ESTIMATING THE ECONOMIC IMPACTS OF FESTIVALS AND EVENTS: A RESEARCH GUIDE

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RESEARCH REPORT

EXECUTIVE SUMMARY

Although they may have a number of other objectives, festivals and events in small regional destinations often play an important role in tourism development and thereby in economic development. In this study we review basic principles of economic impact and apply them to a series of four special events held at Thredbo in Kosciuszko National Park. The events are all held in summer-autumn and are part of a strategy by local tourism managers to develop a non-winter tourism season in an area where snow skiing has been the traditional attraction.

The four events in question were:

1. Australian Mountain Bike Association Cup

2. National Runners Week

3. Shakespeare Festival

4. Thredbo Jazz Festival

This study differs from many other studies into the economic impacts of events in that the focus of attention is the small regional economy consisting of the Shires of Cooma-Monaro, Snowy River, and Bombala – collectively referred to here as the Snowy Region. Most other studies of the economic impact of events focus on the State economy rather than the sub-State regional economy. However, both the events and the regional economy in which they are held are smaller than those that are usually the subject of an economic impact study.

A number of general research issues are reviewed, including sampling of event participants, questionnaire design, and the development of multipliers for the Snowy region. The latter breaks away from the past reliance on multipliers from input output models, there being no input output model for the Snowy Region. In any case the region has little industrial interconnectivity that is the core of the input output model.

Instead, this study develops the classic multiplier drawn from Keynesian economics, and estimates the economic impact on Gross Regional Product using data available from Australian Bureau of Statistics' sources. Gross Regional Product is the regional equivalent of the usual concept Gross Domestic Product, and is a measure of the gross income (both labour income and business income) that is generated in the Snowy Region by visitors to the events being studied.

On average the impacts on Snowy Gross Regional Product are 39.8% of the expenditure of visitors tom the events, illustrating the high degree of economic "leakage" from a small regional economy. This is because many of the goods and services used by visitors are not produced in the region. For example, most alcoholic beverages are produced elsewhere, either in breweries in capital cities, or in wineries in other regions.

The results of modelling the four events were as follows:

EVENT	VISITOR EXPENDITURE $	GROSS REGIONAL PRODUCT $
Mountain Bike Cup	222 258	88 459
National Runners Week	294 871	117 359
Shakespeare Festival	43 617	17 360
Thredbo Jazz Festival	308 400	122 743

Further research is required to enable the estimated impacts on Gross Regional Product to be broken down into sectors in the region. This information would enable event managers and organisers to identify those businesses that were receiving significant economic benefit from the events. For example, it is known that larger events in capital cities have economic benefits for the retail sector, as well as the more traditional accommodation, transport, and entertainment sectors.

Research is also required into the development of a standard question bank that could be accessed by event managers for use in carrying out their own economic impact survey of an event. A question bank approach has the advantages of both flexibility and consistency.

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1. INTRODUCTION

Event and festival tourism is one of the fastest growing forms of tourism. It is becoming increasingly popular in rural areas as a means to revitalise local economies. Advancing technologies and changing weather patterns (ie increase in droughts and floods/storms) have brought about the need for diversification of industry in areas previously reliant on traditional industries such as farming, or narrowly focussed tourism industries. Events and festivals have been used with great success in many such areas as a means to draw people to regions that traditionally have a seasonal tourist appeal. The Thredbo Jazz festival is a prime example, becoming increasingly popular amongst tourists and injecting extra revenue into the region in a time that is between the hectic winter ski seasons.

The fixed length of events and festivals encourages visitors to attend; often attracting new visitors that would otherwise not experience that particular region. This extra exposure acts as an indirect form of marketing for the region as a whole, offering an opportunity to reach a previously untapped market. These new tourists bring with them new money, further diversifying the market and subsequently increasing both real and potential revenue generation. It is also important to recognise that events and festivals are attractions that have drawing power and holding power. This means that they not only bring in new visitors, they also help to keep visitors in the region longer. This shows the importance of measuring not just the economic impact of those that come specifically for the event, but also those that didn't and stayed longer because of the event.

The fixed duration of events and festivals also creates the need for a different approach to organisation and funding when compared to traditional attractions. This includes the need for Economic Impact Assessment (EIA) in order to justify scheduling of events, to attract sponsors and to act as a vital planning resource. It should be noted however that economic impact assessments should not be solely responsible for assessing the success of an event or festival. The extra attention gained by the host region as a direct result of the event/festival could well reap far greater economic rewards in the future as a result of increased exposure.

This guide is intended for businesses, event organisers and regional or local tourism organisations that have previously engaged limited or no event economic impact research. It is hoped that the processes involved in Economic Impact Assessment are made clearer through the use of this guide, and that it is a useful starting point for planning a research project to calculate the economic impacts of events and festivals in local and regional areas. It is not the intention of this guide to go into the explicit details of every aspect of EIA research, but will supply a basic understanding of the processes involved and to provide references for further study.

The next section of this guide will discuss the nature of events and economic impacts. A brief introduction to events is given, with a framework for their categorisation presented (see Figure 1). Examples of different events are discussed and a typology is suggested for their classification. The importance of recognising various event aspects is identified, discussing issues that may arise from different event types. Impacts that result from events are discussed, emphasising that economic impacts are not to be considered as the only impacts to assess when reviewing an event. The different approaches to Event Impact Assessment are discussed, with reference made to the advantages and disadvantages of each method. The section then summarises the nature of event economic impacts, describing the concepts behind them, multipliers and leakage.

Section three describes data and information collection methods for conducting economic impact assessments. Business sector surveys are discussed briefly, presenting the advantages and disadvantages of using such techniques. The remainder of section three focuses on participant (consumer) surveys, outlining why they are the preferred method for economic impact assessments. The participant based survey is the basis for the remainder of the guide.

Section four deals with the assessment of primary economic impacts. The various methodologies are discussed, with sampling techniques and overall questionnaire design explained. Suggestions are made as to which methods to use varying scenarios in order to achieve a representative data set. The entry and analysis of data is also considered, emphasising the need for accuracy. The importance of assessing non-local participant numbers is also discussed.

The methods and concepts behind the assessment of secondary and total economic impacts of events are presented in section five. Economic multipliers and models are reviewed, and an economic multiplier is developed for the Snowy Mountains Region as a case study. Location quotients are derived for various Snowy Mountains industries, facilitating the estimation of Gross Regional Product (GRP) figures. The estimated impact on GRP is given for each of the four events studied in the Snowy Mountains Region in 1999/2000.

The final section offers suggestions for the use of economic impact assessments. The value of such assessments as supporting documents is discussed.

2. THE NATURE OF EVENTS AND EVENT ECONOMIC IMPACTS

This section introduces the reader to the different types of events and festivals as an introduction and background to the main part of this manual, before discussing event and festival impacts. This section begins with a discussion of the types of events that can be hosted by destinations, before discussing the different approaches to event economic impact, specifically addressing the approach concerned with assessing the macroeconomic benefits to the destination area through the use of multipliers.

