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Northcote, J. , Lee, D. , Chok, S. and Wegner, A. (2008) An email-based Delphi approach to tourism program evaluation: Involving stakeholders in research design. Current Issues in Tourism, 11 (3). pp. 269-279.

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An Email-Based Delphi Approach to Tourism Program Evaluation: Involving Stakeholders in Research Design

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Abstract: *A panel of key stakeholders was consulted in the design of a survey being used for evaluating the Tapestry Tourism Futures Project – a systems-based modelling project in the south-west of Western Australia. The email-based Delphi consultation approach that was adopted was seen as a means of increasing the relevance of the outcomes to stakeholders. It is argued that this approach resulted in the participation of a diverse range of stakeholders in a time- and cost-efficient manner. However, some limitations of the method in terms of the provision of adequate feedback and direction are noted. It is concluded that through close liaison between the panel coordinator and advisory panel participants, an email-based Delphi process constitutes a highly effective consultation method for involving stakeholders in tourism research design.*

Keywords: Delphi, expert panel, evaluation, consultation, research design, email

Introduction

The Delphi approach is proving to be a popular method among tourism researchers for not only obtaining expert information related to a range of tourism issues (as used in forecasting trends), but also for obtaining expert and stakeholder input into the research design prior to data gathering. In a recent evaluation of the community placement of the Tourism Futures Project (TFP) in the South West ‘Tapestry’ region of Australia, key industry and scientific stakeholders in the project were consulted to assist in the design of a participant survey. A panel group process was employed, whereby consultation was carried out with invited participants, who devised a set of key questions for a community survey. The survey was subsequently administered and formed the basis for the evaluation results that were collated in the final report (Lee *et al.*, forthcoming).

As a means of obtaining input into the research design from key stakeholders, the Delphi process offers potential as an effective participatory method of stakeholder consultation that removes the problems of interpersonal influence and power relationships between participants. A description of the consultation process involved and assessment of its strengths and weaknesses is presented here. It is argued that the results of the panel group approach were highly beneficial for increasing the relevance of the evaluation to stakeholders, and that such an approach may serve as a template for other evaluation designs that seek to increase the quality and relevance of results for stakeholders. Some challenges in implementing the Delphi procedure are discussed, with suggestions offered for ensuring adequate feedback and guidance to panel members.

Background

The TFP is a systems-based modelling project that was designed by the Australian Commonwealth Scientific and Research Organization (CSIRO) to assist planners and tourism operators to understand their community and business capacity to deal with changes in the tourism market (Walker *et al.*, 1999). First implemented in 1997 in the Shire of Port Douglas, Queensland, the project expanded into a regional Sustainable Tourism Cooperative Research Centre (STCRC) funded project in the South West ‘Tapestry’ Region of Western Australia where, after an initial implementation phase, funding and management of the project was placed in the hands of the local governments, tourism operators and university personnel within the region. An evaluation of the community placement of the Tapestry TFP attracted a high level of interest from various stakeholder organisations that had been involved in the project, namely, the STCRC, Tourism Western Australia (TWA) and CSIRO. However, it was not clear to the evaluation team precisely what the interests of the stakeholder organisations were and, hence, what issues they wanted addressed by the evaluation. As a means of improving the pertinence of questions and increasing the relevance of the results to these stakeholders, a decision was made to convene an advisory panel consisting of key representatives from those stakeholder organisations to advise on the content of the questions for the participant survey.

Quite distinct from ‘steering committees’, the advisory panel was requested to provide direct input into the survey design, not to advise on general matters of methodology and reporting. A ‘Delphi’ approach was selected as an appropriate method for devising the list of key survey questions. The distinctive feature of the Delphi technique – in contrast to focus groups and nominal groups (Krueger & Casey, 2000; Ritchie, 1987) – is that participants are not co-present and remain anonymous to one another, hence relatively free of influences and constraints that characterise group dynamics. Participants in a Delphi group are typically presented with a topic and asked to reflect individually before returning their responses to the moderator. They are then given the opportunity to comment on a compendium of these responses (through either open discussion or a survey), resulting in a further refinement of the views canvassed. Then, by either an iterative process directed towards consensus (Dalkey, 1967) or a ranking or rating process (Delbecq *et al.*, 1975: 98–103), the final selection of items is compiled. At some stage (preferably after the initial compendium of responses is compiled), the items might be grouped into common themes in order to clarify the responses and remove redundancy – a procedure similar to content analysis (Krippendorf, 1980).

