



Technological University Dublin  
**ARROW@TU Dublin**

---

Conference papers

School of Hospitality Management and Tourism

---

2004-06-01

## WTO/IFITT Research Paper – E-Metric Evaluation

Patrick Horan

*Technological University Dublin, [patrick.horan@tudublin.ie](mailto:patrick.horan@tudublin.ie)*

Follow this and additional works at: <https://arrow.tudublin.ie/tfschmtcon>



Part of the [Technology and Innovation Commons](#)

---

### Recommended Citation

1Horan, P., "WTO/IFITT Research Paper – E-Metric Evaluation."Submitted to the World Tourism Organisation, June, 2004.

This Conference Paper is brought to you for free and open access by the School of Hospitality Management and Tourism at ARROW@TU Dublin. It has been accepted for inclusion in Conference papers by an authorized administrator of ARROW@TU Dublin. For more information, please contact [yvonne.desmond@tudublin.ie](mailto:yvonne.desmond@tudublin.ie), [arrow.admin@tudublin.ie](mailto:arrow.admin@tudublin.ie), [brian.widdis@tudublin.ie](mailto:brian.widdis@tudublin.ie).



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 3.0 License](#)



## **WTO/IFITT Evaluation & Benchmarking Scheme.**

### **E-Metric Discussion Paper.**

**Patrick Horan**  
**Dublin Institute of Technology**  
**patrick.horan@dit.ie**

**June 2004.**

## Table of Contents

---

1.1. Problem Definition.....	3
1.2. Research Questions. ....	6
1.3. WTO/IFITT Web Analytics Process.....	6
1.3.1. Define Project Parameters - WTO/IFITT Online E-Metric Discussion Forum. ....	6
1.3.2. Identify Business Goals and Measurement Criteria. ....	7
1.3.2.1. Identify Business Goals.....	7
1.3.2.2. Identify Measurement Criteria. ....	7
1.3.2.3. Weight Measurement Criteria. ....	8
1.3.2.4. Identify Metrics.....	8
1.3.3. Measure Website Effectiveness. ....	8
1.3.3.1. Capture Data. ....	9
1.3.3.2. Cleanse Data. ....	9
1.3.3.3. Analyse Data. ....	9
1.3.3.4. Incorporate Data into Expert System. ....	10
1.3.4. Management of Information ....	11
1.3.4.1. Interpret Results. ....	11
1.3.4.2. Action Plan.....	11
1.3.4.3. Execute Action Plan.....	11
1.3.5. Proposed Product Roll Out ....	11
1.4. Completion Stages of Research. ....	11
1.5. Expected Results. ....	12
1.6. References.....	12

### 1.1. Problem Definition

---

Tourism is a very information intensive activity. In few other areas of activity are the generation, gathering, processing, application and communication of information as important for day-to-day operations as they are for the tourism industry (Buhalis 1994). This information must be timely, accurate and relevant to the customer's needs. In tourism, the product is largely intangible, perishable, heterogeneous and volatile, and as such, it is the information provided to the potential tourist which is recognised as being the product (Bennett and Radburn 1991). The better the quality of this information the more likely the potential tourist will formulate a more realistic impression of the tourism product that will help to close the gap between the actual visit and the perceived visit (Horan and MacDonaill 1996). Consequently, potential tourists rely on a wealth of information before making a decision (Horan and MacDonaill 1996). Therefore, the effective marketing of tourism is becoming increasingly dependent on IT (Horan and MacDonaill 1996).

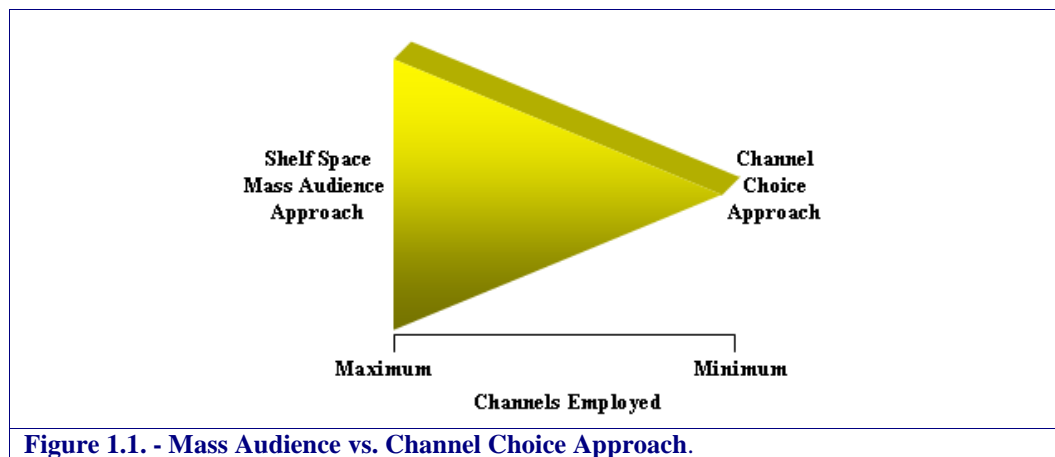
Despite the importance of the tourism industry to the global economy it is still very dispersed in its structure, comprising of many isolated groups and services. In fact, tourism is probably the ultimate dispersed industry (Archdale 1993), Tourism's relatively low degree of integration, further reinforces the fragmented nature of the tourism industry (Go 1992). The vast majority of accommodation providers worldwide are small or medium sized enterprises (SMEs). SMEs in the hospitality industry offer by definition less than 50 rooms, employ fewer than 10 people, operate in lower reaches of the market and are often situated in tertiary locations (Buhalis and Main 1998). The European hotel sector is dominated by small, family type, operations, with nearly 95% being classified as SMEs (WTO 1997). Only 30% of European hotels are affiliated to a chain, as against approximately 70% in the United States (Muqbil 1998). The importance of SMEs to the European economy can not be over emphasised.