2.1 Types of Events

Events can range from a one or two day sporting event (eg Melbourne Grand Prix) to a month long festival (eg Edinburgh Fringe Festival). The types of visitors to these events can vary greatly, as can their behaviour. Preliminary research conducted by the CRC for Sustainable Tourism tends to suggest that participant-based events (eg National Runners Week) may yield greater expenditure per person than spectator based events (eg Thredbo Jazz Festival). Therefore, the economic impact of events may differ due to the type of event developed and the market attracted to that event.

The scale of an event has a direct relationship with the scale of the impacts resulting from the event shows how the scale of impacts (such as attendance, media profile, infrastructure, costs and benefits) increase along with the scale of the event (see Figure 1).

Figure 1 Categorisation of Events
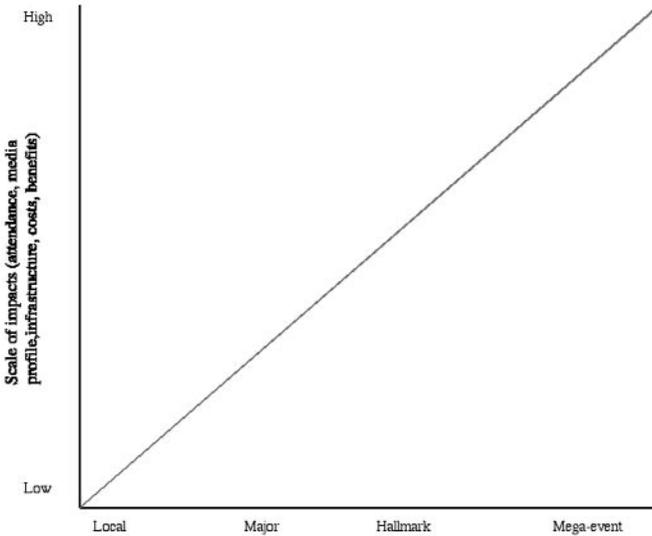
[Source: McDonnell et. al 1999:10]

Events vary from local community based events (eg arts and crafts stalls), to major events (eg The National Folk Festival), to hallmark events (eg Sydney Gay and Lesbian Madri Gra) to what have been classified mega-events (eg The Olympics). As the size of these events increases so to do their potential attendance, media coverage, and potential costs and benefits, including economic impacts.

Furthermore, the nature of events can also differ due to the number of venues used during the event. Events can be all inclusive at one venue (eg AFL Grand Final) or held at many venues throughout a region (eg Olympic Games). Multiple venue events are more difficult to evaluate or assess as boundaries become blurred, the sample and study area gets larger, and there is often a chance of counting the same visitor many times.

A framework for the categorisation of events is useful for determining strategic gaps through the identification of different events, their timing, location and themes. It is also useful to classify events in order

to assess economic performance against criteria such as the timing of the event (whether a summer or winter event), its location (whether it is in Jindabyne or Thredbo), or its themes (whether it is an active sports event, or a passive music event). Jago and McArdle (1999) present a framework that takes into account the temporal or timing aspects as well as the spatial or location aspects and the thematic aspects of events in order to categorise them. This framework is presented in Figure 2.

Figure 2 - Event Types
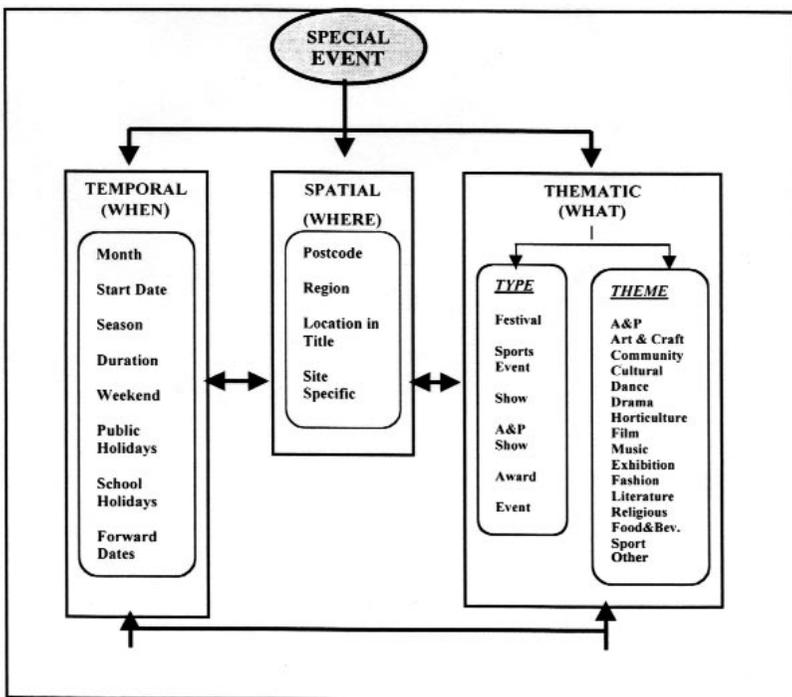
[Source: Jago & McArdle, 1999:7]

The identification of each of these aspects is important when considering the overall value of an event to the host community. For example, a business event that occurs in the busy school holiday period may be causing extra stress on a region's infrastructure, when the same event could easily be moved to a slower period of the year. The spatial implications of an event include not only the obvious benefits and restrictions to the host town/region, but also the naming of the event such as the case of the Thredbo Jazz Festival or the Canberra Multicultural Festival. The title of an event must accurately reflect the host region or the supplier region (eg State Competitions) in order to ensure recognition for all involved and optimise the use of precious regional sponsorship dollars. The thematic nature of events can be used to either justify or disqualify the benefits or advantages of events based on their importance to the host community.

Although more traditional events such as horticultural and agricultural shows, as well as art and cultural events still exist and have been in existence for many years in rural or regional Australia. An increasing number of other events have grown rapidly over the past 10 years. Ryan et al. (1996) note a huge increase in sporting and participation events such as Masters Games, marathons and triathlons, as well as visual and performing arts events in New Zealand. This trend has seen to be duplicated in Victoria, Australia (see Jago and McArdle 1999).

2.2   Event Impacts

The positive flow of revenue into a region should not be the only factor considered when determining the apparent success of an event. The negative social impacts of an event can do great harm to the future of an event and its host region, and ecological impacts may cause the premature death of a poorly managed event or festival.

Conversely, there are many other positive impacts that may counter negative economic impacts. An event that spreads the seasonality of tourism in a region also evenly distributes the flow of money into a region, increasing the opportunities for full time employment. The introduction of more full time jobs into a region causes many positive and negative flow-on effects in that region. Subsequently, these effects are measured through the use of what are termed multipliers, which are discussed in more detail soon.

Other factors that may contribute to a successful event could include:

• Increasing visitor length of stay in region/town;
• Increasing visitor expenditure in region/town;
• Improving destination awareness; and
• Increasing civic pride or community solidarity.

