



# Envisioning sustainable tourism futures: An evaluation of the futures wheel method

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## ABSTRACT

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*Methods for researching the future have grown both in variety and rigour, offering new opportunities for understanding sustainable tourism. This paper discusses the value of futures research as a tool for envisioning and planning sustainable tourism futures but observes that there is greater potential for the use of futures methods in tourism. The aim of this paper is to evaluate the usefulness of a particular method known as the futures wheel as a sustainable planning tool for tourism decision makers and researchers. The futures wheel method is combined with a grounded theory approach to capture and distil the tacit knowledge of three 'expert' think tanks. The evaluation suggests that the futures wheel is a useful tool for researching sustainable tourism futures but that its potential may be enhanced if it can be combined with other futures research methods.*

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## INTRODUCTION

An early paper by van Doorn (1982) had the title *Can Futures Research Contribute to Tourism Policy?* A cursory appraisal of the tourism literature since 1982 reveals that many tourism researchers have used a variety of futures research methods to explore not only tourism policy dimensions, but a range of other issues. Much of this research is dominated by tourism forecasting which is driven by complex quantitative models. Qualitative methods such as the Delphi technique, however, have also become quite prevalent. At the same time, the range of methods used by researchers in the broader futures studies field have expanded both in terms of variety and rigour. The innovation in futures methods provides opportunities for more intelligent forecasts that can support the development of sustainable strategies that minimise risks and reduce the impact of crises. While tourism futures research has taken root, it is underdeveloped and there is a surprising lack of breadth and diversity of studies. A more complete understanding of the future of tourism will only emerge if there is a concerted effort from a larger number of researchers to explore this area using a variety of methods. The purpose of this paper is to evaluate the suitability of one particular qualitative method known as the futures wheel for researching sustainable tourism futures.

## Future studies and sustainable tourism

The field of future studies is a relatively new research area, although its epistemological

origins can be linked to divination, prophecy and more recently, science fiction (Dellios, 2001). Contemporary futures research has, however, evolved from the realm of fantasy to address the pragmatic need to explore the future in order to more fully understand the demands and decisions of the present. Futures studies have been described as more closely related to the social sciences than to the pure sciences (Slaughter, 1996). Wagar (1991) argues that the study of the future should be a social science in its own right. He observes that none of the established social sciences directs its full attention to the future, but most social sciences have a predictive component. Despite these sentiments, it is probably more appropriate to describe futures studies as a multidisciplinary field that is concerned with a wide range of views about possible, probable and preferable futures.

Futures research generally does not seek to predict the future. Futurists are usually interested in helping decision makers to better understand future possibilities in order to improve decisions in the present. Planners, policy makers and managers have to make decisions in the context of uncertainty about the future. Futures studies help decision makers to deal with this uncertainty by illuminating what is known, what can be discovered, what the range of possibilities are, what the most desirable possibilities are and how present decisions may unfold in a variety of possible futures (World Futures Society, 2007). Therefore, while not claiming to be predictive, futures research can develop intelligent forecasts about what is possible and indicate strategies that minimise risks and reduce the impact of crises.

While futures research can help decision makers to respond to undesirable futures, it also generates a capacity to envision desirable futures and the decisions that need to be made to reach such futures. This aspect of futures studies has a strategic planning overtone and illustrates the potential application of futures research methods in helping tourism decision makers to manage crises and risk. Systems thinking, or the notion

that everything is connected to everything else, has characterised most futures research (Hughes, 1985). This makes futures studies particularly compatible with the study of sustainability, which inherently requires a systematic, long-range analysis of activities, impacts and outcomes. UNESCO (1995: 178) observed that 'the very notion of sustainable development requires a long-term view of development problems and policies'. This view is also consistent with recent discourse in the tourism literature that has suggested that sustainability should not be viewed as an end point but a transition that is informed by new knowledge and understanding of complex systems (Farrell & Twining-Ward, 2004).