The manner in which hospitality companies bring their product to market remains a cornerstone of any competitive strategy (Castleberry, Hempell et al. 1998). Effective distribution is especially important in the hotel sector, as accommodation is a perishable product (O'Connor 2001). A distribution channel is defined as a mechanism that provides sufficient information to the right people at the right time and in the right place to allow a purchase decision to be made and to provide a mechanism where the consumer can make a reservation and pay for the required product (Go and Pine 1995). A distribution channel facilitates the sales of a good or service by connecting the provider to a consumer. Intermediaries may be used to facilitate this process. Simply making information available about the product is no longer enough – customers increasingly want to be able to complete the booking in a single seamless process (O'Connor and Horan 1999). In the case of the hotel product, this means finding an appropriate property, checking availability, reviewing the rates offered, completing the booking and receiving a confirmation number, all in a single session (Pusateri 1997). To achieve this, hotels use a variety of different distribution channels to sell their product, and also manipulate price in response to demand using sophisticated yield management systems in an attempt to maximise revenues.

The importance of electronic distribution routes has grown significantly in recent years (O'Connor 2002). Used properly it increases occupancy rates, improves the bottom line, opens new markets, attracts more affluent customers and lessens the dependency on more traditional and expensive channels (Starkov 2002b). Electronic distribution does not change what happens it merely changes the way in which it happens (Horan 2001). Traditional distribution channels only provide potential tourists with short and often rather limited glimpses of tourism destinations which may be inadequate to enable them to make informed decisions (Horan and MacDonaill 1996). The information-based nature of this product means that the Internet, which offers global reach and multimedia capability, is an increasingly important means of promoting and distributing tourism services (Walle 1996).

The advent and development of the Internet as a universal and interactive means of communication have shifted the traditional way tourism and travel products are distributed (Werthner and Klein 1999). The number, variety and complexity of Web distribution channels are continuing to evolve, with most companies using multiple routes to get their product to the consumer (Castleberry, Hempell et al. 1998). Many hotel chains opt for as many routes as is feasible to try to reach as big an audience as possible. This approach is referred to as the "shelf-space" approach (Figure 1.1.). As companies expand the number of distribution channels used, they add to the complexity of their system, raising the cost of

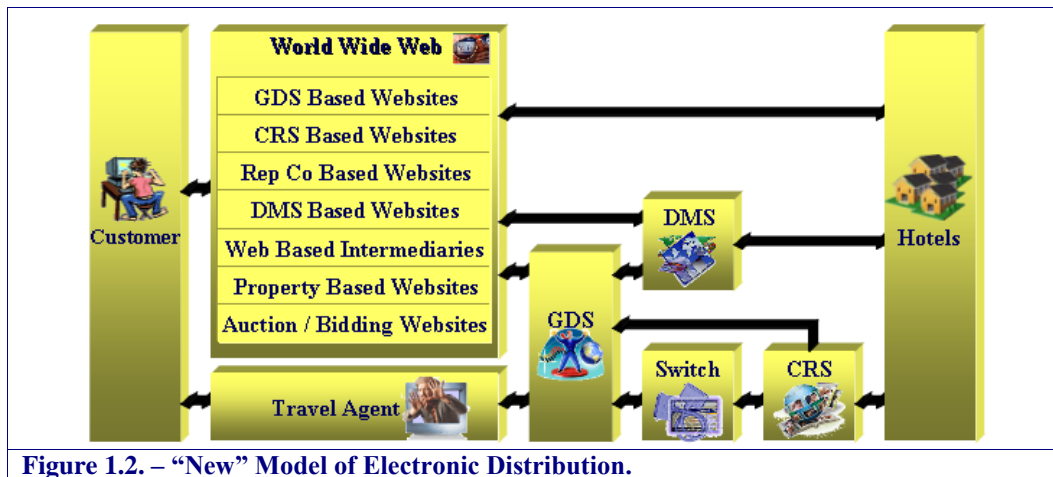
overheads and the management and technological infrastructure required (Connolly, Olsen et al. 1998). However such an approach is unlikely to be successful in the long run due both to the recent exponential growth in the number of channels available and to the fact that the use of each channel has costs associated with its adoption, management and use (O'Connor 2001). This approach is impossible from an SME's perspective as many of distribution channels are unavailable to SMEs purely because of the affiliation costs or group costs or the nature of an SME (independent) (Starkov 2002a). Furthermore, it is far more important for SME to choose the right distribution channel as they do not have the resources to choose many distribution channels. Therefore, SMEs must take a more discriminating approach and understand the merits, booking potential, opportunities and costs associated with participation in each channel both from a supply and a demand perspective.



**Figure 1.1. - Mass Audience vs. Channel Choice Approach.**

Feasibility, higher flexibility, the fast diffusion of the internet as de facto standard, high acceptance and low entry costs are among the most pivotal incentives for destination agents to use the internet (Tschanz and Klein 1997). Research has shown that travel is already one of the most popular products sold over the Internet (O'Connor and Horan 1999). This year 8%-10% of all revenues in hospitality will be generated from the Internet. Four years from now the Internet will contribute 16%-18% of all hotel bookings. (Starkov 2002c). Yet, the prolific use of the Internet for tourism marketing is giving rise to many questions about its effectiveness (Sheldon 2000).

More than any other aspect of business, the Internet revolution is reshaping the concept of the value chain, and how goods and services are distributed to consumers. To grow and succeed, management at hospitality companies of any size must juggle multiple distribution channels, be they electronic or traditional, customer segments and intermediaries in their distribution of goods and services (Tschanz and Klein 1997). In addition, the high cost of distribution is now causing suppliers to reevaluate current distribution strategies (Castleberry, Hempell et al. 1998). The traditional value chain places the producer of goods at one end of the chain and the consumer on the other end, with packaging, shipping, storing and retail middlemen often connecting the two. The Internet, however, has redefined the traditional model and all of the relationships within this value chain (Figure 1.2.). Regardless of whether the good is a product, a service or a combination of the two, the entire consumer purchasing process is undergoing re-evaluation with new business models poised to change or destroy the traditional methods of distribution (Moon and Hempell 2002). The decision as to which channel(s) to use has become increasingly complex, and hotel managers currently have few tools and little guidance to help them to determine which best match their needs (Weill 1991). This in itself is an important reason to evaluate the effectiveness of distribution channels for SMEs.