These factors are all obviously beneficial to a region and its tourism industry, although the cost at which they are obtained must be justified. Other positive and negative impacts are outlined in Table 1, and should also be considered and balanced with economic impact assessments. Furthermore, these impacts differ due to the size and scale of the event ranging from a local community based event such as an art show to a mega-event, such as the Olympics. For instance, little real estate speculation could occur as a direct result of the hosting of a local event such as an art show, compared with the hosting of a mega-event such as the Olympic Games.

Table 1 - Possible impacts resulting from events

TYPE OF IMPACT	POSITIVE	NEGATIVE
Economic	• Increased expenditures • Creation of employment • Increase in labour supply • Increase in standard of living	• Price increases during event • Real estate speculation • Failure to attract tourists • Better alternative investments • Inadequate capital • Inadequate estimation of costs of event
Tourism/commercial	• Increased awareness of the region as a travel/tourism destination • Increased knowledge concerning the potential for investment and commercial activity in the region • Creation of new accommodation and tourist attractions • Increase in accessibility	• Acquisition of a poor reputation as a result of inadequate facilities, improper practices or inflated prices • Negative reactions from existing enterprises due to the possibility of new competition for local manpower and government assistance

TYPE OF IMPACT	POSITIVE	NEGATIVE
Physical/ environmental	• Construction of new facilities • Improvement of local infrastructure • Preservation of heritage	• Ecological damage • Changes in natural processes • Architectural pollution • Destruction of heritage • Overcrowding.
Social/ Cultural	• Increase in permanent level of local interest and participation in types of activity associated with event • Strengthening of regional values and traditions	• Commercialisation of activities which may be of a personal or private nature • Modification of nature of event or activity to accommodate tourism • Potential increase in crime • Changes in community structure • Social dislocation.
Psychological	• Increased local pride and community spirit • Increased awareness of non-local perceptions	• Tendency toward defensive attitudes concerning host region • Culture shock • Misunderstanding leading to varying degrees of host/visitor hostility
Political/ administrative	• Enhanced international recognition of region and values • Development of skills among planners	• Economic exploitation of local population to satisfy ambitions of political elite • Distortion of true nature of event to reflect elite values • Failure to cope • Inability to achieve aims • Increase in administrative costs • Use of event to legitimate unpopular decisions • Legitimation of ideology and socio-cultural reality

[Source: Hall 1992: 8]

Getz (1994) suggests that there are five different approaches that can be used for Event Impact Assessment. Table 2 shows these different approaches, their goals and commonly used measures for their assessment. The key to any and all of these methods is to obtain accurate data and information upon which to evaluate the events economic impact.

Table 2 Approaches to Event Impact Assessment

APPROACHES	GOALS	COMMONLY USED MEASURES
Break-Even or Profit/Loss	• Short term assessment of financial efficiency or solvency	• Measure direct costs and revenues to organisers • Determine surplus or deficit (profit or loss)
Return on Investment	• Show the benefits of grants or scholarship • Calculate ROI for private investors or owners	• Determine the relationship between grants/scholarship and levels of visitation or economic benefits • Use standard ROI accounting practices
Economic Scale	• Determine the economic scale of one or more events from the destination perspective	• Measure total attendance and expenditure of event consumers, plus organizers' expenditures
Economic Impact	• Determine the macroeconomic benefits to the destination area	• Estimate direct and indirect income and employment benefits • Often uses multipliers or econometric models
Costs and Benefits	• Evaluate the costs and benefits from the perspective of the host community and environment • Determine the net work value of the event	• Compare tangible and intangible costs and benefits short and long-term • Assess opportunity costs of investments • Examine the distribution of impacts • Judge the net worth and acceptability of the event(s)

Many event organisers and regional and local tourism organisations examine or wish to examine the 'economic impact' or macroeconomic benefits of their events or festivals upon the destination, through estimating the direct and secondary benefits of hosting their event at the destination region. This approach often uses either business or consumer surveys (which is discussed in Section 3), as well as multiplier or econometric models, discussed next and in section 5. The remainder of this guide is concerned with determining the macroeconomic impacts of events at the destination level only, not the costs and benefits, break-even or profit-loss, or return on investment of events and festivals.

2.3   Event Economic Impacts

The economic impacts of events on the macroeconomy of a region are categorised into primary and secondary economic impacts. The primary impact is the direct economic impact of the event measured by surveying participants or measuring business sales. Secondary impacts are those that result from the introduction of new money into the economy. A ripple in a pond is a popular metaphor for these secondary impacts. A stone hitting the water surface is the direct impact, and the first ripple caused is the indirect impact and the second ripple is the induced impact. Together these are called the secondary impacts. As the ripple spreads out it affects more and more of the pond. This 'ripple effect' is caused by the spending of new money in the local region in areas such as wages or local product. The 'ripple effect' is measured by multipliers and is presented in Figure 3.

Figure 3 - The Multiplier Effect
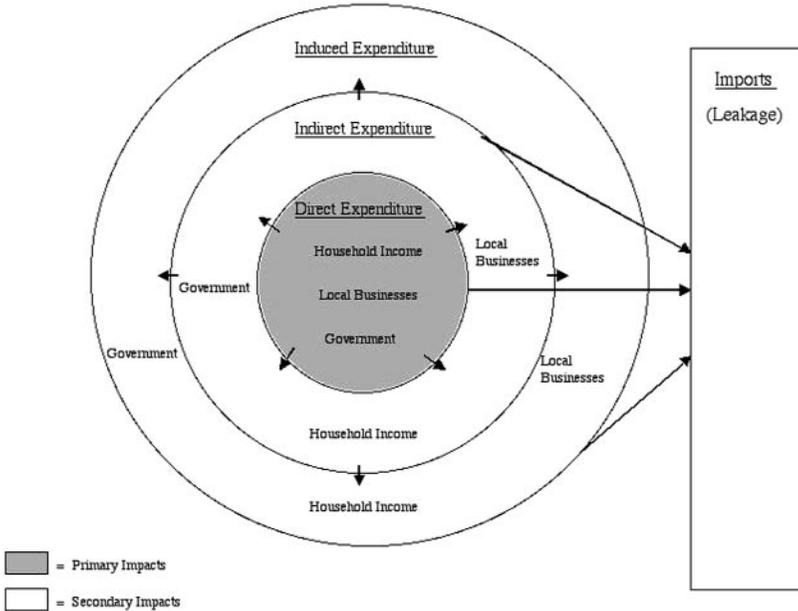
The inclusion of secondary impacts provides a more accurate assessment, as it recognises the interdependence of different sectors within a region and how reliant a region or town is on importing goods and services. This is measured through the use of multipliers by calculating the leakage of new expenditure in the area.

