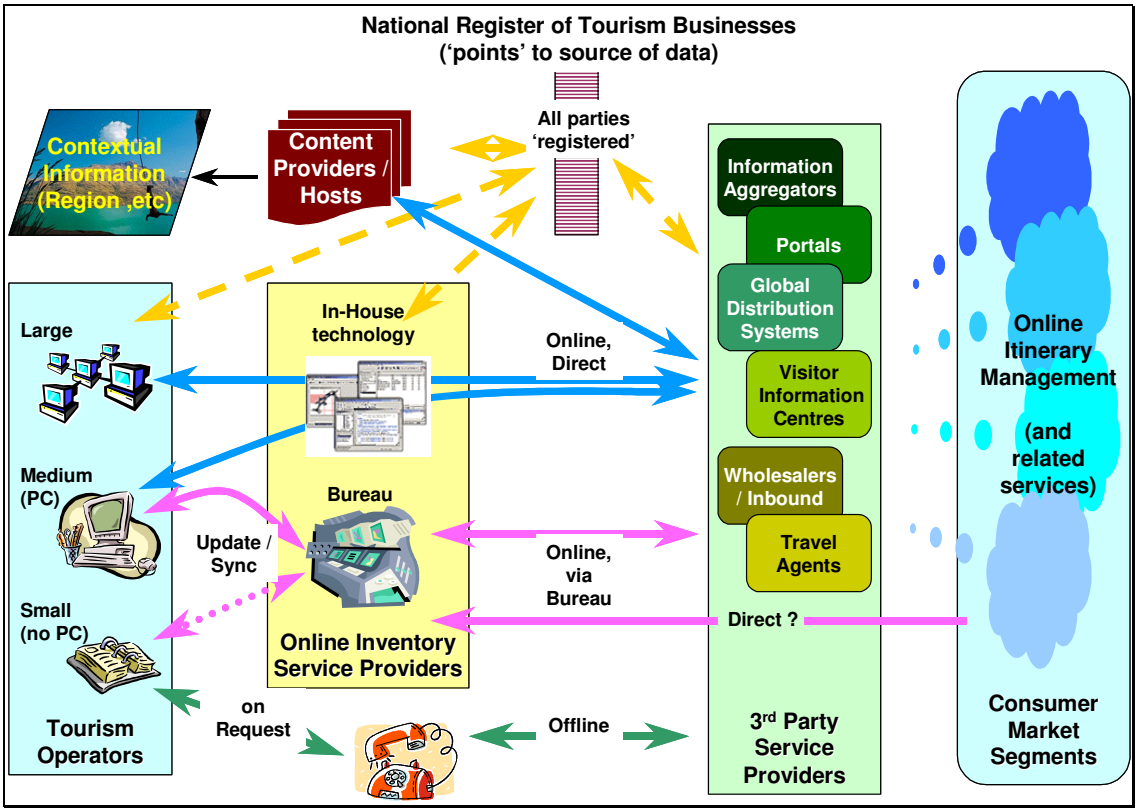
- Provide access to organisations providing real-time inventory management services on a 'bureau' basis, so that operators who prefer not to use technology in-house have viable options
- Enable operators to run in-house systems if they wish to do so
- Enable many service providers to operate in competition with each other, so as to preserve choice for tourism operators and encourage continued innovation
- Enable all enquiries to be handled automatically, in real-time, 24 hours a day and 365 days a year, for all operators who wish to participate
- Enable effective searching for available inventory
- Enable dynamic packaging (itinerary management) by consumers (with the functionality required provided by intermediaries as part of the value they add for their customers)
- Automate of the booking process, including the financial transactions involved
- Collect statistics for use in assessing relative performance.

While this is not a new idea, the technology needed to support real-time inventory management on the scale needed (and enabling SMEs to participate) has only appeared since the start of this decade.

In a real-time inventory management environment:

- **Providers** of real-time inventory management services would compete with each other for contracts with tourism operators
- **SME Operators** would choose which type of service to use (bureau service, in-house owner-operated systems, etc), or opt out altogether. Operators will continue to work with distribution agents and aggregators, who would provide online and printed content as appropriate.
- **Large Operators** would modify their own systems so as to inter-operate with other players, taking advantage of the opportunity to increase revenues by on-selling other product, enabling their product to be used in dynamic packaging by tourists, and extending distribution of their product
- **Agents** (including information centres) would acquire or develop enhanced front-office systems to provide real-time dynamic packaging services to travellers, enabling them to manage their itineraries while travelling.