Tourism suppliers, particularly SMEs, have taken advantage of the new opportunities that the web has to offer and developed Destination Management Systems (DMSs) to distribute their properties and to present the destination as a holistic entity (e.g. TISCover, VisitScotland, and Gulliver) (Buhalis and Licata 2002). These systems concentrate on the communication between local, regional and national tourist boards, exchanging product description, and marketing and statistical data (Werthner and Klein 1999). DMSs distribute a wide variety of tourism products, are generally government sponsored, and pay particular attention to representing small and independent tourism suppliers. However, with the exception of a small number of European countries the effect of DMSs has so far been minimal, as they have in general failed to evolve from their initial conception into profitable, self-sustaining commercial systems (O'Connor and Frew 2002).

However, DMS based channels are forecast to grow in importance (O'Connor 2001). The market is realising that, just as in the physical world, consumers do not want to deal with the problems of contacting multiple suppliers to compare and shop. Some, if not most, will want and will be prepared to pay for the level of service that comes from dealing with an intermediary, who will offer them advice and save them time and money (Bloch and Segev 1996).

Although there exists a common understanding about the importance of these new electronic distribution opportunities, shown by the fact that many destinations have placed their product catalogs on the internet, they still have major problems in closing the loop, beginning with the planning process and ending with the booking for private consumers (Werthner and Klein 1999). Conversion rates, or looker-to-booker ratios, in the tourism industry are generally low (O'Leary 2002). The average for the industry is about 2.7% (Graney 1999) compared to 8.4% for the whole Internet (O'Leary 2002). The online travel industry needs to grow and mature in order to make inroads into the 97% of travel spending that is still spent in traditional channels (Levin 2002).

It is acknowledged that conversion rates serve as an important indicator of the travel website functionality and effectiveness (Starkov 2001). However, the importance of online travel distribution should not be evaluated based on monetary sales figures alone. The number of reservations actually originating on the Web may understate the importance of this channel. Connolly et al (1998) report on a Nielsen study that found that while 53% of those surveyed used the Web to reach a purchase decision, only 15% of these completed the transaction online. Customers often use the web to research travel purchases, and then complete the purchase off-line (Levin, 2000). The reasons why consumers fail to complete the purchase online are complex – the complicated nature of many trips, worries about payment and security, and even the availability of appropriate facilities on travel sites to allow the customer to complete the transaction online all contribute to the attrition rate. However the power of Web distribution to influence the consumer must be considered in any assessment of its potential. For this reason, this research must evaluate the effectiveness of the DMS on SMEs both directly and indirectly from a marketing, financial, managerial, operational and technical perspective. This topic has not been researched from the perspective of the SME.

Attempting to evaluate hotel electronic channels of distribution is both complex and multifaceted. Channel management for hospitality managers requires more than simply understanding the value chain and managing the players (Castleberry, Hempell et al. 1998). Different types of hotels benefit in

different ways from various distribution channels and not all systems work as effectively for all types of properties (Bush 2000). Hospitality managers, therefore, need to develop business measurements that effectively represent electronic distribution, determining the health and profitability of each available channel. With billions of euros being poured into Internet distribution each year, determining the effectiveness of a distribution channel makes clear business sense. Therefore, as with any other asset, investment in the use of a distribution channel must be justified (Griffin 1997). Each route to the customer must be assessed and evaluated as to its value to the company (Olsen and Zhao 1997). In fact, such channel management is the backbone of distribution and that every organisation must take the time to evaluate their current systems and organise a cohesive plan for improvements (Lewis, Chambers et al. 1995). However, at present there is little agreement as to how such evaluations should be conducted and no commonly accepted range of techniques available to help SMEs with their channel evaluation and assessment decisions (O'Connor 2001). Evaluating a distribution channel can make the difference between the company being effective, in existence or extinct. Therefore, this research aims to deal with constructing a comprehensive set of criteria to evaluate the effectiveness of DMSs to SMEs in the hospitality industry.

## 1.2. Research Questions.

The **aims** of this research are:

- ② To evaluate electronic channel-choice strategies and outcomes amongst hotel SMEs,
- ② To construct a methodology and generate a set of metrics for evaluating the DMS electronic channel,
- ② To model and validate DMS metrics against peer systems and client assessment.

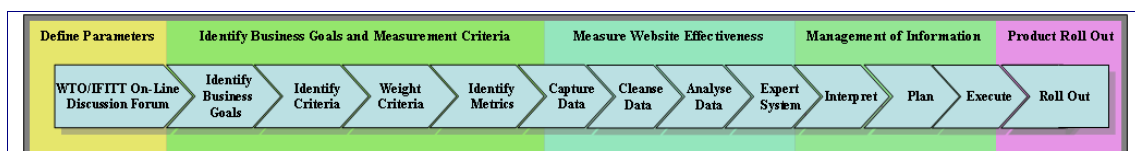
The **objectives** of this research are:

- ② Identify both expert and (SME) client views on channel effectiveness criteria,
- ② Assess the DMS against these weighted criteria,
- ② Generate guest volume, value and transactional metrics through log file analysis of the DMS,
- ② Elicit SME data on guest volumes, values and sources,
- ② Derive a channel-assessment model relating server and client data,
- ② Validate this model through server and client iteration and through a parallel study in another destination.

## 1.3. WTO/IFITT Web Analytics Process.

The WTO/IFITT e-metric evaluation will deliver a multidimensional view of the key factors that shape destination website effectiveness. By using this unique benchmark, business and stakeholders can utilise a common set of quantifiable metrics to understand how these dimensions contribute to the overall effectiveness of the website, ensure proper alignment with business objectives and continuously improve the effectiveness of the Internet channel.