Multipliers measure the amount of money spent that is not leaked out of the region due to further spending on products and services not sourced from within the study region. In some regions who are dependent on importing goods and services the amount of money left in the local economy is less than that spent by consumers. This is because some regions and towns are very dependent on goods and services from outside of the region and are not very self-sufficient. For instance, Sydney is more self-sufficient and less reliant on importing goods and services than Canberra, and subsequently Canberra is more self-sufficient and does not need to import as many goods and services as Thredbo.

Multipliers work by considering the amount of leakage from an area and expressing the amount of retained revenue as a ratio. The greater the magnitude of the ratio then the less the amount of leakage from the region or town. For instance, sources of leakage from an area include taxation, foreign ownership and investment, savings, and the spending of money on products and services not sourced from the local region. The main multipliers used in economic impact assessments are the output, employment and value-added or income multipliers. The output multiplier measures the increase in level of economic activity in the region as a result of direct tourist expenditure. It focuses on the changes in levels of production, not sales or income left after leakages have been accounted for. The employment multiplier is the ratio of the direct and secondary employment created by extra tourist expenditure. While the value-added or income multiplier measures the total amount of income left after leakages (such as savings, imported goods and services, taxes etc) have been accounted for. This is the most accurate level as it measures the income left in the region after the increase in economic activity due to tourist expenditure.

The two methods for the collection of data collection for examining the macroeconomic impact of events and festivals at the destination level are consumer/participant surveys and/or business sector surveys. The following section outlines these methods and their associated advantages and disadvantages.

3. DATA AND INFORMATION COLLECTION

This section examines the two main methods of data or information collection that is required to measure the macroeconomic benefits of events to the destination area, which are the business sector survey or the consumer or participant survey.

3.1   Business sector surveys

The surveying of businesses is one method of gathering expenditure data that is often considered. However there are some fundamental problems with the methodology that need to be addressed if accurate results are wanted. These include the need to establish a sales benchmark, the unwillingness of merchants to release data, and the time and money costs in undertaking this form of research. When using this method it is important to take into consideration pre and post event figures as a benchmark for sales levels so that the economic impact of a special event is not over-emphasised. However establishing a sales benchmark does not overcome seasonal variation in sales which can distort the true impact of a special event. To provide reliable and valid data, a business survey may have to be conducted on an on-going basis, including data collection before, during and after the event.

Businesses are often reluctant to release financial information, especially sales data to researchers. Researchers must assure businesses absolute confidentiality to improve business survey response rates and to gain access to accurate data. The sensitive and confidential nature of primary baseline data often inhibits full cooperation from businesses. Furthermore, often the researcher has constraints of time and especially money, in implementing an economic impact assessment through a business survey.

Other problems can arise due to the data being secondary data, meaning it has not been collected for the specific purposes of the survey at hand. The consequences of this are that the supplied information is often not in the format required for the research, and that the research methodology must be changed to suit the available data. It is for these reasons that many researchers prefer to

undertaken consumer or participant surveys to collect the data and information they need to undertake economic impact assessments.

3.2   Consumer/participant surveys

Measuring consumer expenditure through the use of participant surveys has many benefits. It is easier to ask a visitor about their spending and behaviour patterns than it is to ask for a business' sales figures. The survey also gives the opportunity to ask the participant some demographic based questions, assisting in the compilation of a market profile. The ability to tailor the survey specifically to the data required by the research methodology at hand ensures that the data gathered in the most suitable and accurate way. This benefits the researcher by allowing more freedom to break new ground, targeting areas that have been identified as key outcomes of the research.

When conducting participant surveys there are certain important factors that need to be considered at the research design phase. These include:

• Are the tourists here specifically because of the event?
• Will the data be collected during or after the event?

These are important considerations when designing the survey in order to obtain maximum accuracy of results. This accuracy helps to pinpoint the drawing power of events as attractions, as well as their holding power on visitors already in the region.

It is possible to generate these more accurate results with the investment of more time and money. These more advanced calculations may ascertain figures such as whether tourists already in the area increase their stay (and consequently expenditure) as a result of the event being held. Another target result might be the extra money spent by locals in the region who would have otherwise travelled elsewhere if the event had not occurred. The identification of trends in these areas helps to present a more realistic analysis of economic impact.

The study of the 1997 Melbourne International Flower and Garden Show is an excellent example of identifying the drawing power and

holding power of the event (KPMG 1997). Many other studies have focused on these more detailed statistics in order to provide the real economic impact resulting from an event being held, including the study of the 1997 Opera in the Outback (SATC 1997). Gratton and Taylor (1995) also explicitly mention the use of these techniques. Another factor that is often overlooked is those who travel to the destination region for the specific purpose of attending the event, and are accompanied by others who do not visit the event. Although these accompanying people do not attend the event, the money they spend in the host region would not be spent there if they did not accompany event participants.

The main problem with participant-based surveys is the lack of interest in filling out forms from potential respondents. Many events include the consumption of liquor, decreasing the interest levels (and competency) of respondents. Researchers have also reported potential problems with inaccuracies in data obtained from participants, both through embellishment and uncertainty. The timing of the questionnaire can have a substantial effect on the response gained from the respondent. If the questionnaire is delivered prior to the end of the event the respondent must estimate how much they will spend, where some respondents will be unsure. Many participants' expenditure may actually vary if event is competitive and the team they support wins or loses. Surveys delivered after the event may also pose problems for researchers, as the respondents become less sure of their expenditure as time passes after the event took place.

These problems can be overcome by the introduction of several different techniques, which are discussed in section 4a. It is essential to balance the costs and benefits of each technique in relation to the study objectives identified and the time and costs allocated to the project.

4.   ASSESSING PRIMARY ECONOMIC IMPACTS

The remainder of this guide focuses on the use of participant based surveys, as they are more reliable and easier to implement, and these surveys can collect information and data relating to the primary or direct economic impacts of event participants, which is the first important stage in assessing the macroeconomic benefits to the destination area from hosting an event or festival.

4.1   What method to use

There are a variety of methodologies that could be used to assess the primary economic impacts of any event. Each of these methodologies has its own advantages and disadvantages associated with it. The first decision to be made is that of the study area. Event organisers need to decide whether they want to know the direct impact on the local area (eg. Thredbo) or the local region (eg. Snowy Mountains). This decision is often made based on the supporting organisations and agencies as a result of a political agenda, but needs to be carefully chosen in order to reflect an accurate analysis. Using a slightly larger study area can give a more complete illustration of the economic impact of an event, particularly if the event is held in a very small town. For example, the Thredbo Jazz Festival is held in a town with a fairly small population that relies on the surrounding region to support it.

For instance, travellers going to Thredbo for an event or festival may purchase petrol or groceries in Jindabyne or Cooma. Assessing the primary economic impact of this event on Thredbo will not show the total impact, as visitors will invariably spend money outside the small community. It is this money spent within the region that may not be considered if the study area defined is too small. Researchers must also be careful not to make the study area too big, as this can result in a distorted figure that does not accurately reflect the benefit to the immediate surrounding region. Some factors that need to be considered when choosing the study area include:

- How close do the supporting workers live to the event site?
- How close are all necessary goods/services to the event site?
- The jurisdiction of supporting agencies.