Futures trends and developments are drawn from the work of various commentators, self-styled futurists and researchers, often outside the sphere of tourism. As a result, tourism researchers often treat futures research with some suspicion. Slaughter (1996) observes that academia has traditionally valued the past much more deeply than the future and as a result have tended to discount futures research. There are several reasons for this caution:

1. Much of the work presented is by nature speculative. While some of the observations, such as changes in demography and society are well researched and documented within the consumer behaviour and sociology literature, others are quite clearly based on subjective opinion and dogmatic assertions.
2. Futures research often lacks empirical testing and draws on a broad range of methods.
3. Some of the views presented in futures research lack widespread collaborative agreement.

Despite these reservations, it has been suggested that there is a clear role for universities in the development of advanced futures discourse (Slaughter, 1996). It certainly appears that tourism futures research is receiving increasing academic interest. This is exemplified by sustainable futures and tourism futures conferences as well as a growing body of literature dedicated

to this area (cf Lockwood and Medlik, 2001; Buhalis and Costa, 2006a,b). Academic interest has been stimulated by the evolution of more rigorous methodologies within the futures studies field as well as a recognition that tourism research, particularly with a sustainable thread, can potentially benefit from a better understanding of the future.

### Methods for studying the future

Most futures research methods are concerned with long-range forecasting with time horizons of 25–50 years. The UNDP (1986) suggests that 25 years offers a useful planning horizon because a majority of the population in most countries is likely to be alive within this time-frame. A diverse suite of qualitative (usually subjective) and quantitative (more objective) research methods for studying the long-term future have evolved over the last 30 years. The World Futures Society (2007) classifies these futures research methods into descriptive or prescriptive approaches. Descriptive or extrapolative methods seek to describe objectively what the future *will* be or *could* be. Prescriptive methods adopt a more normative approach and are concerned with how the future *should* be. Pesonen *et al.* (2000) further divide futures research methods into six categories:

1. *Extrapolative methods*: based on the notion that the future represents a logical extension of the past (ie trend analysis, time series, regression, econometrics and simulation modelling).
2. *Exploratory methods*: usually use qualitative methods to structure possible futures (ie morphological analysis, relevance trees, mind mapping and futures wheels).
3. *Modelling*: seek to describe the future by identifying the determining mechanisms of past events and how these influence the future (ie analogy analysis, technological sequence analysis, stakeholder analysis and structural analysis).
4. *Scenarios*: start with the basic premise that the future is unpredictable and as a result

modelling will not lead to one future but to many different futures, each of which can be described in the form of a scenario.

5. *Participatory methods*: rely on expert and stakeholder opinions and insights about the future (ie Delphi technique, cross-impact analysis and scanning and focus groups).
6. *Normative methods*: investigate what the future should be and what steps are necessary to get to that future (ie backcasting).

These six categories are by no means exclusive and a number of futures research methods may incorporate elements of one or more categories depending on the research design. Furthermore, many futures researchers advocate a multi-method approach when exploring the future.

Dellios (2001) notes that qualitative futures research methods, such as the exploratory and participative approaches described earlier often utilise expert knowledge to provide a greater, more in-depth understanding of the subject under investigation. Expert knowledge about the future can be difficult to capture because it often comes in the form of tacit knowledge embedded in the experiences of individuals. The challenge for researchers (and managers) is to convert this tacit knowledge into explicit knowledge so that it can be used to interpret the future (Cooper, 2006; Abernathy *et al.*, 2005; Scapolo & Miles, 2006). Common approaches to eliciting expert knowledge in tourism include the Delphi technique and nominal ranking methods (Choy, 1990). The value of Delphi techniques for eliciting tacit knowledge, however, has been challenged by a number of authors (Rowe & Wright, 1999; Rowe *et al.*, 2005). This paper is concerned with an alternative expert knowledge elicitation technique known as the futures wheel.