The roles in this environment are shown in the diagram below. Organisations may play several roles, as many do now:



The 'Register' is a fundamental, essential element enabling all players to inter-operate effectively. It enables all players to locate operators, and identifies the locations where content and the contracted inventory management service provider can be found (online). Each player would then use this information to contact operators as required, automatically and in real-time, to carry out enquiries and transactions in real-time.

The Current Status of Real-time Inventory Management

There are now several providers of real-time inventory management services in New Zealand and overseas, using a variety of business models. The local companies are small, with limited resources in a developing market; the offshore players tend to be linked to global distribution systems, and are well financed. Tourism operators using these services are deriving significant benefits, but they are still very much a minority.

In this early stage of the rollout of real-time inventory management services, most of the technology providers are working in isolation. As a result, the industry suffers from **inter-operability** problems:

- An **operator** using one service to automate inventory management finds that staff must still be retained to handle phone and email enquiries from travellers or agents using different systems—operating costs are therefore considerably higher than they need to be
- **Agents** acting for travellers have unnecessarily high staff and communications costs, because most enquiries and bookings must be made manually and by phone (except in the Queenstown area, where a high proportion of agents and operators now use a common solution).

All service providers need to interact automatically and seamlessly, so as to optimise the services they provide to their customers and travellers.

This need will inevitably move the industry towards the adoption of common standards for online communication between all parties, and to widespread adoption of suitable business rules.

Some of the rapidly increasing investment in technology by operators is at considerable risk—when operators realise that they need to be able to inter-operate, but cannot, they will have to replace or modify their technology to use the emerging industry standards.

This represents a potentially very significant (but avoidable) cost to the industry. This is also the position in which most large tourism operators currently find themselves.

The Need for Standards

While there are various candidates for adoption as an industry standard, the vested interests at stake make it difficult to see one of these being acceptable to the industry. In practice, however, New Zealand tourism is part of a global industry, and any national standard must inevitably align with global standards. Global standards are, in fact, emerging for the tourism industry, through agencies such as the Open Travel Alliance (OTA).

The inter-operability problem affecting the tourism industry is one which global e-commerce faces, and pressure for solutions by other industries has forced rapid development in standards. For example, there is now a technology standard for business and service 'discovery' (**UDDI**[1]) which enables businesses to automate the process of working with other companies without needing to know the details of each other's information systems, and enables the development of 'web services', where companies work together in real-time via the internet to provide collaborative services to common customers.

UDDI, together with related standards, now enables businesses to interoperate seamlessly, and dramatically reduces the cost and time involved in collaboration.

UDDI is supported by a 'who's who' of the software industry (including Microsoft, IBM, Oracle, HP, SAP, etc). The main standards-setting body in global tourism, the OTA, recently declared its intention to adopt the standard. Given the weight behind UDDI and related standards, it seems clear that they will define a new collaborative environment for business. New Zealand industry as a whole will inevitably adopt these standards over time.

---

[1] UDDI - Universal Description, Discovery and Integration

These standards are ideally suited for the travel industry, which already faces consumer demand for dynamic packaging and flexible service supply, is global by definition, and relies heavily on the use of information. Adoption of these standards by the industry will enable it to provide the fulfilment functionality needed for the dynamic packaging services already demanded by travellers.

There are two principal alternatives:

- Do nothing, and wait for all players to build interfaces with every other. This would be very high cost option for the industry, and would delay realisation of the benefits available for several more years. Standards are developed precisely to avoid this scenario.
- Develop local standards. Since tourism is a global industry, local players must inevitably interface with offshore players. Using local standards would only postpone the problem – eventually local industry would have to comply with global standards in order to continue participating competitively in the global market.

Governance and Delivery of the Register (UDDI)

UDDI is very similar to the function described earlier as a 'Register'. This Register would, like UDDI (and using the same standards and structure), be the single source of basic business data (tourism operators), with synchronised mirrors and local copies to ensure adequate performance. It would not contain descriptive information ('content') or inventory, but would provide 'pointers' to tell searchers where those services are to be found.

There are several aspects of the Register that should be considered further:

- **The Registry Operator**

  In practice the Register concept and this solution are likely to be adopted eventually by other industries, for the same reasons that tourism should adopt it. The Register would then become a national asset, a logical development of current business directory services, and would be operated by organisations specialising in those functions.

  The Register could be developed and operated by an existing business directory operator (such as Telecom Directories). The industry should prepare a business case to persuade these operators that this would be a viable strategy for them.

  An alternative would be to contract a suitable software house to provide the Register. This follows the approach used successfully by the New Zealand electricity industry in the establishment of the MARIA service to manage meter data (MARIA was developed and is operated by Jade Software Corporation under contract to a MARIA Governance Board, itself elected annually by the industry).