Methodology

The next step is to decide on a survey method. This will determine the cost of the survey as well as the accuracy of the data collected. Response rates vary greatly according to the method used, as do the quality of the responses. There are many techniques that can be used to increase response rates, for example an incentive such as a prize draw. Sourcing this prize from a direct stakeholder of the event (eg a night's accommodation or free pass for next event) offers a cost effective incentive that is another form of indirect advertising. Studies have shown that the number of contacts made with mail survey respondents can significantly increase response rates. These contacts include pre-notification of survey, the actual survey delivery and reminder notices (Peterson et al. 1989 in Ryan 1995). Further research conducted by Kamins (1989 in Ryan 1995) suggests that respondents like to respond in order to feel helpful. This desire to be helpful can be taken advantage of to increase response if the survey is designed appropriately.

Ryan (1995) identifies seven factors that affect response rates for mail surveys. These are:

- The interest of the respondent in the survey topic;
- The length of the questionnaire;
- Questionnaire design/presentation/complexity;
- The style, content and authorship of the accompanying letter;
- The provision of a postage paid reply envelope;
- Rewards for responding; and
- The number and timing of follow-ups.

There are two main categories of survey method: self-administered and interview. Self-administered surveys are typically mailed out or dropped off and picked up. The main advantage of implementing a self-administered survey is the dramatic reduction in cost due to reduced staff expenses. There are however several issues that need to be addressed in order to gain a significant response. The issue of

incentive to respond has already been raised. One definite problem with self-administered surveys is the difficulty in providing support to respondents having difficulty completing the survey. Respondents are likely to leave questions they don't understand unanswered, or even worse, provide inaccurate data. This accentuates the need for questionnaire design to be explicit and simple. There are many good references for those wanting to design their own survey tools including Brunt (1997), Alreck and Settle (1995) and Veal (1997). It is important to study research methods carefully and apply these methods to your design. A poorly designed survey instrument can only return poor quality data. Survey respondents must understand exactly what you want them to tell you, and you must provide appropriate tools for them to answer correctly.

Thorough testing of your survey instrument before implementation is crucial to developing an accurate response from your survey sample. Perhaps the most disadvantageous aspect of self-administered surveys is the low response rates usually attained. The most effective ways to increase response rate are to offer incentives, ensure a prepaid return envelope is included, and include a cover letter detailing the purpose of the survey and what benefits will result for both the researchers and the respondents (incentives).

Interview based survey instruments are not without their fair share of problems. These include face to face interviews, phone interviews and other prompted responses. For all of the advantages they do offer there is one problem that is always an issue. This problem is consistency. The human element in interview based surveys does offer the ability to explain and interpret both questions and data, although all interpretation should be kept to a bare minimum. The consistency problem arises from the fact that all people are different, and they do things in different ways. This will cause anomalies not only between different interviewers, but also between respondents if the survey implementation is not undertaken carefully. It is for this reason that all interviewers involved in implementation of a survey must have a thorough understanding of the research project and related methodologies. A well trained group of interviewers will introduce minimal bias into the sample, providing more representative results. The previously mentioned texts also create a valuable reference for managers wishing to train interviewers. There are several techniques

that can be applied to interviews in order to create consistency across all interviews. All interviewers should be given a sample greeting to use when approaching/interviewing respondents. An example of instructions that may be supplied to interviewers conducting a phone interview is attached as Appendix A.

Each interviewer should deliver this greeting practically word for word, with only the interviewer's name changing. Each interviewer should also be run through each question including how to ask the question and what might be some common questions from respondents. Interviewers should also be given an estimated time limit for the interview, to ensure all responses are of a similar length and detail. The combination of these instructions and training should help reduce biases significantly. Each interviewer should receive clear instructions and procedures along with a copy of a professional code of ethics in order to facilitate the delivery of the survey.

It is important to produce a code of ethics to all interviewers in order to ensure that the research organisation is not seen to be harassing or taking advantage of potential respondents. All interviewers must strictly adhere to this code of ethics. A sample code of ethics for conducting telephone surveys is presented as Table 3.

Table 3 - Telephone survey code of ethics

Privacy and Telephone Surveys (code of ethics)
- All callers must disclose your identity and state the purpose of the call.
- Calls to private homes must be made at reasonable hours, normally 8.30am to 8.30pm.
- Senior Citizens must not knowingly be called after dark.
- Calls should be avoided on public holidays and Sundays.
- Deception must not be used to obtain names of others to call.
- Unlisted or unpublished numbers should not be called.
- If requested to do so, callers must remove the name of any person from the list.
- Lists compiled for one particular survey must not be used for any other purpose without the express permission of the participants.

Questionnaire Design

Having chosen the appropriate survey method leads into questionnaire design. A poorly designed questionnaire can cause more problems than choosing the wrong survey type, and can render collected information unusable. It is most important that survey design is carried out with great care to ensure that the correct questions are asked using the correct prompts for the required information. It is advised that questionnaire design be only undertaken after carefully studying the referenced texts in order to fully understand the pros and cons of different designs. This includes the use of filter questions, mutual exclusivity, and when to use both closed and open-ended questions.

Questions regarding expenditure need to be carefully written in order to obtain the desired information. Questions should ascertain either how much each respondent spent in total or their average daily spending and how much they spent in each sector (eg accommodation, meals, shopping). The generation of these figures will be useful for lobbying both private and public sector organisations for future support. An example of suitable questions is illustrated in Figure 4 and a survey which was applied to events in Thredbo (AMBA Cup Round 2 Mountain Bike Race, National Runners Week, Shakespeare on the Mount Festival).

Figure 4 - Sample questions

Q22. To assist us in measuring the economic impact of the _____ Festival, I would like to ask you some questions about your expenditure while in (destination region). For the number of people in your group, including children, for your trip to (destination region) how much did you spend on:

Package Tour (estimate (destination) component by nights)	$ ☐☐☐☐
Accommodation (not part of package tour)	$ ☐☐☐☐
Food and Drink	$ ☐☐☐☐
Transport (petrol, taxis, buses, car hire)	$ ☐☐☐☐
Festival entry fees	$ ☐☐☐☐
Shopping	$ ☐☐☐☐
Entertainment (gambling, clubs, cinema, etc.)	$ ☐☐☐☐
Other expenditure (medical, hair, personal)	$ ☐☐☐☐

Sampling

Many issues can arise through misguided or ignorant methodology. Sampling techniques must accurately represent the target population (ie event visitors) by not focussing on one area or age group. Controlling the accuracy of the sample involves strategic planning of collection methods. If the survey is to be delivered in person or over the phone it is important that interviewers are well trained at asking questions, so that they can explain any difficulties that respondents may have. It is also crucial that they understand the importance of obtaining a representative sample, and the age, sex or appearance of potential respondents does not bias them.