### The futures wheel

The futures wheel is a simple futures research method designed to systematically capture

qualitative expert knowledge. The futures wheel allows researchers to identify and present secondary and tertiary consequences of trends and events. It was developed by Glenn (1972) and has been adopted by corporate planners and public policy makers to identify potential problems and opportunities, new markets, products, and services and to assess alternative tactics and strategies. The use of the futures wheel has been documented in the futures literature as a useful tool for constructing future scenarios (Slaughter, 1987). The method, however, has been reported in only a handful of academic studies. It has been most commonly used in the education literature as a tool to help students visualise the consequences of trends or events (Wagschal and Johnson, 1986; Boujaoude, 2000; Deal, 2002). This technique has also been used by Salvadori (1997) to stimulate children to think about the future of their neighbourhood. A more recent research paper by Birkner and Birkner (2002) included the futures wheel in a review of methodologies for envisioning the future of occupational hygiene. In the management literature, the approach has been suggested as a group discussion technique designed to help group members think systematically about the future consequences of a decision (Haas and Martin, 1997). An exhaustive search of the tourism literature failed to reveal any studies employing the futures wheel technique.

In a definitive review of the method, Glenn (1994) proposes that the futures wheel is a structured brainstorming method for organising opinions about the future. According to Glenn (p. 2), the futures wheel is most commonly used to:

- think through possible impacts of current trends or potential future events
- organise thoughts about future events or trends
- create forecasts within alternative scenarios
- show complex interrelationships
- display other futures research
- develop multi-concepts

- nurture a futures-conscious perspective and
- aid in group brainstorming.

A common approach to operationalising the futures wheel involves identifying trends or possible future events. These trends are then presented to a respondent or a group of individuals. A facilitator is used to ask: ‘If this event occurs, then what happens next?’, or ‘What are the impacts or consequences?’. Responses are recorded as a set of sequential chains of impacts radiating out in a linear fashion from the initial trend. This concept is illustrated in Figure 1.

Because the futures wheel is a graphic organiser, it is useful for presenting complex interrelationships in a highly visual manner (Boujaoude, 2000; Deal, 2002). The futures wheel method is closely related to the concept of mind mapping. Unlike mind mapping, however, the futures wheel completes each ring in concentric circles by first exploring primary impacts, followed by secondary impacts, then tertiary impacts and so on. Mind mapping is useful for exploring linkages, but does not necessarily make distinctions between primary, secondary and tertiary impacts relative to other impacts radiating out in time (Glenn, 1994). The output of a futures wheel can be used as a basis for further thinking, for more systematic exploration, and for the application of other techniques for probing the future. It therefore offers some promise for exploring the future of various aspects of the tourism industry.

## RESEARCH AIM

The aim of this paper is to evaluate the use of the futures wheel method as a sustainable planning tool for tourism decision makers and researchers. The focus of this paper is on the method itself, rather than reporting the results of the study that was conducted.

## METHODOLOGY

The broad methodological approach involved the identification of 62 distinct trends that have

