iOutback™:

Evaluating the Need for an In-vehicle, Location-based, Two-way Information Exchange System for Travellers in Regional and Remote Areas

James Catlin, Roy Jones, Alan Pilgrim and Graham Thompson

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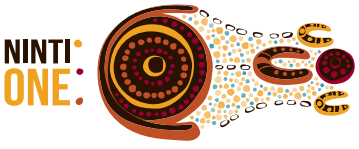

iOutback$^{TM:}$ Evaluating the Need for an In-vehicle, Location-based, Two-way Information Exchange System for Travellers in Regional and Remote Areas

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Executive summary

Recent research identified the need for the development of a comprehensive in-vehicle information system for independent self-drive travellers (iOutback™) in regional and remote Australia. The purpose of iOutback™ is to facilitate location-based two-way communication between travellers and relevant information providers (destination management organisations, emergency services, local government and/or tourism businesses) in remote destinations. This report looks at the feasibility of such a location-based information system in remote areas and reports on the results of a workshop conducted with stakeholders of a particular remote destination in South Australia – the Oodnadatta Track.

A detailed user-needs analysis was conducted with workshop participants to develop a set of user-needs specifications for iOutback™. It is argued that existing technical barriers to improved location-based communication in remote Australia are likely to be short term. Given the rapid rate of change in communication technologies, the development of new and innovative information systems should be primarily concerned with organising and managing the required information architecture and protocols rather than focusing too much on specifying technological aspects.

Following the workshop, a short video was placed online and publicised through interest groups to encourage individuals to respond to an accompanying survey. The results were used to gauge potential users' perceptions of such a system and to indicate pathways for further development of iOutback™. Overall, the iOutback™ was well received and indicated a demand for a system which would be primarily safety oriented but would also serve to augment current remote travel itineraries. Collectively, the results from the focus group and survey strongly endorse the need and suggest a demand for an iOutback™ form of communication system.

Contents

List of figures and tables

List of shortened forms

DSC	digital selective calling
4WD	four-wheel drive
GMDSS	Global Maritime Distress and Safety Systems
GPS	global positioning system
HF	high frequency
LBS	location-based system
PDA	personal digital assistant
SMS	short messaging service
SUNA	Scenario-based User Needs Analysis
VHF	very high frequency

1. Background

1.1 Introduction

Tourism has been described repeatedly as a potentially valuable economic activity for remote destinations in Australia (Blackman et al. 2004). This potential has yet to be fully realised and the evidence of the past 10 years indicates a decline in the number of international and domestic travellers to many remote destinations within Australia (Carson & Taylor 2008; Desert Knowledge Australia 2005). Organised and group travel has experienced substantial declines, with destinations becoming increasingly reliant on self-drive travellers (Greiner et al. 2004, 2005; Olsen 2003; Carson & Taylor 2008). Self-drive tourism markets, such as the four wheel drive (4WD) and caravan sectors, may have considerable potential to stimulate tourism growth in remote areas (Taylor & Prideaux 2006; Breen et al. 2006; Olsen 2003; Prideaux et al. 2001; Tourism Australia 2006) despite challenges such as rising fuel costs and (from time to time well-publicised) safety concerns. Independent markets such as self-drive travellers also have the capacity to inspire product innovation and foster the development of tourism away from the few existing iconic attractions (Wu & Carson 2008).

Schmallegger and Carson (2008) identified effective communication between tourism interests and self-drive travellers as a fundamental challenge for remote destinations. Self-drive tourists, as independent travellers, like to 'explore' and 'discover' new things during their trips and like to feel that they can make spontaneous decisions regarding itineraries or product consumption (Taylor & Prideaux 2006). While they are avid consultants of pre-trip information sources such as websites, guide books, brochures and road maps, these resources serve mainly to enhance the travellers' general knowledge of potential destinations and in the development of broad preliminary itineraries that may include major 'anchor points' (for example, the best places for rest or the main attractions) along the way (see also Stuart et al. 2005; Hyde & Lawson 2003; Carson et al. 2007). Conversely, detailed itineraries are built while on the road and are based on the acquisition of new and more accurate in situ information.

The availability of dynamic, in-trip information is also important to tourism stakeholders. Weather conditions can change rapidly, resulting in roads and attractions opening and closing with very little notice. A river in flood may cut road access for several days, or an ephemeral waterfall may provide a temporary scenic attraction in response to the same rain event. Seasonal and relatively unpredictable conditions can impact significantly on the operation of tourism businesses. Aboriginal tourism businesses may cease to operate due to a death in the community, or conversely may be able to offer extra tours or specific information in response to the seasonal migration of animals, blooming of wildflowers and so on (Tourism Australia 2007).