In order to obtain a representative sample it is extremely important to use a random sampling method. Representativeness of any research should be checked so that the findings can be seen to apply to the total population under study. For instance, in research conducted on the National Runners Week in Threbo the sample of people surveyed was seen to be fairly representative of the registration database (see Table 4). Researchers wishing to cut costs often use convenience sampling, but this leads to unreliable data, and therefore the limited usability of this data. Convenience sampling means that respondents are merely the most convenient to use, whether this means standing on a street corner and asking everyone who goes by, or ringing every listing on the first page of a list or database. The main benefit of random sampling is the assumption that every member of the target population has an equal chance of appearing in the sample.

Table 4 - Checking Representativeness of the Sample

REPRESENTATIVENESS OF SAMPLES: NATIONAL RUNNERS WEEK EXAMPLE

STATE/ TERRITORY	DATABASE LIST	SURVEY RESPONDENTS
New South Wales	54.0	52.8
South Australia	22.0	20.8
Australian Capital Territory	18.0	17.0
Victoria	5.0	7.5
Northern Territory	3.0	1.9
Total	**100.0**	**100.0**

The categories of sampling that should be used in order to obtain a representative sample are simple random sampling, systematic random sampling, stratified random sampling and cluster sampling. The following gives a brief description of each method.

Simple Random Sampling

This technique if the most simple form of random sampling, and resembles a lottery draw. The best way to describe it is to imagine that all of the target population (eg event patrons) have a piece of paper with his or her name written on it and placed into a bowl. The pieces of paper are then mixed up and one is chosen without looking. This process is repeated until the required number of names has been drawn out to complete the sample. In today's terms computers would simulate this method. For example, if an event attracts 2000 visitors and a sample size of 200 is chosen then a list of the visitors' names would be written with a number between 1 and 2000 written besides each. The computer could then be used to generate 200 random numbers between 1 and 2000, and the corresponding names become the sample.

Systematic Random Sampling

This form of sampling is very similar to the previously mentioned technique, however it uses a more systematic approach. Keeping to the previous example, this involves the selection of every tenth name from a randomly chosen starting point until the sample quota is reached. If face to face interviews are to be conducted every tenth person walking into the event might be asked to participate in an interview.

Stratified Random Sampling

Stratified random sampling uses already known demographic information to obtain a more reliable representation of the target population. For example, if we know that 60% of our event visitors are male and 40% are female, then we can reflect this proportion in our sample. So we would then choose 120 of our 200 (60%) sample names from male names on the list, and 80 (40%) from female

names. This method can be applied using any known demographic including age, religion, race, occupation, etc.

Cluster Sampling

The cluster sampling technique is a combination of random sampling and convenience sampling. Clusters of population members are identified (eg by geographic location) and then each of these clusters is subject to a random sampling process. For example, if we identified event visitors to originate from Canberra, Illawarra, Gippsland, Melbourne metro, Riverina, and other similar regions these would be identified as clusters of visitors. Each of these different regions would then be given a corresponding number (as in random sampling) and regions would be chosen at random until the total number of visitors in chosen clusters reached the sample size required. Continuing with our example, if the random selection of clusters included 40% of our visitors from Canberra, 40% from Riverina and 20% from Melbourne metro we would then have a complete sample. Every member of the chosen clusters would then be surveyed. This method is particularly useful for researchers who have to cover a very large area and have limited resources.

Data Entry

Data entry must be carried out accurately to ensure that the efforts made to attain a representative sample are not lost due to error or misjudgment. Simple spreadsheet applications such as Microsoft Excel can be used to perform many calculations useful to this type of research. Statistical programs such as SPSS (Statistical Package for the Social Sciences) provide a more technical approach, offering cross-tabulations and other useful tools.

There are certain issues regarding data entry that must be addressed in order to accurately disseminate information gathered. Probably the most important one for EIA is the entry of "0" when a visitor spends nothing for a category. The entry of the number "0" ensures that the average expenditure takes into account the people who didn't spend any money in a particular category. If the field is left blank the resultant average will only take into account the records with an entry in the corresponding field. An example is illustrated in Table 5 where

the direct economic impact is shown of the AMBA Cup Mountain Bike Race in Thredbo with and without the inclusion of "0" for those who spent nothing. The example illustrates how a simple error can exaggerate the findings.

Table 5 - Errors in Data Entry and Subsequent Data Analysis

AMBA CUP MOUNTAIN BIKE RACE EXAMPLE

MISTAKE BY NOT ENTERING "0"	CORRECT FIGURES BY ENTERING "0"
$479,675 of total direct economic impact	$222,258 of total direct economic impact

Data analysis

Once the data has been entered into a statistical analysis program it is possible to examine the data to provide many useful outputs. It is useful to run basic statistics in order to identify mistakes and errors from the data entry process. These can then be excluded from the data analysis. Apart from providing the average expenditure information required to calculate economic impact of the event, a well designed survey will also allow the derivation of market segmentation. Information should be looked at by State or Territory of origin, different age groups and gender to name a few. This information can then be used to determine which areas to concentrate marketing efforts for future years.

4.2   Assessing non-local participant numbers

It is important to calculate both the number of participants in the event and the number of non-local participants in order to calculate the direct economic impact. There are several methods that could be used for calculating participant numbers. Perhaps the most accurate is to use ticket sales. If ticket sales information is available this provides a good idea of how many people attended an event. If the event is a longer duration than one session the issue of counting the same person twice arises. Some smaller events keep databases of participants, which would help in identifying this problem. Other researchers have gone to great lengths to get an accurate idea of participant numbers, some resorting to taking aerial photographs from a helicopter and counting heads (eg. the 1998 Wintersun Festival see Fredline et al . 1998).

Once the number of non-local participants has been calculated it is multiplied by the average spending by participants. This figure is the total direct economic impact of the event. As mentioned earlier, it is important to perhaps consider factors such as the displacement of locals and attraction of other visitors to the region resulting from the staging of the event.

ASSESSING SECONDARY AND TOTAL ECONOMIC IMPACTS

This section discusses the how from the initial spending of tourists the secondary and total economic benefits of the event on the economy of a destination can be assessed. In particular this section discusses an innovative approach and model undertaken in the Snowy Mountains region to examine the income multiplier effects of a number of events and festivals in the region. This model may of interest to other regions who wish to calculate the secondary income affects of hosting events and festivals in their region.

5.1   Multipliers and Models

As mentioned earlier, multipliers calculate the secondary economic impact of spending in a region by illustrating the indirect and induced components of the initial expenditure of tourists either on employment, output or income. They do this by estimating the amount of money that stays in the region through employment of services and purchases of goods and services that are sourced locally. Leakage is taken into consideration by estimating the amount of money that leaves the region through outside employment, purchases, and taxation, etc.

The figure obtained through the use of these multipliers is the secondary economic impact. Nevertheless, it is important to note that for regions that are not self reliant and import a large amount of goods and services this secondary impact or income will be less than the initial direct expenditure.