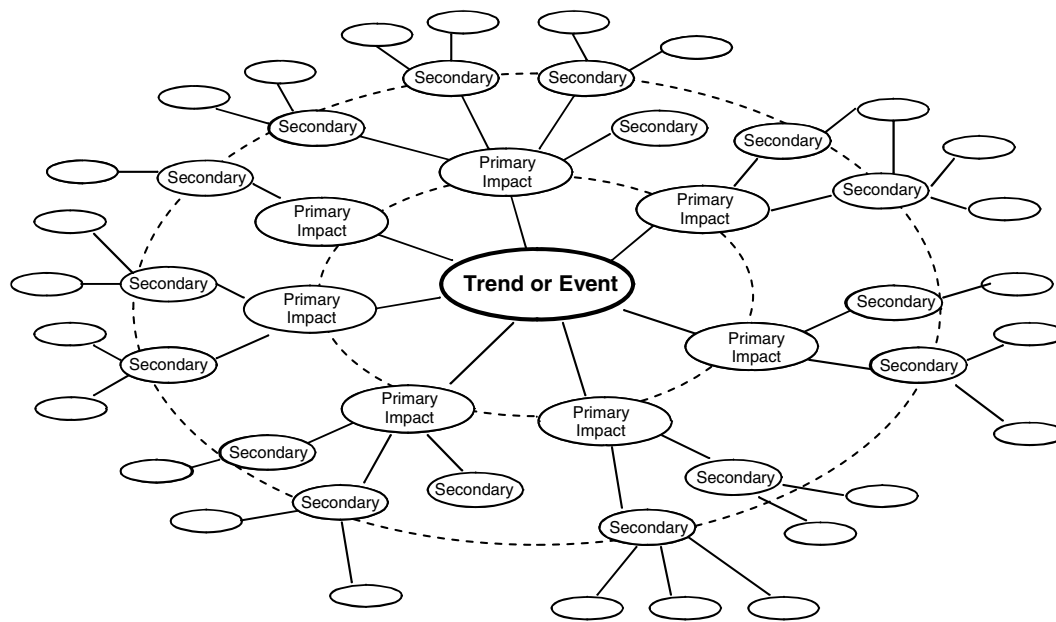


Figure 1 The basic futures wheel concept

the capacity to impact on tourism in the next 20 years. These trends were identified after an extensive search of literature in the areas of social change, technological innovation, economic forces, environmental influences, political change and changes within the tourism industry.

In order to operationalise the futures wheel concept, individuals were invited to attend one of three 150m 'think-tanks'. The think-tanks were structured into two sessions. The purpose of the first session was to identify a subset of 10–12 trends for further discussion, as it was recognised that time constraints and complexity would not make it feasible to evaluate the full set of 62 trends. The second session involved the use of the futures wheel to explore the trends identified in the first session. A flowchart of the method is presented in Figure 2.

The think-tanks consisted of between eight and 11 individuals who were guided by two researchers. Respondents for the three think-tanks were drawn from undergraduate students, postgraduate students and academics who were well acquainted with tourism as a

field of study. It was considered that an academic sample was more appropriate given that the futures wheel approach was a trial group methodology in sustainable tourism futures research. The researcher played the role of 'the oracle'. The purpose of the oracle was to clarify misunderstandings about trends without suggesting implications. A second independent researcher played the role of 'the facilitator' to minimise the potential for researcher bias.

The first session consisted of a 30m structured survey requiring participants to rate each of the 62 trends in terms of importance (1 = most important...10 = least important) and certainty (1 = most certain...10 = least certain). The average scores for importance and certainty were calculated in real time and displayed on a two-dimensional matrix. The purpose of this approach was to easily identify those trends that were most *important* and most *uncertain*. This follows Schwartz (1996), who proposes the use of importance and uncertainty in the construction of alternative scenarios. The logic behind this approach is that trends that are both important and certain are more likely to have

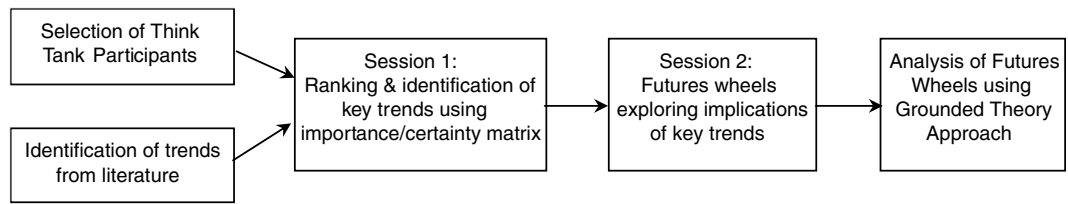


Figure 2 Flowchart of method used for data collection and analysis

a predictable outcome. Such trends are more easily anticipated and can therefore be dealt with by decision makers. It is therefore philosophically more rewarding to explore those trends which are important, but which have a more complex or uncertain outcome. Once these trends were selected they were passed to the facilitator for use in the second session of the think-tanks.

The second session involved the use of overhead transparencies to display the development of the futures wheel for all participants. The group of participants were seated in a horseshoe arrangement to ensure that all participants could see each other and the facilitator. The facilitator commenced with the first trend, which was shown in the centre of an overhead slide. The facilitator asked the group 'If this trend occurs, then what happens next?' As each respondent offered ideas, they were recorded by the facilitator on the overhead slide. Respondents could see the futures wheel expanding in real time and it was clear that individuals grasped the idea of the futures wheel quickly. As is the case in focus group research, the methodology allowed individuals to build on the ideas of their fellow participants.