The use of Delphi advisory panels in tourism research is quite common (Kaynak *et al.*, 1994; Moeller & Shafer, 1987; Moutinho and Witt, 1995; Tideswell *et al.*, 2001; Weber & Ladkin, 2003), and is particularly seen to be valuable when the views of key experts are to be canvassed (Green & Hunter, 1992). Miller (2001) employed the Delphi method to develop a set of indicators to measure sustainable development. Delamere *et al.* (2001) employed the Delphi technique for item selection in their survey of resident attitudes towards festival events. The use of the term ‘Delphi’ in both Miller’s (2001) and Delamere *et al.*’s (2001) studies, however, is somewhat of a misnomer, being a corruption of the original term coined by the Rand Corporation (Dalkey, 1969), which was applied only to forecasting and scenario modelling. Drawing on the concept of the Delphi oracle of ancient Greece – the function of which was to foretell the future for those who sought its counsel – the Rand Corporation employed a group of advisors for modelling likely scenarios for future events (particularly war scenarios). Consequently, the term ‘Delphi’ should, technically speaking, be reserved

only for those techniques that involve scenario modelling or forecasting (e.g. Archer, 1994; Kaynak *et al.*, 1994; Lee & Kim, 1998; Moeller & Shafer, 1987; Moutinho & Witt, 1995; Tideswell *et al.*, 2001). However, the common application of the term to non-forecasting purposes (as encouraged by Delbecq *et al.*, 1975: 84) means that this expanded meaning has 'stuck' among researchers, and for this reason, the term shall be deemed appropriate for the method described in the present discussion.

Although web-based Delphi processes have been used by Rockwell *et al.* (2000) and by Young and Ross (2000a), the use of email as the medium for the Delphi process is not as common. Briedenhann and Butts (2006) employed an email-based Delphi approach with mixed success in their project to develop indicators for an evaluation framework to be employed in rural tourism development. The email-based approach shares the advantages of web-based approaches, and also overcomes some of their weaknesses. In evaluating their methodology, Young and Ross (2000a) noted that participants preferred the web-based method over the traditional paper-and-pencil method. In one study (Young, 1998), participants listed the following advantages to a web-based Delphi process: (1) it saved time and researcher money; (2) it was convenient; and (3) it was fun. In another study (Young & Ross, 2000b), participants indicated that they were more likely to participate in a web-based process, and that its advantages were (1) speed of response; (2) efficiency of method; (3) interactive nature of email reminders; and (4) environmentally friendly in terms of its non-use of paper. Difficulties in accessing websites and the lack of personability associated with websites, however, undermined the effectiveness of web-based methods. These are problems that are arguably not associated with email-based approaches, which involve the transmission of relevant documentation as email attachments and offer personalised interaction through email correspondence between the panel coordinator and the participant.

It should be noted that Briedenhann and Butts (2006) experienced some difficulties in using an email-based approach in their study, commenting that they were hampered by involvement of a large group of 60 panelists, which resulted in considerable time and management effort by the researcher. The recommended size of panels varies in the literature, with Delbecq *et al.* (1975) contending that 10 to 15 respondents can be sufficient, while other studies use much larger panel sizes, from 40 participants (Green & Hunter, 1992) to over 70 participants (Miller, 2001). The choice of panel size ultimately depends on the aims of the research, namely, whether the research seeks to gain a representative range of opinions or, as in the case of the Tapestry TFP evaluation, selected input from key stakeholders. Consequently, the Tapestry TFP evaluation team sought to invite only a small group of keen stakeholders to participate in the panel which, in hindsight, made the process relatively easy to manage in comparison to Briedenhann and Butts' (2006) study.