The most usual economic model, especially at the regional level, is the input-output model (Archer, 1982, Mules, 1996), although at the national Australian level other models have been used (Adams and Parmenter, 1995). Input-output models depend on the economy being large enough for there to be links between industries in the supply chain. For example, tourists' use of rental cars stimulates production of motor vehicles, which in turn stimulates production of steel, plastic, glass, components such as tyres, seat belts and so on.

Small regional economies are characterised by a heavy dependence on other regions for the production of many goods and services in the supply chain. This means that an input-output model is inappropriate as most of its entries would be zero, meaning that the region does not produce those goods. It also means that a significant proportion of the initial visitor expenditure will be devoted to bringing in goods and services from outside of the local economy, such that the economic impact will possibly be less than the initial expenditure.

This is felt to be the situation for the three shires that comprise the Snowy Mountains region. ABS Census data reveals that the total population of the region in 1996 was 18,942[1], and total employment of 8,430. Most regions of Australia for which there are input-output models have total employment numbers of over 10,000 (see for example Queensland Government Statistician's Office, 1996).

Therefore it was not felt that an input-output approach should be used for this study, but rather an economic model that was based upon households rather than industries.

An Economic Multiplier for the Snowy Region

While small regions do not have the industrial structure to warrant the input-output approach, it is clear that tourism expenditure creates household incomes via wages paid to staff in hotels, restaurants, service stations, retail shops, and via the business income earned by unincorporated business (i.e. the local owners of small motels, cafes, shops etc). This household income in turn results in induced household expenditure on food, shelter, household goods, education, health, entertainment, and so on.

This latter flow on effect is referred to as the Keynesian economic multiplier (see Jackson, et al, 1998, p.12.8), named after the British macro economist Keynes. By allowing for leakages of economic activity out of the region in question via imports from other regions, and via taxation payments, the Keynesian multiplier measures the impact of exogenous expenditure, such as tourist expenditure, on

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1 This number is known to be swollen by the winter snow season tourist influx.

Gross Regional Product (GRP). This is the regional equivalent of the national concept Gross Domestic Product (GDP).

The formula for the Keynesian multiplier (k) is given by[2]:

$$k = \frac{1}{1 - c\,(1\text{-}t) + m}$$

where   c = the propensity for households to spend[3],
        t = marginal propensity to tax out of GRP,
        m = marginal propensity to import out of GRP.

Thus for an economy with an average consumption propensity of 0.9, a tax rate of 30%, and an import propensity of 0.25, k = 1.6.

The question of values of c, t, and m for the Snowies region is not easily answered from the available data sources, and some ingenuity is required. For c, it is reasonable to assume that the consumption behaviour of Snowies households is broadly similar to Australia as a whole. The ABS Australian National Accounts (cat. no. 5206.0) show the average ratio between household consumption and GDP to be 0.60. However, there is a difference between the average and the marginal propensities.

Challen and Hagger (1979, p.55) estimate the marginal propensity for the Australian non farm population to be 0.869, and for the farm population the figure is zero. The figure for the whole population will therefore be around 0.739, allowing for a farm population of 15% of the Snowies total (ABS Census). However, this is out of household disposable income, which is about 82% of GDP. When this adjustment is made, the value of c becomes 0.605, which is remarkably similar to the overall average ratio of consumption to GDP.

To find a value for t, we again assumed that the Snowies region would not be greatly different from Australia as a whole. The ABS National Accounts (cat. no. 5206.0) show the ratio to be 0.31.

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2 See Jackson, et al, 1998, p.12.8.
3 In this specification, c is the marginal propensity to spend on household consumption out of GRP.

The import propensity m, for a region is not likely to be able to be approximated by using national figures because a small region is less self sufficient than the nation as a whole, and is therefore more likely to import for both consumption, and business inputs.

We have approached the problem of estimating m for the Snowies region by using location quotients[4] based upon ABS Census employment data. Industry i's location quotient (LQ) is defined as:

$$LQ_i = (ER_i / TER) / (EN_i / TEN)$$

where ER_i = employment in industry i in the region
              TER = total employment in the region
              EN_i = employment in industry i in the nation
              TEN =total employment in the nation.

Thus if a region devotes 20% of its employment to an industry, but the nation devotes 25% of its employment to that industry, the LQ would be 0.8, meaning that the region was only 80% of self sufficiency in the output of that industry and would have to import 20% of its requirements of the output of that industry. The import propensity would be 0.2 for that industry[5].

The location quotients for the Snowies region industries are shown in Table 6 below. Sectors which have location quotients in excess of one are clearly export sectors from the point of view of the region, because they are devoting a higher proportion of their labour to the industry than would be needed for self sufficiency. The industry sector Accommodation, Cafes, Restaurants is in this category as tourism is an export activity for the region.

4 For a discussion of location quotients see West (1980).
5 Note that this is out of total industry output, which is not the same thing as GRP.

Table 6 - Location Quotients for Snowies Industries

INDUSTRY SECTOR	EMPLOYMENT		LOCATION QUOTIENT
	SNOWIES REGION	AUSTRALIA	
Agriculture, forestry and fishing	1262	324330	3.50
Mining	7	86261	0.07
Manufacturing	378	965036	0.35
Electricity, Gas, Water	367	58699	5.63
Construction	449	484084	0.84
Wholesale trade	275	446545	0.55
Retail trade	1119	1036648	0.97
Accommodation, cafes, restaurants	1338	355287	3.39
Transport & storage	234	332078	0.63
Communication services	152	150188	0.91
Finance & insurance	134	296456	0.41
Property & business services	575	750195	0.69
Government admin, Defence	391	373427	0.94
Education	397	540063	0.66
Health & community services	554	725178	0.69
Cultural & recreational services	212	179055	1.07
Personal & other services	352	277908	1.14
TOTAL	**8196**	**7381438**	

To calculate the average location quotient for the whole region, we would ideally take a weighted average of the individual sectors' location quotients, where the weights would be the total output of each sector. However, there is no available information on the value of output of each sector for the region, so we have used employment as a proxy.

The weighted average of those sectors which had a location quotient below one was 0.42, indicating that some 58% of output must be imported into the region from outside of the region (either from elsewhere in Australia or overseas). To get a figure for the import

propensity that can be used in the multiplier formula, this 58% has to be converted to a fraction of GRP. Using ABS national accounts data (cat. No. 5209.0), the proportion of total output accounted for by GDP is 30%. Assuming that this is a reasonable figure for the Snowies, the import propensity for the region would be 58/30 = 1.93. That is to say that the region imports goods and service which amount to 93% more than the GRP for the region.

Substituting $c = 0.605$, $t = 0.31$, and $m = 1.93$ into the formula for k gives $k = 0.398$. The interpretation of this estimate is that for each $100 of visitor expenditure in the region, there is $39.80 generated of total regional income. This figure is a result of two opposing economic forces:

• the flow on effect to other industries which increases the economic impact,

• the leakage effect of economic activity to savings, tax, and imports, which decreases the economic impact.