The process is essentially a multi-method approach comprising five inter-connected stages (Figure 1.3.). Each of these phases will be dealt with in more detail throughout this paper. The difference between the qualitative and quantitative approaches lies in the nature of data collected and the way in which this data is analysis. It is now widely accepted that the two approaches compliment one another (Veal 1997). Furthermore, it is quite common for large scale quantitative research to be planned on the basis of prior, exploratory, qualitative studies (Peterson 1994).



**Figure 1.3. The WTO/IFITT Web Analytics Process.**

### 1.3.1. Define Project Parameters - WTO/IFITT Online E-Metric Discussion Forum.

Many of the problems that transpire when dealing with measurement systems and technologies are due to the lack of transparency in the measurement system used and the inconsistencies in the use of terminology employed (IIA 2002). Therefore, in an attempt to combat these problems an online e-metric discussion forum was set up using WebCT and hosted by the Dublin Institute of Technology. The aims of this discussion forum are twofold, firstly to set the parameters of the e-metric evaluation of



destination websites and secondly, to come to a consensus with regards to appropriate definitions for the terms within this environment.

The forum was launched on Wednesday the 16<sup>th</sup> of June at <http://webcourses.dit.ie> and the participant were provided with their usernames and passwords and asked to test the website for access. An initial message was posted on Wednesday the 16<sup>th</sup> of June as a way of introduction and as a means of getting the ball rolling with regards to the discussions. It was agreed that 5 days be allowed for everyone to acquaint themselves with the process and that the forum itself would begin in earnest on Monday the 21<sup>st</sup> of June. The initial discussions concerned themselves with setting the parameters of the e-metric study and the definitions involved.

The members of the WTO/IFITT Destination Website Benchmarking Committee that expressed an interest in being part of the forum were:

Name	Organisation	Country
Andy Frew	QMUC	Scotland
Jamie Murphy	UWA	Australia
Karin Nijhuis	Interimair	Netherlands
Patrick Horan	DIT	Ireland
Rodolfo Baggio	Bocconi University, Milan	Italy
If anyone else would like to participate in the discussions please email me at <a href="mailto:patrick.horan@dit.ie">patrick.horan@dit.ie</a>		

### **1.3.2. Identify Business Goals and Measurement Criteria.**

This stage of the process is concerned with qualitative research conducted using a Delphi study to generate, validate and prioritise a portfolio of weighted criteria that could be used to evaluate the general effectiveness of a DMS as a channel of distribution for hotel SMEs. This assessment looks at client and server perspectives but not consumer perspective on effectiveness – this is being studied elsewhere by the International Federation of IT in Travel and Tourism (IFITT) in association with the World Tourism Organisation (WTO). The data generated from the Delphi study will be analysed with the use of qualitative data analysis software tools. The results obtained from this stage will be used in order to help in designing the questionnaire for the accommodation provider survey and the demand side survey in subsequent stages.

#### **1.3.2.1. Identify Business Goals.**

Ultimately, website effectiveness depends on how well your site performs with respect to your business goals. Measuring actual results against those goals tells you how well your site is succeeding (Kyle 2003). It is that simple. For this reason we are employing the Delphi study to attempt to identify the business goals of a DMS. With raw click stream data (page hits, number of site visitors, or even numbers of page views), analytic efforts are directed at finding meaning in a wealth of pre-existing data. A business e-metrics approach turns this process on its head and instead requires efforts to be focused upfront, beginning with explicitly defining the business' key events and processes on the Web. Once these events and processes have been identified, appropriate measures are decided upon. These measures are then fed back to specifically address the original goals of the business. Thus, the focus of business e-metrics is on measuring the key events that define business goals. Therefore, defining the goals of the business is not only important it are imperative to the entire process.

#### **1.3.2.2. Identify Measurement Criteria.**

Measurement and analysis of on-line events and processes are critical to a business' success. You can not manage what you do not measure. The corollary to this is: Don't blindly measure everything possible in hopes that you will find something in the mass of data that will prove to be valuable. Focusing on measuring what matters to your business is smart business and is cost effective.

Improving the effectiveness of a website not only lies with measuring the results themselves but in also measuring, understanding, and adjusting the events that lead to those results (Kyle 2003). For this reason it is vital to not only measure the macro events but also measure the micro events that come together to form those Macro events. Furthermore, improving effectiveness is not only about conversion or sales or return on investment, there are other factors to consider such as improving customer relationships, influencing off-line sales, brand building or company growth potential.



#### 1.3.2.3. Weight Measurement Criteria.

---

Once the measurement criteria are identified through during round two of the Delphi study the next logical stage is to weight these criteria. This will be attempted during the third round of the Delphi study.

#### 1.3.2.4. Identify Metrics.

---

After spending a healthy amount of time identifying goals, the next logical stage is to spend a healthier amount of time determining which metrics will reveal how well they are attaining those goals (Sterne 2003b). Which metrics signal whether you are moving closer to your goals or further away? If the main goal is More Visitors, then a clear definition of how visitors are counted is necessary (cookies? logins? javascript?). If the main goal is revenue, then you'll need to identify the factors that make up the process of getting from awareness to interest to sale. If customer satisfaction is in the mix, then one and all must agree on the methods used to gather satisfaction data and how to weight it. These metrics can only be decided upon once the Delphi study has identified the measurement criteria and weighted them. What is important at this stage is to remember that Web analytics has the potential to play a key role in improving the online customer experience - but only when the vast amounts of data they provide can be made truly actionable.

#### 1.3.3. Measure Website Effectiveness.

---

The third stage of the process deals with measuring the effectiveness of DMS websites with the criteria and metrics identified in stage two. This stage consists of two, mainly quantitative, surveys and the inclusion of the results from these surveys together with the metrics identified in stage two into an expert system. The first survey will be conducted amongst SMEs to assess agreement with the range of evaluation criteria generated from the initial qualitative work and to evaluate the effectiveness of a specific DMS from an accommodation provider's perspective. This second survey examines the effectiveness of the DMS from the customer's perspective. The results obtained from this survey must be extremely specific in nature in order to facilitate triangulation with the data elicited from the other stages. The data capture during these two surveys will be analysed with the use of SPSS, a quantitative analysis package. Taken together these surveys offer a means of assessing both the perceived effectiveness from both client and server sides and thus provides the foundation for relating this to the quantitative data generated through the e-metric evaluation.