The Consultation Process

The decision to employ an email-based Delphi technique was determined by both the geographically diverse location of participants in the panel and the benefits that were anticipated from an anonymous approach to group consultation. The nature of participants' time demands and dispersed locations (with three participants being from the Australian east coast and the other four from the west coast) meant that face-to-face contact could not be arranged given the limited financial resources available to the evaluation team. Also, the high standing of some of the panel members in the research community was felt to be a possible intimidating factor for some of the less high profile participants in the panel, and so

anonymity was seen to be a means for ensuring open contributions from all participants. The choice was made to employ a basic three-step iteration process that skipped the open group discussion phase often used in Delphi approaches (Delbecq *et al.*, 1975: 11). The choice of a less discussionbased approach was guided by the relatively straightforward requirements of the process, which were to canvass participants' areas of interests for determining survey items rather than obtaining in-depth and consensual views that iterative processes aim to produce.

The first step involved assembling the advisory panel (Figure 1). The potential for bias in selecting panel members is regarded as a key concern in some Delphi studies (Briedenhann & Butts, 2006), but the issue is most relevant to those studies that seek to elicit a representative range of opinions rather than those that seek to reflect the interests of key stakeholders. Panel members were selected from a list of stakeholders compiled by the principal researcher, who was familiar with the key personnel either involved or interested in the project. Of the 12 people invited to participate, 7 were available or willing to serve on the advisory panel. As mentioned earlier, the small number of participants was, in hindsight, probably an advantage to the process, as it made managing feedback and integrating stakeholder input relatively straightforward, thereby overcoming the difficulties experienced by Briedenhann and Butts (2006) with their large group of participants.

The panel was coordinated by a member of the evaluation team, with the primary means of communication being email. Participants were completely anonymous to each other, with their dealings being restricted to email contact with the panel coordinator alone. Participants were not paid to be part of the advisory panel team.