The futures wheel approach generated 559 separate items across the three think-tanks. The items from each of the three think-tanks were subjected to an inductive thematic analysis. While this paper does not focus on the results of the study, the analysis technique that was used is described briefly because it was found to be particularly compatible with the type of data produced by the futures wheels. The purpose of the analysis was to develop broad

groupings of themes that could help to explain the underlying direction of the group discussions. The research therefore utilised a grounded theory approach to analysis that involved identifying theoretical categories that were derived from the data through the use of a continuous comparative method (Glaser and Strauss, 1967).

## RESULTS AND DISCUSSION

The method examined in this paper combined the futures wheel approach with elements of focus group research and grounded theory. It also used an importance/certainty framework as a means for identifying trends for further exploration. The following discussion evaluates the usefulness of the futures wheel approach by exploring the challenges, limitations and strengths of the methodology. Suggestions are made for enhancing this approach for use by tourism operators, researchers and planners.

### Practical challenges of using the futures wheel

There is a clear opportunity to fine-tune the futures wheel approach used in this research. Three aspects of the trial methodology created practical challenges. The first was the need to discuss 11–12 trends in a 100m time-frame. The second was the increased complexity of conceptualising a futures wheel with 11 or more trends. The third challenge was the selection of trends using the importance/certainty construct.

The first two challenges are easily solved by reducing the number of trends that a group will discuss, or increasing the length of the workshop. Owing to the possibility of mental exhaustion on the part of participants, and the

complexity of interrelationship between some trends, it is suggested that tourism research employing futures wheels should limit the analysis to five or six salient trends. If there is no need for a comparison between futures wheel groups, an alternative methodology could involve allocating separate trends to different futures wheel groups.

The third challenge is somewhat more complex because it is not possible to use the futures wheel to discuss every trend that a researcher may identify. There is considerable merit in selecting the most important and most certain trends. Alternately the most important and least certain trends can be selected, as was the case in this research. The selection of trends is somewhat dependent on the aims and audience of the particular study.

Where the certainty/importance matrices are used in combination with a futures wheel approach it may be more appropriate to gather ratings of importance and certainty from a larger sample prior to their use on a futures wheel. This gives researchers more time to clearly delineate those trends that should be discussed by a futures wheel think-tank. The Delphi technique may be one useful methodology for identifying which trends to focus on in a future wheel activity. This approach, however, separates the data collection and development of importance/certainty matrices from the futures wheel process, and may result in the futures wheel participants having a lack of connection with trends that were rated by

a larger unconnected sample. To overcome this, the futures wheel think-tank could perhaps consist of a subset of participants who completed the ratings questionnaire.

### Strengths and limitations

The futures wheel approach shares some of its strengths and limitations with closely related methods such as focus group research and the Delphi technique. Some of the strengths reported by Glenn (1994) were confirmed by this research. The strengths and limitations of the futures wheel can be discussed in terms of the method's ease of use, quantity and quality of data, respondent flexibility, speed of data collection and outputs. A summary of strengths and weaknesses is presented below in Table 1.

The futures wheel is easy to use because it appears to be readily grasped by participants in a focus group setting. The futures wheel think-tanks commenced with a brief example of how the concept works. This was achieved by selecting a topic that was not linked with the research, but that all participants could relate to, and illustrating how the wheel is used to explore consequences. This approach worked well in the three think-tanks conducted for this research, but it was found that some participants needed time in the first few minutes of the futures wheel exercise to familiarise themselves with the task. It is suggested that the facilitator needs to play a supportive role during the first few minutes by reassuring participants and encouraging the free flow of ideas.