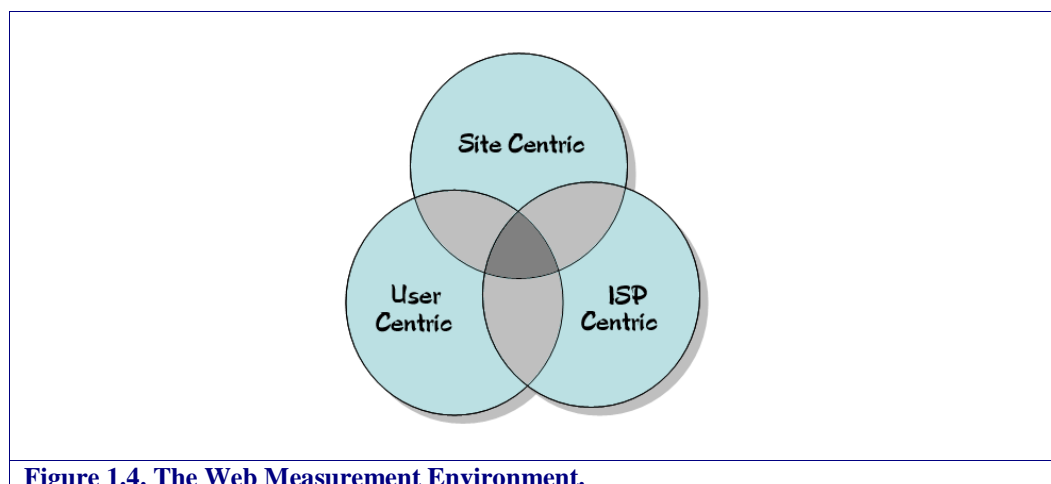
Stage three also includes an in-depth examination of the DMS based website activity through consolidation and re-treatment of their server log files. A detailed analysis of the log files can then be undertaken in an attempt to assess the effectiveness of the DMS based website for each of the SMEs. This will be achieved by identifying the respondents to the accommodation provider survey and by analysing the activity to their part of the DMS through the log files to establish how effectively the DMS is working for them. This analysis will be conducted using commercial tools, such as Webtrends – a log analysis package, and additional tools that will have to be developed to allow direct comparison of this log analysis data for each SME with the data extracted from the accommodation provider survey for that particular SME. The derived methodology and proposed metrics will be validated through the triangulation of the results from each of the first three stages of the process.

Before we [examine](#) the specifics of measuring website effectiveness it is important to look at some of the measurement techniques used at present on the World Wide Web (Figure 1.4). There are three main approaches to measuring website traffic site-centric, user-centric and ISP-centric measurement (IIA, 2002).

**Site-Centric Measurement** – There are two main site-centric methodologies, log based measurement and browser-based measurement. Log based measurement is derived from the activity captured by the log file records of the website's host server(s). Browser based measurement, on the other hand, involves tagging web pages for the purposes of capturing website traffic once the web page begins to download. Site-centric methodologies attempt to measure all activity on a given website over a period.

**User-Centric Measurement** – User-centric measurements are derived by recording the activity of a panel a sample of Internet users. The panel's online behaviour is then projected to approximate the behaviour of the entire population.

**ISP-Centric Measurement** – This approach measures the flow of traffic at various points on the Internet and extrapolates the findings across a defined activity.



**Figure 1.4. The Web Measurement Environment.**

The site-centric measurement approach is the only approach appropriate for analysing destination website effectiveness.

#### **1.3.3.1. Capture Data.**

This section deals with attempts to gain commitment from DMSs to access to their server log files and associated databases. Many DMSs are unwilling to allow researchers access to such sensitive data but as a consequence of some prior research conducted with VisitScotland, and using the contacts made during this research phase, attempts are being made to gain commitment from the Scottish Tourism Board (STB) and VisitScotland.com to have access to the required resources to conduct a high level e-metric evaluation of their DMS, VisitScotland.com. Attempts are also in being made to gain commitment from Gulliver to have access to their DMS. Commitment has been secured to obtain access to the log file and associated data from the Rimini DMS.

#### **1.3.3.2. Cleanse Data.**

While off-line businesses have traditionally had to struggle to obtain quality data, on-line businesses have had to struggle to sift through the voluminous amounts of available data to extract meaningful information. Log file analysis is the result of Web servers doing their jobs, and not a formal effort to capture valuable business intelligence (Sterne 2003a). Server logs were never invented to play this role. Server logs were originally intended to inform website managers of the volume and type of requests made to the site and the success and failure of the server in fulfilling these requests. Server logs, admittedly, contain a wealth of data, but these data are not collected or stored in a format that can answer most business questions easily. For this reason it is extremely important to cleanse the data of streams that are not considered useful to the business.