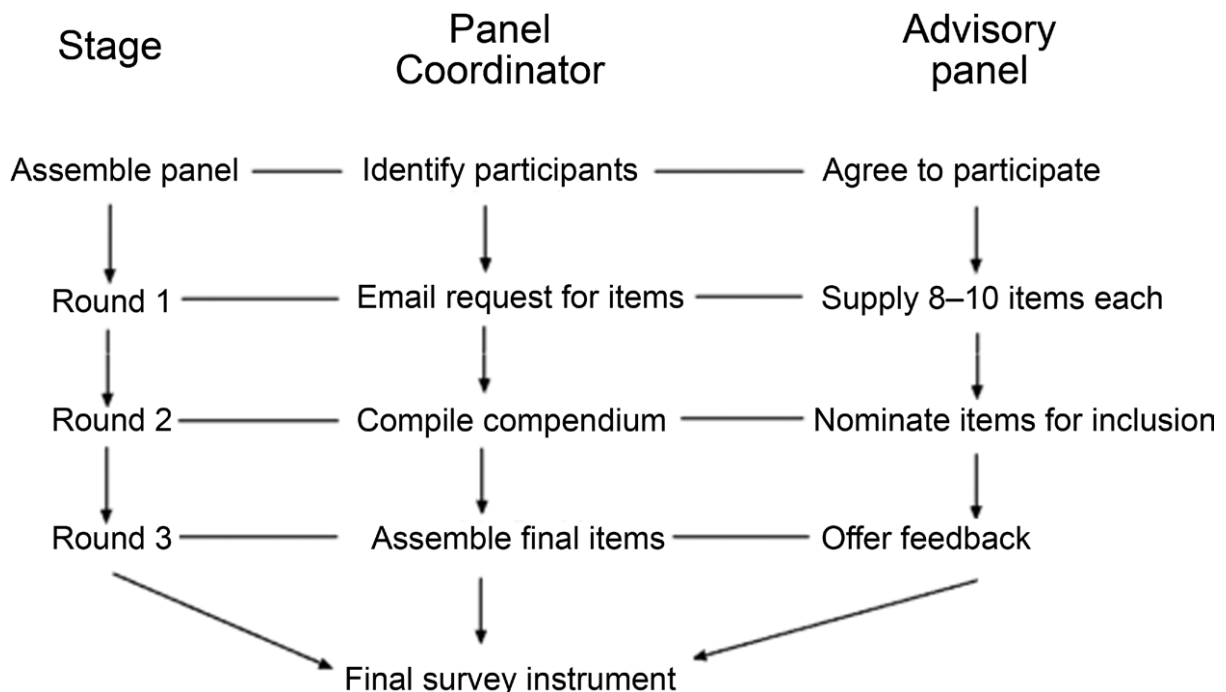


Figure 1 The Delphi consultation process employed in the Tapestry TFP project

In the first round of communication, each member of the advisory panel was asked to devise a list of 8–10 survey questions. Panel members were also asked to briefly justify the relevance of each question and to state what type of member of the local tourism community the question was to be directed towards (i.e. tourism operator, Shire authority, or other participant). The justification of questions was intended to assist the evaluation team in determining the objective being sought by the question, so that similar themed questions could be grouped together and redundancy removed. Panel members were given one week to compile their list, although late responses meant that effectively two weeks was allotted to the first phase. From the pool of questions that resulted, a compendium of items was compiled, in which redundant items were removed.

In the second round of communication, panel members were sent the compendium of 57 questions and asked to reduce the list to 36 questions by indicating their selection with a tick. Members were informed that their individual selections would be tallied and ranked to determine the final list (for a slightly different ranking approach, see Evans *et al.*, 2004). Although it was expected that most members would nominate their own questions for inclusion, the request to nominate up to three to four times the number of their own questions meant that they would be forced to give preferences to many questions devised by others. Hence, the tally system would ensure that the effect of self-bias would be minimised.

One week was allocated for selection of questions, but late responses again extended the phase to two weeks. The panel's nominations were then tallied, with items with five ticks being automatically included, but those with four ticks needing to be reduced, given that the number of four-rated items exceeded the number of places left. It was left to the panel coordinator to select the remaining questions from among those items tied with four ticks – a selection that was based on the coordinator's judgement as to the relevance and pertinence of the questions. The panel were sent the final survey instrument for comment and asked to respond within one week. Based on the feedback, some items were modified and a couple of items were added, but the bulk of the survey items submitted in this third round remained intact.

The three-round iterative structure of the Delphi process ensured adequate opportunity by participants to clarify their input and to approve the final survey instrument. Any further rounds were deemed unnecessary, as it was felt that saturation had been achieved and, further, the coordinator was conscious of minimising the time required to participate in the advisory panel, given that members were generally busy.

Assessing the Consultation Approach

In order to assess the value of the consultation approach used, members of the advisory panel were sent a questionnaire after the final round to rate the worth of the approach and to comment on its various strengths and weaknesses. Five of the seven panel members responded to this request. The first two items on the advisory panel questionnaire asked respondents to rate on a Likert scale from strongly agree to strongly disagree whether their views and interests were represented in the final survey instrument and to what extent they believe the consultation process resulted in a better survey instrument than if consultation had not been carried out. The third and fourth items asked them to list the advantages and disadvantages of the approach, followed by an open-ended question on how the technique

could be made more successful. At the bottom of the questionnaire, respondents were given the opportunity to provide any final comments.

Results

Three of the panel members strongly agreed, and two members agreed, that their views and interests were represented in the final survey instrument. Importantly, four strongly agreed and one agreed that the consultation process resulted in a better survey instrument than if consultation had not been carried out, with none disputing the overall benefit of the approach. The specific advantages listed included the following:

- (1) The process allowed for input from those that had been directly involved with the actual operation of the project.
- (2) It more effectively embraced the key issues.
- (3) Time allocated was not rushed.
- (4) Clarification could be sought and provided.
- (5) Acknowledgement was made (of advisory panel members' views).
- (6) The process allowed a wide selection of views.
- (7) Views were recirculated for comment/feedback.
- (8) It was possible to prioritise issues based on the views of the different stakeholder groups.