**Table 1: Strengths and weaknesses of the futures wheel method**

<i>Strengths</i>	<i>Weaknesses</i>
<ul style="list-style-type: none"> <li>• Easily grasped by participants</li> <li>• Stimulates complex, systematic thinking</li> <li>• Provides a clear visual map of complex interactions</li> <li>• Flexibility for respondents</li> <li>• Fast data collection</li> <li>• No transcription of data required</li> </ul>	<ul style="list-style-type: none"> <li>• 'Intellectual Spaghetti'</li> <li>• Results vary in consistency</li> <li>• Limited by knowledge and perceptions of participants</li> <li>• Information overload</li> <li>• Complex and time-consuming data analysis</li> <li>• Higher cost per respondent</li> <li>• Speculative nature of data</li> </ul>

Glenn (1994) cautions that if a disciplined approach is not adopted in using the futures wheel, researchers may end up with ‘messy intellectual spaghetti’ that makes the implications of the trend difficult to interpret. The disciplined use of primary, secondary, tertiary, etc rings is one way to help prevent the problem. Constant reminders from the facilitator to adhere to this structure can, however, impede the free flowing nature of the discussion, leading to fewer synergies between the responses of various individuals. For example, individuals will at times make observations and provide examples that are not strictly consequences of preceding items on the wheel. It is therefore essential for the facilitator to maintain the discussion while showing some sensitivity for the structure of the futures wheel.

A key strength of the method is the fact that the data produced by the futures wheel encourages participants and the researcher to adopt a more organic, complex view of a phenomenon, which is particularly well suited to sustainability research. Rather than producing simplistic linear data, the futures wheel stimulates complex, systematic thinking and provides a relatively clear, visual map of the potential complexity of interactions. As a result, the futures wheel approach results in a vast amount of qualitative information that has both depth and contextual richness. The ability to link concepts together allows participants, and the researcher to clarify the relationships between items. These linkages can sometime be lost in a less-structured setting such as the Delphi technique and focus group research.

While the amount of information generated by this method is viewed as a strength, it should be noted that the information varies in consistency. Like related methods, such as the Delphi technique, in-depth interviews and focus groups, the futures wheel is limited by the knowledge and perceptions of participants. If the discussion and timing is not coordinated by a skilled facilitator, participants may fall into a pattern of exploring endless chains of consequences. These consequences eventually become

so far removed from the central theme that they become irrelevant. This means that the facilitator must finely balance the need for additional detail with the need to move to the next trend, to ensure that all trends were explored. This is in accordance with Wagschal (1981), who noted that the futures wheel process swiftly uncovers unexpected implications in a group setting but requires some restriction to prevent participants from arriving at conclusions that become too speculative. The experience of this research shows that participants did not move beyond five levels of consequences. At this level, the research generated three very large and detailed futures wheels that provided a rich dataset for further analysis. Figure 3 is one of the futures wheels for illustrative purposes only.

The detailed nature of the data creates some complexities in analysis. The research used a grounded theory approach to analyse the data. The data, however, could also be conceptualised deductively by testing a pre-existing theoretical framework. Whether an inductive or deductive approach is adopted, the sheer amount of information and complexity of linkages can become overwhelming for the researcher unless patterns emerge.

Unlike questionnaires or structured interviews, the futures wheel methodology does offer a great deal of scope for flexibility. The method is intended to allow participants to think freely — therefore responses are not limited by questions. The only question asked repeatedly by the facilitator is ‘what would happen next if this trend or implication eventuates?’ Beyond this, respondents are free to guide the direction of the discussion within the time limitations established by the facilitator. Interviewer bias is reduced because the method does not rely on structured questions, but a set of trends.

When contrasted with other methods, such as mail surveys, questionnaires and personal interviews, the futures wheel approach is a relatively fast way of collecting data. Assuming that groups can be convened quickly, the actual