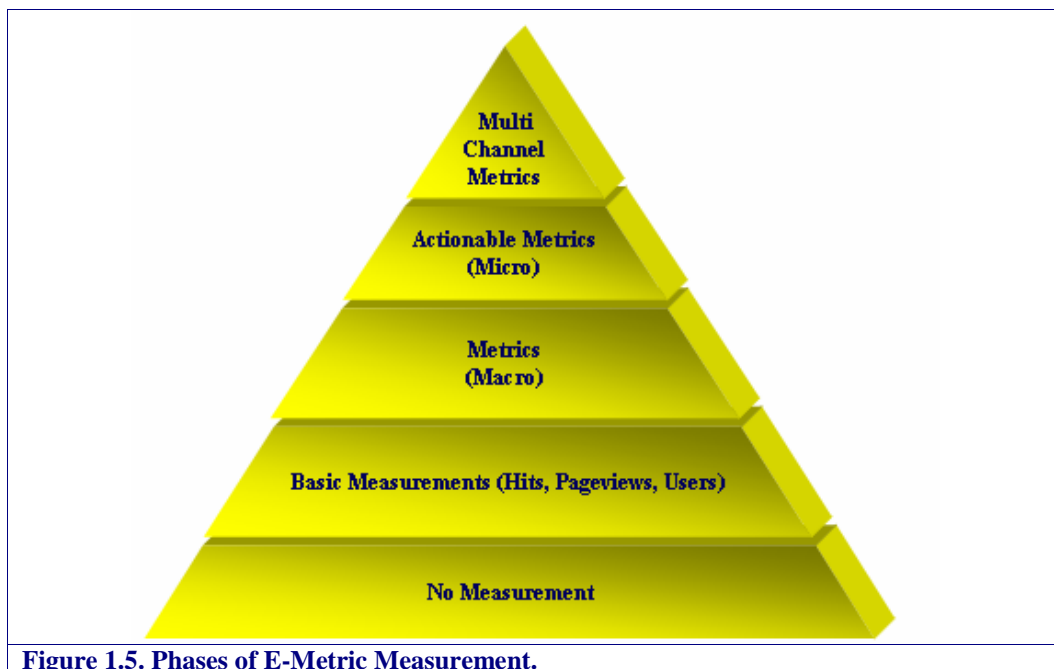
#### **1.3.3.3. Analyse Data.**

Web analytics investigates the entire population of a website (the total number of visitors) and their behaviour on that website and not just a limited sample of visitors. It's an unvarnished, unedited view of site traffic patterns. The web analytics involved in this stage of the process include an in-depth analysis of the website at both a macro and micro level. Macro level metrics provide us with information about what is happening on a website generally but micro levels metrics go far deeper and provide us with information that is more useful and actionable from a business' perspective. Web analytics tell us what is happening on a website. Unfortunately, it does not always tell us why it is happening. Executives need this information to help them make better business decisions regarding the online channel. Therefore, other techniques must be employed to supply us with the "whys". In this section these techniques include conducting both an accommodation provider survey and the demand side survey. The results of all three techniques will be incorporated into the expert system in the next stage for further more in-depth analysis.

#### **Example.**

A simple macro metric would be your on-line sales conversion rate is 3.4%. In comparison to the average for the tourism industry, at about 2.7%, your business is doing well but realistically what this means is that 96.6% of your visitors are not purchasing directly from your website. This is where micro metrics will help. They will provide us with information about what stages you are losing your potential customers and the triangulated information from the other techniques will tell you why this is happening. Therefore, your business has all the information necessary to make an informed decision on how to improve your conversion rate. Furthermore, your business has the metrics in place to measure the influence your decision has had on your website's overall effectiveness.

Only 15% of the respondents to the DMO survey used any other approach to measuring website traffic other than log based measurement. Of those that used log based measurement 33% of the respondents focused their attention on basic website analysis (visits, time per visit, page views, the most popular pages, hits) much of which is next to useless when trying to gauge a website's effectiveness. While more than half of the respondents to the DMO survey said that they conducted a comprehensive log file analysis (real-time data, referrals, opt-in and opt-out pages) much of these techniques only fall into the third phase of the e-metric measurement (Figure 1.5) which almost entirely neglects to utilise the top two phases of the pyramid which are the most useful sectors for measuring website effectiveness.



**Figure 1.5. Phases of E-Metric Measurement.**

#### **1.3.3.4. Incorporate Data into Expert System.**

The expert system stage will consist of taking the results from the data analysis stage and aligning them with the business goals of the company. This information will be segmented and cross-tabulated with information from other sources of business data in order to enhance the web customer information. These sources may include:

- Ⓔ customer demographic profiles
- Ⓔ prior on-line purchase history
- Ⓔ prior purchase history in off-line stores (if applicable)
- Ⓔ transaction server data
- Ⓔ marketing information
- Ⓔ contact databases
- Ⓔ marketing research
- Ⓔ customer satisfaction surveys
- Ⓔ 3rd party databases

#### **1.3.4. Management of Information**

---

The use of the information once it has been gathered is arguably as important, if not more so, than the gathering of the information in the first place. From the DMO survey it is obvious that conducting log file analysis does not seem to be a major problem to DMOs with 85% of respondents conducting log file analysis. Yet only around 20% of the respondents to the DMO survey use the information gathered from log analysis in a meaningful way and none of these mentioned the effect that the website has on the goals of their business. Considering that website effectiveness depends on how well your site performs with respect to your business goals this is a frightening statistic. Another finding from the DMO survey which is enlightening is that “the majority (of respondents) are monitoring results regularly but superficially and without taking appropriate action.” This statement means that the majority of DMOs are conducting analysis on their website(s) for analysis sake and that often the reports generated are used in order to justify divisional budget allocations and marketing expenses by partners or members. In other words, they are not using this type of analysis to investigate the effectiveness of their DMS. The interesting part of the process only comes when an organisation realises that web analytics can actually drive website effectiveness and not just monitor it.

There are three sub-sections to this phase of the process that includes interpreting the results, developing an action plan and executing the action plan. While all three of these subsections are extremely important and an integral part of the process of constant improvement within the website it is very difficult to elaborate on any of the sections as what appears within them will be very different depending on the DMO involved. For this reason, only a very brief description of each section will be included. (Jamie has expressed an interest in being involved, and maybe driving, *(my words not his)* this area of the research (Sorry Jamie☺)

##### **1.3.4.1. Interpret Results.**

---

It is important not to fall back into the briar patch of circulating reports for the sake of spreading the data around. Provide reports only to those who require them in order to make business decisions. Too much data becomes overwhelming and, therefore, useless. Furthermore, those controlling the decision-making need to be sufficiently educated so that they can interpret the data they receive correctly.

##### **1.3.4.2. Action Plan.**

---

Based upon a thorough understanding of the reported results, the next stage is to map out the changes necessary to improve the effectiveness of the website. The real question should not be “how did we do?” but instead “what does that mean to our business?” and “what do we do next?” (Burby 2004).