Among the specific disadvantages were the following:

- (1) There was a lack of time and low priority in their own work plan.
- (2) Members were asked to advise on issues/questions that were outside their expertise.
- (3) They were reliant on their ability to communicate their responses accurately in writing.
- (4) They were unable to seek further clarification of less detailed or ambiguous responses.
- (5) There was limited opportunity to explain why particular issues and priorities were raised.

One member of the panel voiced concern early in the process that reliance on panel members alone might mean that important items are missed, stating that the evaluation team is in the best position to nominate the preferred survey items. This member also raised concerns about the rating approach to final item selection, wondering if it was too mechanical in its approach.

Suggestions for improving the process were as follows:

- (1) Inclusion of an actual tourism business operator that conducts successful market research.
- (2) A brief follow-up telephone interview with respondents, not only to ensure their views are accurately represented, but also to identify why they have raised particular issues and priorities.

These two suggestions, made by different members of the panel, essentially refer to the issues of greater representation and follow-up.

Discussion

The results demonstrate a high level of approval of the Delphi consultation process by members of the advisory panel. The key advantages of the consultation process were that it allowed a diversity of stakeholder views to be incorporated into the design of the survey and that the process provided an opportunity for the input of the knowledge and experience of the advisory panel members involved. These aspects are not unique to the Delphi process, but concern the use of an 'expert panel' process generally. Among the advantages listed that are specific to the Delphi process were that it allowed participants to take their time in responding, and also that the feedback process was iterative in nature, thereby providing them with the opportunity to reflect on other participants' contributions and revise their views accordingly. These are the two factors that are often cited as a distinct benefit of the Delphi process. For example, in their evaluation of the value of the Delphi process, Van de Ven notes

[Participants] liked the process as an expedient, practical way for a wide variety of people to participate in decision making without having to attend a meeting. Respondents found the repetitive feedback and multiquestionnaire approach a convenient, sensible way to investigate a complex problem. (Van de Ven, 1974: 76)

The manner in which the Delphi approach constitutes an expedient, time-saving measure is no trivial matter when involving experts with busy schedules. This is particularly the case for people working in industry and government, where spare time is at a premium. In this respect, the use of email as the main communication method enhanced the expediency of the Delphi process.

With regard to the disadvantages cited by the advisory panel members, it is felt that more effective coordination of the consultation process could have overcome most of the issues identified here. Three of the five disadvantages mentioned concerned lack of feedback: relying on the ability of respondents to communicate their responses accurately in writing; being unable to seek further clarification of less detailed or ambiguous responses; and the limited opportunity to explain why particular issues and priorities were raised. It should be kept in mind that feelings by panel members of insufficient feedback are quite normal with the Delphi technique (Van de ven, 1974: 79), and this is largely due to the anonymous nature of the consultation process involved. Van de ven suggests that it is the absence of 'social-emotional support' in the anonymous process of Delphi consultation that underlies such feelings. However, the participants in our study indicated that the problem related more to the absence of feedback from the panel coordinator rather than from other panel members, hence the suggestion by one participant for the panel coordinator to undertake a follow-up consultation with participants by phone.

It should be pointed out that the approach employed in this study was more personable than most Delphi studies, with the panel coordinator being active in communicating instructions to participants and eliciting feedback. In contrast, other web-based approaches have involved participants inputting their responses to an anonymous website (Keil *et al.*, 2002; Pollard & Pollard, 2004; Rockwell *et al.*, 2000; Sherwood *et al.*, 2006) or bulletin board (Gabriel *et al.*, 2003). The more personable approach that was possible using email perhaps partially accounts for the success in sustaining the involvement of all starting participants throughout the process. In contrast, Delphi approaches that rely on websites have suffered participant attrition to varying degrees (Keil *et al.*, 2002; Rockwell *et al.*, 2000). However, the small

sample involved in this email-based approach does not warrant strong conclusions on this matter, and it may be the case that participants' level of familiarity with and interest in the Tapestry project was pivotal to sustaining their participation. At any rate, the potential for even closer communication between the panel coordinator and panel members would have ensured that any feelings of inadequate feedback were overcome.