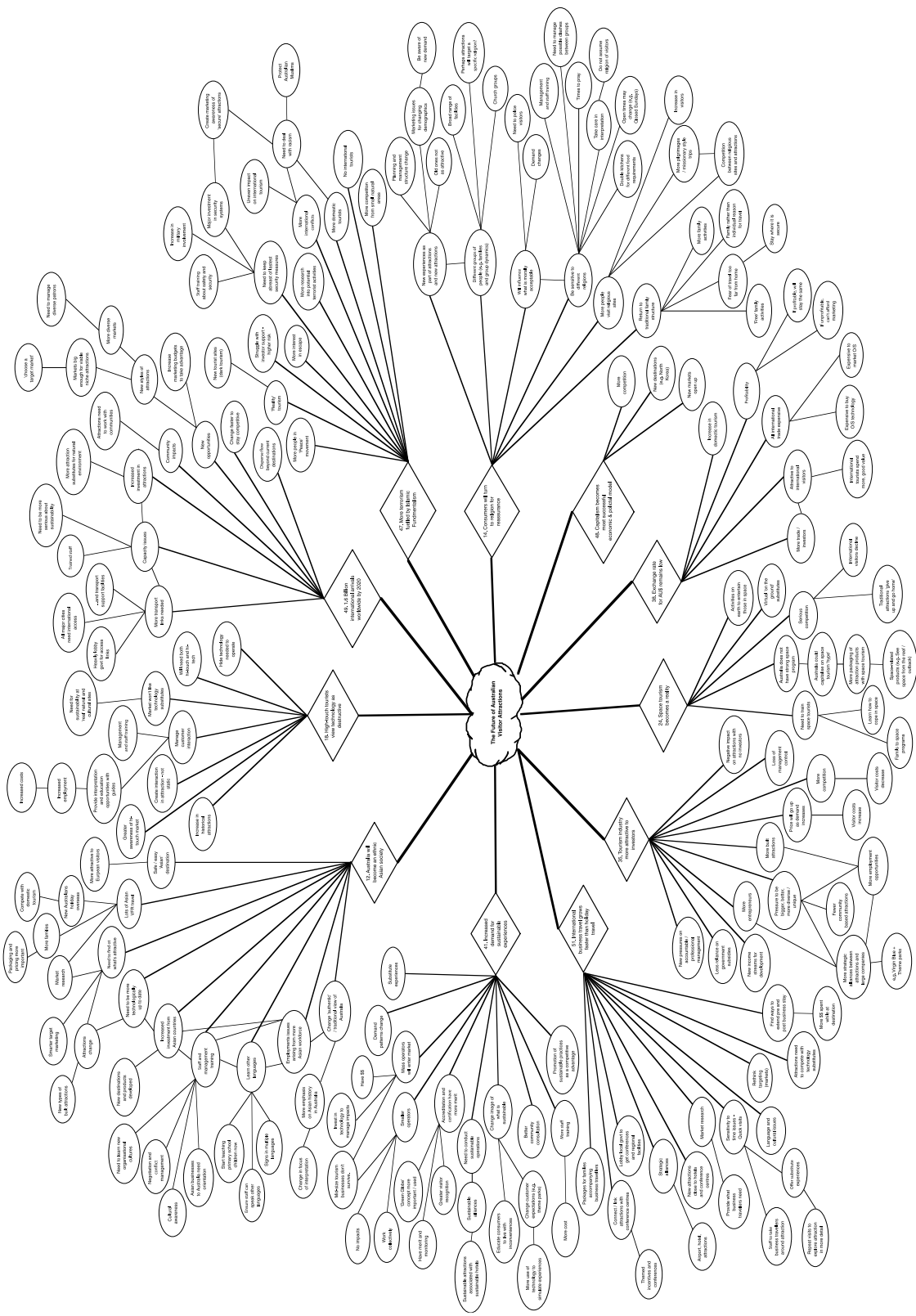


Figure 3 Example of future wheel generated by one two-hour think-tank

process of collecting the data is less than 3h per group. An added advantage is that the futures wheels can be used by researchers without the time-consuming task of transcribing responses, as is the case with focus groups. Links are more obvious and less likely to be overlooked by the researcher during analysis.

The approach used for this study needs to be considered in the context of related methods such as focus groups and the Delphi Technique. Focus groups allow the researcher to gain a broad understanding of a group's perspectives. While a relatively homogenous group might be expected to have a number of common perspectives, agreement or convergence of ideas is not necessarily a desired outcome (Krueger and Casey, 2000). The futures wheel technique used in this study shared this characteristic because there was no expectation that all participants had to agree on a particular implication before it was added to the futures wheel. In contrast, the Delphi Technique seeks to produce a convergence of opinion without the need for participants to meet. Since participants never meet, the issues associated with group dynamics are avoided. Group dynamics are an important consideration in this research, as the interaction between individuals in the group may have some bearing on the results.