- **A Registry Authority**

  There are considerable vested interests at stake, and gaining acceptance of this concept is likely to be complex. This strategy would enable the development of a new, flexible, real-time environment for the industry, but one that is not suited to traditional single point top-down command and control.

  To implement either option, the tourism industry should create a new body (that nominally called TIRA, the Tourism Industry Register Authority), to be governed through elected representation of the entire industry.

- **Funding**

  Ongoing funding should come via revenues earned from real-time booking.

  Since the current, fledgling service providers do not have the resources at the disposal of Microsoft or IBM, we suggest that any establishment funding required should be sought from the Ministry of Tourism, Industry NZ or other sources.

- **Obtaining the Support of the Industry**

  Obtaining the support of the industry is a challenge, because there is no single body that adequately represents the entire industry. The organisation closest to this role is probably the Tourism Industry Association (TIANZ).

  Any leadership role in this area taken by TIANZ would need to be endorsed and supported by other groups such as the Regional Tourism Organisations, the Visitor Information Network and Tourism NZ

The Business Case

Real-time inventory management has not yet been around long enough to support a formal business case. However, our initial analysis suggests that, considering quantifiable benefits only:

- If only 30% of tourism operators moved to real-time inventory management, the annual benefit to them has been estimated to be about $27 million (using a variety of assumptions)
- The use of this technology would benefit *domestic* travellers by an estimated $13 million annually (using a nominal value for time saved). A larger benefit would be provided to visitors, but this would not benefit the local economy directly
- Agents (including the VIN) would benefit by productivity improvements estimated to be at least $4 million annually.

These benefits would be offset by annual costs from:

- Running the Register, estimated to be less than $0.5 million
- The cost to each SME operator and agent of the inventory management service itself. Since there are a variety of business models being used and the service is very recent, it has not been possible to provide a reliable estimate of this cost.

  Anecdotal evidence, however, indicates that this cost is considered to be insignificant by operators and agents already using *Ibis* or *Bookrite* services (several operators are actively purchasing software and installing it for selected agents in order to increase the proportion of their bookings made in real time).

Distributors and other intermediaries should take advantage of the new business opportunities available to them by developing innovative customer-focused services and technology to make best use of the availability of inventory in real-time (providing itinerary planners or 'dynamic packaging' functionality, for example). If they do not, they may find their current business at risk.

Larger operators with existing systems will have to incur a once-off charge to either replace their systems or modify them to gain inter-operability. This could be a substantial cost – but adoption of this strategy is a way to future-proof new systems and avoid their problem in the first place. These operators can offset these costs with increased commissions from on-selling other tourism product, and increased utilisation from sales via external agents.

Recommendations

In order to move the industry forward following this strategy, we recommend that:

- The Ministry of Tourism accepts the role of 'owner' of this strategy, and oversees implementation on behalf of the entire industry
- TIANZ, as the body closest to representing the entire industry, sponsor and support the establishment of TIRA, and also accept the liaison role required with the global standards development bodies
- The RTOs accept the task of maintaining operator data in the Register, and take the opportunity to provide related services to operators
- Tourism NZ, all aggregators, distributors and agents adopt the principles of this strategy and develop the tools needed to enable consumers to do 'dynamic packaging'
- A coordinated communication programme be developed and rolled out to the industry to promote the benefits of this strategy.

In order to move the industry into this new world, readers should do the following:

If you are:	Then do this:
SME operator: Agent:	• If you have both a PC and a permanent connection to the internet, consider running suitable inventory management software in-house. If not, consider using a 'bureau' service • Contact the providers of suitable real-time inventory management services for information – their services should be standards-based • Check a reference site, find other operators/agents who have made the change and talk to them, and prepare your own business case • If the case is viable for your circumstances, contract a suitable service provider and modify your own processes to suit.
Large operator:	• Have your business analysts investigate the case for adopting global standards to achieve the benefits noted in this document • Make a decision accordingly.
Intermediary: (aggregators, distributors)	• Review your business strategy in light of the issues and conclusions reached in this document • Make a decision accordingly.
RTO:	• Modify your own systems to utilise the new environment • Modify the services you offer to operators to make use of the new opportunities available • Promote this strategy to your operators.
Industry representative:	• Promote the strategy and its benefits as much as possible • Co-ordinate with other national industry bodies to determine processes for New Zealand's involvement in the global standards-setting process • Participate in the establishment of TIRA and the Register.
Technology provider:	• Ensure that your systems conform to global standards and support inter-operability • Extend distribution for your client base by linking to the main global distribution systems.