##### **1.3.4.3. Execute Action Plan.**

---

As the title to this section suggests this is “simply” about executing the action plan. Select the best options which will result in the greatest impact with the lowest investment in time or money. Secure upper management support. Create a timeline. Instill ownership and implement. Once the action plan has been implemented the next stage is to return to the beginning of the Measure Website Effectiveness stage and the process starts all over again.

#### **1.3.5. Proposed Product Roll Out**

---

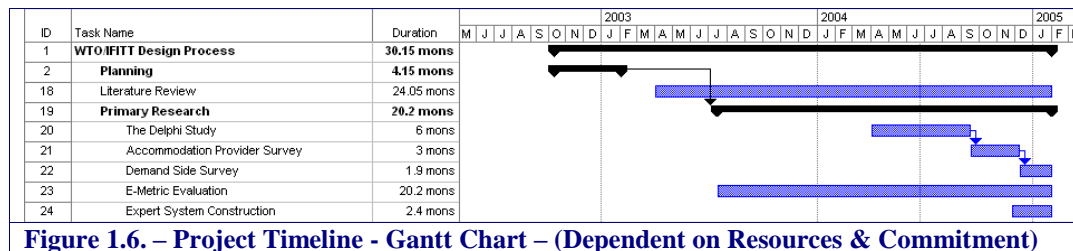
The primary research, the model construction and the pilot testing shall be conducted by Patrick Horan and Andy Frew. Once the expert system has been created and the methodology has been tried, tested and retested it is envisaged that it will be replicable provided that there are experts trained in how to deliver the application and interpret the results (This is another area that Jamie expressed an interest). This will allow the methodology to be rolled out and expanded quickly to several geographic regions. Once this is achieved it is only a case of the correct information being plug into the correct sections of the expert system. This will happen on both a manual and automated basis. The complete process will not have to be repeated every time as both the first two phases, Define Project Parameters and Define Business Goals and Measurement Criteria, are once-off stages.

#### **1.4. Completion Stages of Research.**

---

The beginning of April 2004 heralded the commencement of the primary research. Prior to this the work concentrated primarily on secondary research that concerned itself with analysing the criteria involved in the evaluation of distribution channels, in general, and in DMSs, in particular, to try to reach a point from which to embark on the primary research. The project timeline for the research is

illustrated in Figure 1.6. The primary research began by focusing on Project Parameters and the Delphi study stages. The reason for this was simply because the results obtained from these stages will help in designing the questionnaires for the accommodation provider survey and the demand side survey. The results of the Delphi study will also be absolutely imperative for weighting the criteria in the e-metric evaluation of the DMS. The Delphi study has begun by identifying a panel of experts to include in the study. These experts will comprise of people who have delivered three or more presentations at international conferences or written three or more papers in refereed journals (or a combination of both) on topics related to this research over a 39 month period prior to beginning the primary research (1<sup>st</sup> January 2001 – 31<sup>st</sup> March 2004). The researcher at present is concentrating on gathering information on international conferences and refereed journals in the area of Information Technology in Hospitality and Tourism and compiling lists of presenters and authors for possible inclusion in the panel.



In addition, work is being conducted on a continuous basis since September 2003 to construct the expert system that contains the individual e-metrics to measure the effectiveness of the DMS. This work constitutes compiling a comprehensive set of actionable metrics into a framework that can be adapted later depending on the outcomes of the other stages of the primary research.

### 1.5. Expected Results.

The intention of this research is to provide:

- ② An in-depth analysis of the effectiveness of DMS based websites to their perspective regions through consolidation and re-treatment of their server log files.
- ② A comprehensive weighted set of criteria for evaluating the effectiveness of a DMS.
- ② An expert system that will help DMOs in the evaluation and management of their distribution channels and DMS in particular.
- ② Recommendations on how to improve the effectiveness of a DMS.

### 1.6. References.

- Archdale, G. (1993). "Computer Reservation Systems and Public Tourist Offices." *Tourism Management* **14**(1).
- Bennett, M. and M. Radburn (1991). Information Technology in Tourism; The Impact on the Industry and Supply of Holidays. *The Tourism Industry; An International Analysis*. M. T. Sinclair and M. J. Stabler. Oxford, CAB International.
- Bloch, M. and A. Segev (1996). The Impact of Electronic Commerce on the Travel Industry, <http://haas.berkeley.edu/~citm>.
- Buhalis, D. (1994). Information and Telecommunication Technologies as a Strategic Tool for Small and Medium Tourism Enterprises in the Contemporary Business Environment. *Tourism: The State of the Art*. A. V. Seaton. London, Chichester.
- Buhalis, D. and M. C. Licata (2002). "The Future eTourism Intermediaries." *Tourism Management* **23**(3): 207-220.
- Buhalis, D. and H. Main (1998). "Information Technology in peripheral small and medium hospitality enterprises: strategic analysis and critical factors." *International Journal of Contemporary Hospitality Management* **10**(5): 198-202.
- Burby, J. (2004). Three Reasons Analytics Fail Companies, Clickz.com.
- Bush, M. (2000). "Internet Will Not Replace Traditional Reservation Systems." *Hotel and Motel Management* **215**(17): 31.
- Castleberry, J. A., C. Hempell, et al. (1998). "The Battle for Electronic Shelf Space on the Global Distribution Network." *Hospitality and Leisure Executive Report* **5**(Spring): 19-24.
- Connolly, D., M. Olsen, et al. (1998). "The Internet as a Distribution Channel." *Cornell Hotel and Restaurant Administration Quarterly* **August**: 42-54.
- Frew, A.J. and O'Connor, P., (1998) A Comparative Examination of the Implementation of Destination Marketing System Strategies: Scotland and Ireland, in *Information and Communications Technologies in Tourism*, D. Buhalis, A.M. Tjoa, and J. Jafari, Editors. 1998, Springer-Verlag: Vienna, Austria. p. 258-267.
- Go, F. (1992). "The Role of Computerised Reservation Systems in the Hospitality Industry." *Tourism Management* **13**(1).