The structure of the think-tanks in this research did not allow respondents to reflect on the final wheel. If time permits, it may be useful to ask participants to reflect on the final wheel. This may result in participants adding items, deleting items, editing words and making additional linkages between items, thereby improving the quality of the data. This step would allow a group to clarify its thoughts, thereby making the final wheel more realistic.

### **Conclusion and implications**

The aim of this paper was to evaluate the use of the futures wheel as one of many approaches to help tourism decision makers and researchers plan for a sustainable future. The potential of the futures wheel lies in its ability to help managers, planners and policy makers explore

the outcomes of trends. In doing so, decision makers and researchers can use the output of a futures wheel to simulate how a business, destination or industry might fare if certain strategies are implemented. This could help decision makers to modify plans to ensure that strategies and objectives are sufficiently robust to withstand a range of future shocks.

Clearly the futures wheel does not provide a predictive capability for events such as the 2001 terrorist attacks in New York, but it does allow decision makers to ask question such as 'what would happen if there was an escalation in global terrorism?' or 'what would happen if a new virus grounds international aviation?' Such events have occurred in the relatively recent past, however, a broad sweep of the futures literature shows that some authors expressed concerns about the escalation of terrorism and disease in the mid- to late- 1990s. An awareness of the possibility of future events could support the development of more robust crisis and risk management plans.

The futures wheel technique compares favourably with other forecasting techniques, such as data extrapolation and the Delphi technique. In spite of this, the futures wheel does not provide a definitive analysis of the future. A more complete picture of the future can be constructed by combining a futures wheel analysis with complementary qualitative and quantitative forecasting techniques. For example, Chong (1996) combined brainstorming rounds, a Delphi survey, futures wheels mapping, cross-impact analysis and scenario writing in a five-stage futuring process. As a qualitative technique, the futures wheel is particularly useful in adding both conceptual and contextual richness to traditional quantitative methods that rely on the extrapolation of statistical data. Alternatively, the outcomes of a futures wheel can be used to identify key concepts as the basis for a more structured quantitative study.

While this research utilised an 'expert' academic sample, the method is an easy means of diagnosing any group's collective thinking about the future. The futures wheel offers a

structured approach for envisioning various sustainable futures in the tourism industry. This includes applications such as exploring the sustainable future of the tourism industry for a defined geographic area (ie town, region, country and world), a specific sector (accommodation, transport, attractions, etc) or a major issue (ie climate change). The futures wheel can also be used to determine community attitudes to future developments in tourism. Alternately, as suggested by several authors, the information gained from a futures wheel exercise can be used in the construction of alternative scenarios against which strategic plans can be developed or tested or which could themselves be presented to respondents for further feedback (Glenn, 1994; Schwartz, 1996; Ringland, 2002). The use of an academic sample in this research confirms the suggestion by some authors that the futures wheel could also be used as an analytical tool for students in tourism education.

The futures wheel was conceived as a tool for exploring the future of a place, industry or phenomenon. In this context it is a useful methodology, which produced results that were consistent with past findings, while also providing several new insights. When the futures wheel is coupled with a strong methodological approach such as grounded theory analysis, it becomes a useful tool for exploring sustainable tourism futures. The futures wheel concept continues to evolve. In his recent research, List (2004) modified the futures wheel so that the exploration of trends does not start from the present. Instead, participants were asked to construct futures wheels that extended as far into the past as they did into the future. This allowed for a more reflective approach that helped participants to identify continuing trends emanating from multiple pasts that converge on the present and lead to alternative futures.

The future offers unlimited opportunities for sustainable tourism research, provided rigorous and diverse quantitative and qualitative methodologies can be devised to test and compare findings. Since the future is constantly evolving, ongoing research will undoubtedly reveal new

market trends and industry changes. A small handful of studies, however, cannot pretend to provide strong predictive power of the future. It is only through a concerted effort by a larger number of researchers that a more complete view of the future of tourism will emerge.

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