The other issue raised by one participant – regarding the lack of their own expertise to produce a valid questionnaire – is also an issue concerning feedback from the panel coordinator. Non-research expert participants perhaps needed greater reassurance that their role was not to prepare the final survey instrument, but to have input into the types of items that were to be included. It was essentially the role of the panel coordinator in consultation with the evaluation team to filter the questions in accord with survey requirements. The discretion exercised by the panel coordinator in rephrasing the items, in selecting from items tied on level four support (that is, having four ticks), and also in taking the liberty of adding a couple of items himself on behalf of the evaluation team, enabled sufficient flexibility and authoritative arbitration to be introduced into the process. Amara (1975) regards the direct control that can be wielded by the researcher in shaping the study as a key benefit of the Delphi approach. In this case, it ensured that the interests of key stakeholders were balanced by the evaluation team's additional interest in producing a cohesive, well-rounded survey that was engaging for participants. It seems that panel participants were not sufficiently aware of the behind-the-scenes role played by the evaluation team in revising their responses to accord with this objective.

At the same time, the panel coordinator was aware of the fact that his intervention needed to be kept to a minimum to ensure the integrity of the Delphi process. This is one reason why his filtering role was perhaps not greatly emphasised to participants, as it was deemed undesirable in some ways. It is important to minimise the intrusion of the coordinator's subjective bias as far as possible (Briedenhann & Butts, 2006). In this respect, the employment of a tally procedure, which is common in Delphi studies, was deemed important to preserving some objectivity in the process. The suggestion by one panel member that the tally approach to determining the final schedule was too 'mechanical' suggests, however, that not all participants understood the benefits of its use. In retrospect, the panel coordinator should have communicated to participants the reason for employing a tally procedure, which was to avoid undermining the Delphi process by personally overriding some members' contributions and thereby run the risk of making the approach redundant as a participatory method. In hindsight, panel participants may have benefited from more explanation of the purpose of the Delphi approach and also from greater clarification of the panel coordinator's role in the process.

Conclusion

The use of an email-based Delphi approach resulted in a successful outcome for the design of the survey instrument employed in the Tapestry TFP evaluation. Panel members overwhelmingly approved the approach. Although the number of respondents who provided feedback on the approach is admittedly small (and therefore should not be taken as representative of the views of industry and research experts generally), the positive outcomes of this particular study offer promise to similar approaches adopted in other studies. The findings also highlight some of the key advantages and disadvantages associated with employing a Delphi consultation approach in tourism research.

The main advantage of the email-based consultation technique is that it enables stakeholders to have direct input into the survey design underpinning the evaluation without having to sacrifice a significant amount of time in their busy schedules. Its principal disadvantage is the lack of feedback from the panel coordinator – a problem that is unlikely an inherent limitation in the approach itself but a matter of better communication between panel coordinator and panel members. In fact, a key part of the success of the study is that the small size of the panel meant that it was possible for the coordinator to interact with members in a responsive and personable manner. This advantage should be maximised to its full potential in order to avoid the potential for misunderstandings and uncertainties.

With effective management, a Delphi process can be an efficient, cost-effective way of involving a diverse range of stakeholders in research design. It is an approach that lends itself well to a participatory approach in tourism research. The need for inclusiveness goes beyond merely ensuring the involvement of a wide range of experts (Wheeller *et al.*, 1990), but including non-experts as well. Although some panel members might question their ability to offer expert advice (as occurred in this study), their non-specialist opinion is itself a valuable resource, and one that such members need to be made aware is a valuable contribution to the study. In this respect, the Delphi technique should not be viewed as merely consultation with a group of experts, but as a means for engaging with a range of stakeholders whose areas and levels of expertise may vary. Such inclusiveness is consistent with the participatory ethos underpinning programmes such as the Tourism Futures Project, and is part of the overall trend in tourism planning towards community and industry involvement in research and evaluation.

Acknowledgements

The Sustainable Tourism Cooperative Research Centre, an Australian Government initiative, funded this research. We would like to thank the panel members who participated in this study.

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