- Go, F. and R. Pine (1995). Globalization Strategy in the Hotel Industry. New York, Routledge.
- Graney, B. (1999). TMF Interview With Vignette Corp. President and CEO Greg Peters [On-Line] URL:[http://www.fool.com/foolaudio/transcripts/1999/stocktalk990406\\_vignette.htm](http://www.fool.com/foolaudio/transcripts/1999/stocktalk990406_vignette.htm).
- Griffin, R. (1997). "Evaluating the Success of Lodging Yield Management Systems." FIU Hospitality Review Spring: 57-71.
- Horan, P. (2001). Knowing Your Web Customers - Mission Impossible. EuroHotec, Paris, International Hotel & Restaurant Association.
- Horan, P. and C. MacDonaill (1996). The World is What You Make It - An Application of Virtual Reality to the Tourism Industry. Hospitality Information Technology Association Worldwide Conference, Edinburgh, Hospitality Information Technology Association.
- IIA (2002). Web Measurement Standards and Guidelines, <http://www.iaa.net.au/>.
- Kyle, B. (2003) How To Measure and Improve Site Success, Part 1: Plan and Evaluate Marketing Programs, Web Site Marketing Plan.com.
- Levin, A. (2002). Automated Information Exchange in the Online Travel Market [On-Line] URL:<http://www.fastwater.com/Library/General/online-travel/OnlineTravel-fr.php3>.
- Lewis, R., R. Chambers, et al. (1995). Marketing Leadership in Hospitality. New York, Van Nostrand Reinhold.
- Moon, D. and C. E. Hempell (2002). Hospitality eDistribution in the New Economy: Redefining the Value Chain for Consumers [On-Line] URL:[http://hotel-online/Trends/Anderson/2000\\_eDistributionValue.html](http://hotel-online/Trends/Anderson/2000_eDistributionValue.html).
- Muqbil, I. (1998). "Ten Hospitality Trends for the Tourism and Hospitality Industry." Travel Impact Newswire.
- O'Connor, P. (2002). An Analysis of On-Line Pricing Strategies of the International Hotel Chains. Information and Communication Technologies in Tourism: The Proceedings of the International Conference of Enter 2002, Innsbruck, Austria.
- O'Connor, P. and A. Frew (2002). "The future of hotel electronic distribution: Expert and industry perspectives." Cornell Hotel and Restaurant Administration Quarterly 43(3): 33-45.
- O'Connor, P. and P. Horan (1999). "An Analysis of the Web Reservation Facilities in the Top 50 International Hotel Chains." International Journal of Hospitality Information Technology 1(1): 77-86.
- O'Connor, P. M. (2001). Developing an Evaluation Model for Hotel Electronic Channels of Distribution. Tourism & Hospitality. Edinburgh, Queen Margaret University College.
- O'Leary, M. (2002). Converting a Looker to a Booker - A Tourism Perspective. Dublin, Dublin Institute of Technology.
- Olsen, M. and J. L. Zhou (1997). "New Management Practices in the International Hotel Industry." Travel & Tourism Analyst 1: 53-75.
- Peterson, K. I. (1994). Qualitative Research Methods for the Travel and Tourism Industry. Travel, Tourism and Hospitality Research. J. R. Ritchie and C. R. Goeldner. New York, John Wiley: Ch 41.
- Pusateri, M. (1997). Interview with Mike Pusateri, VP of Interactive Sales & Marketing, Marriott International, [www.microsoft.com/industry/hospitality/resources/editorials/pusateri.sit](http://www.microsoft.com/industry/hospitality/resources/editorials/pusateri.sit).
- Sheldon, P. J. (2000). "From the guest editor: Introduction to the special issue on tourism information technology." Journal of Travel Research 39(2): 133.
- Starkov, M. (2001). How to Turn Lookers into Bookers [On-Line] URL:[http://www.hotel-online.com/News/PR2001\\_3rd/Aug01\\_EnginesinTravel.html](http://www.hotel-online.com/News/PR2001_3rd/Aug01_EnginesinTravel.html).
- Starkov, M. (2002a). Brand Erosion or How Not to Market Your Hotel on the Web [On-Line] URL:[http://www.hotel-online.com/News/PR2002\\_2nd/Apr02\\_BrandErosion.html](http://www.hotel-online.com/News/PR2002_2nd/Apr02_BrandErosion.html), Hotel Online.
- Starkov, M. (2002b). Do You Know Where Your Hotel is in Cyberspace? [On-Line] URL:[http://www.hotel-online.com/News/PR2002\\_1st/Jan02\\_Cyberspace.html](http://www.hotel-online.com/News/PR2002_1st/Jan02_Cyberspace.html).
- Starkov, M. (2002c). The Internet: Hotelier's Best Ally or Worst Enemy? - What Went Wrong with Direct Web Distribution in Hospitality? [On-Line] URL:[http://hotel-online/News/PR2002\\_4th/Oct02\\_InternetAlly.html](http://hotel-online/News/PR2002_4th/Oct02_InternetAlly.html).
- Sterne, J. (2003a). The Feedback Loop Gap, MarketingProfs.com.
- Sterne, J. (2003b). The Ultimate Web Traffic Dashboard, MarketingProfs.com.
- Tschanz, N. and S. Klein (1997). Web-enabled Cooperation in Tourism - A Case Study from the Region of Lake Constance. Proceedings of the Thirtieth Hawaii International Conference on System Sciences, Wailea, HI, USA.
- Veal, A. J. (1997). Research methods for Leisure and Tourism - A Practical Guide. London, Pitman Publishing.
- Walle, A. H. (1996). "Tourism and the Internet: opportunities for direct marketing." Journal of Travel Research 35: 72-77.
- Weill, P. (1991). "The Information Technology Payoff: implications for investment appraisal." Australian Accounting Review 2(11).
- Werthner, H. and S. Klein (1999). Information Technology and Tourism - A Challenging Relationship. New York, Springer-Verlag Wien.
- WTO (1997). Tourism - 2020 Vision. World Tourism Organisation, Madrid.