Small regions would be expected to have a high leakage to imports, and the Snowies region is clearly a case of this, resulting in the overall multiplier effect to be less than one.

Total GRP Event Economic Impacts

The above analysis shows that the impact on GRP of visitor expenditure in the Snowies region will be 39.8% of visitor expenditure. Therefore, the GRP for the events which are the subject of this report will be as shown in Table 7. Clearly the larger the number of visitors, the larger the expenditure, and the larger the impact on GRP.

Table 7 - Impact on Gross Regional Product of Summer Events

EVENT	VISITOR EXPENDITURE $	IMPACT ON GRP $
AMBA Cup Mountain Bike Race	222,258	88,459
National Runners Week	294,871	117,359
Shakespeare Festival	43,617	17,360
Thredbo Jazz Festival	308,400	122,743

Once the economic impact of an event has been calculated the potential to use this information is almost endless. Figures can be used to lobby local government or industry for financial support in future years. The information could also be used to justify the scheduling of the event, or indeed stimulate support for its re-scheduling.

The information gathered on sectoral expenditure should be used to show the direct impact on the local sectors resulting from the event in question. These results could then be used in order to illustrate the benefits of the event to local industry as a valuable tool for gaining sponsorship.

From here it is suggested that event and destination managers develop survey templates that can be applied to many events in a particular region so the economic impact of events can be compared and their associated impacts assessed. It is hoped that this guide has provided a starting point for the development of a template and a consistent approach to the economic impact assessment of events and festivals.

REFERENCES

Alreck, P. A. and Settle, R. B. (1995), *The Survey Research Handbook.* 2nd edition. Chicago, Irwin.

Adams, P. and B. Parmenter (1992) *The medium term significance of international tourism for the Australian economy,* Bureau of Tourism Research, Canberra.

Archer, B. (1982) *"The value of multipliers and their policy implications",* Tourism Management, No. 3, 236-241.

Brunt, P. (1997), *Market Research in Travel and Tourism.* Oxford, Butterworth-Heinemann.

Challen, D.W. and A.J. Hagger (1979) *Modelling the Australian Economy,* Longman Cheshire, Sydney.

Fredline, E., Mules, T., Raybould, M. & Tomljenovic, R. (1998), *Sweet Little Rock and Roller: The Economic Impact of the 1998 Wintersun Festival.* Griffith University, Gold Coast.

Gratton, C., & Taylor, P.D. (1995), *Impacts of Festival Events: a Case-study of Edinburgh, in Tourism and spatial transformations: Implications for Policy and Planning.* Wallingford, UK, eds Ashworth, G.J. & Dietvorst, A.G.J.

Hall, C. M., (1992), *Hallmark Tourist Events: Impacts, management, and planning.* London, Belhaven.

Jackson, John, Ron McIver, Campbell McConnell and Stanley Brue (1998) *Economics 5th edition,* McGraw-Hill, Sydney.

Jago, L.K., & McArdle, K.O. (1999), A Temporal, Spatial and Thematic Analysis of Victoria's Special Events, in Proceedings of *1999 CAUTHE National Research Conference.* Adelaide, South Australia, eds Davies, J. & Molloy, J.

KPMG. (1997), *Melbourne International Flower and Garden Show, 1997: Satisfaction Assessment and Economic Impact Study.* Prepared for the City of Melbourne, Tourism Victoria and International Corporate Event Services. KPMG, Melbourne.

McDonnell, I., Allen, J. & O'Toole, W.. (1999), *Festival and Special Event Management.* Milton, Jacaranda-Wiley.

Mules, Trevor (1996) Kate Fischer or Liz Hurley? – Which model shall I use? In Proceedings of the *1996 Australian Tourism and Hospitality Conference,* Bureau of Tourism Research, Canberra.

Queensland Government Statisticians Office (1996) *Regional Input-Output Tables Queensland 1989-90,* Queensland Government, Brisbane.

SATC. (1997), *1997 Opera in the Outback Economic and Social Impact Study.* Prepared by Richard Trembath Research. South Australian Tourism Commission, Adelaide.

Veal, A. J. (1997), *Research Methods for Leisure and Tourism: a Practical Guide.* 2nd edition. London, Financial Times Management.

West, Guy (1980) "Generation of Regional Input-Output Tables (GRIT) An Introspection", *Economic Analysis and Policy,* 10:1&2, 71-86.

Making the Phone Calls

Step One

a) "Good morning/afternoon/evening, my name is _____ from the (research organisation). Your phone number was selected at random as part of a research project being undertaken by the (research organisation). We are undertaking research surrounding your recent visit to the (study region) as part of the _____ Festival".

b) "Could I please speak to _____ (*ask persons name*)". Back to a) if necessary.

c) "There is a prize draw for participation in this survey. It consists of 2 adult passes to next year's _____ Festival.

Possible outcomes

• If the person who answered the phone is willing to undertake, proceed with survey. They have already provided their phone number, so you should have a good response rate.

• If they are unsure about taking part in the survey, then say, *"…we estimate that the survey will take about 5 minutes. Your answers will be anonymous and confidential"*. OR: ask if you can call them back at a better time. Record the time to call them back and phone them later.

• If they refuse say, *"…I am sorry for disturbing you, thank you for your time."* Then terminate call and move onto the next number.

Notes

- If you get someone who does not understand English very well and you can not make yourself understood, or someone who is making nuisance responses, then say, *"…I am sorry for disturbing you. Thank you for your time."* Terminate call and go onto the next number.

- Remember that we are after both respondents and their accompanying persons expenditure if they did not participate in the festival.

- If people are concerned about giving expenditure details tell them that the results will be aggregated and that they will not be identified as individuals.

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Prof Trevor Mules

Trevor was formerly Deputy Director of the Centre for Tourism and Hotel Management research at Griffith University Gold Coast campus. He has published widely, and has a primary interest in tourism economics and the economics of special events. He has carried out various pre- and post economic impact studies for, among others, the Adelaide Grand Prix, the Sydney 2000 Olympics, the Gold Coast Wintersun Festival, and the 1999 Canberra Floriade, and has acted as consultant to public and private tourism organisations. Trevor is the ACT Node Coordinator for the CRC for Sustainable Tourism and Director of the Centre for Tourism Research at the University of Canberra.

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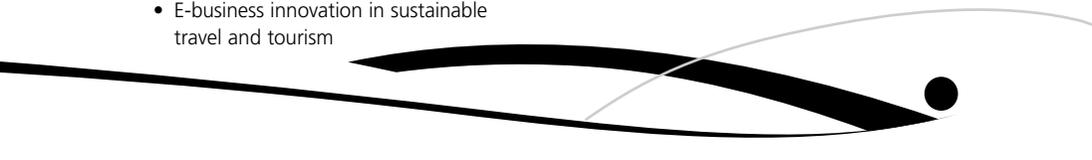 CEO – Graeme Worboys
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