What becomes apparent is the emphasis placed by travellers on peer-to-peer communication such as word of mouth and information obtained directly through personal interactions with service providers (Schmallegger & Carson 2008). Tourism businesses, emergency service providers and other agencies also rely on maintaining regular contact with travellers (Jones 2007). The current ways of doing this are relatively unstructured. They have traditionally involved such activities as posting notices at visitor information centres and roadhouses or the erection of temporary signs. Some self-drive travellers have complained that these methods are of limited value because they perceive these sources as being directed at other travellers (those in tour groups and those with less experience), and that the currency and accuracy of the information provided can be questionable (Schmallegger & Carson 2008). As a result, product marketing opportunities are missed, important safety information is not always communicated, and both travellers and service providers 'miss out'. This is the motivation behind instigating the concept of iOutback™ as a comprehensive in-vehicle information system for independent self-drive travellers. This report will discuss the potential of iOutback™ in the context of the current tourism and communication settings in remote Australia through a review of the literature and consideration of the responses from both a focus group and an on-line survey.

1.2 Four-wheel drive tourism

Sales of 4WDs in Australia more than trebled between 1997 and 2005, from 58 697 to 181 958 (ABS 2006a), and their share of the passenger vehicle market increased from 8.76% to 18.53% over the same period (ABS 2006b). A brief slump in sales accompanied fuel price rises in 2005–06, but this upward trend in both absolute numbers and market share has now resumed. However, it is worth noting that over half the 4WDs sold in Australia are now either compact or luxury vehicles. The medium and large 4WDs, which are more suited for use in remote desert regions (Figure 1.1), constitute both a minority of 4WDs sold and a declining share of this market.

Figure 1.1: Large off-road 4WD vehicle
Source: Total Travel

While there is a measure of agreement that more tourists are visiting more destinations in desert Australia in vehicles with the physical potential to cause damage, it is when the debate turns to the people who drive the 4WDs that differences of opinion arise. On its website, the Pedestrian Council of Australia contended that 4WD drivers believed that their vehicles represented 'spacious status symbols, metal fortresses, badges of virility and tickets of outback adventure' and that 70% of respondents to a survey considered 4WD drivers to be more arrogant and aggressive than car users (PCA 2011).

It is certainly possible to cite examples of aggressive and arrogant behaviour by 4WD desert tourists. Most iconically, perhaps, the height of Big Red, the largest sand dune in the Simpson Desert, is being lowered by 4WD drivers who seek to 'conquer' it in their vehicles (Hoy 2005) – displaying, perhaps, the same insensitivity to the natural environment as that shown to the local cultural environment by the (pedestrian) tourists who seek to climb Uluru. However, such behaviour is not necessarily typical of 4WD drivers. Cliff Blake, the founder of the 'Tread Lightly on Public and Private Land' movement

contends that that the vast majority of the environmental damage caused by 4WD drivers in desert Australia results from accident and ignorance rather than from aggressive vandalism (Woodward 1995).

Nevertheless, it is reasonable to assume that urban-based 4WD tourists are more likely to be ignorant about both the desert environment and their desert driving abilities and, thus, to be more accident-prone than are other types of outback 4WD drivers (for example, local residents, scientists and government employees). In 1977 the Standing Committee on Environment and Conservation identified two types of 4WD tourists/drivers. 'Adventure/thrill seekers' were vehicle orientated. For them, the 4WD experience was focused on their driving ability, on vehicle performance and on the challenges that this involved; for example, and perhaps most negatively, in scaling a famous dune such as Big Red. By contrast, 'Activity/environmentally oriented' 4WD drivers saw their vehicles merely as a means of access to desired recreations and locations. The survey research, conducted by Taylor and Prideaux (2006) at 4WD outdoor shows in four Australian capital cities, largely bore out the Standing Committee's findings, though they also identified an intermediate group of 'Explorer travellers' who valued the experiences of the journey as well as those of the associated activities/environments. For the majority of 4WD desert tourists it would seem that the 'menace' can be significantly reduced through education, both about their inadequately impregnable and potentially dangerous 'metal fortresses' and about how the 'outback' can best be preserved as a ticket to adventure for future travellers.

The 4WD desert tourism market is not only fragmented by attitude – the 'Adventure/thrill seekers' and the 'Activity/environmentally oriented' groups referred to above. It can also be segmented on a whole series of criteria. Trip duration can range from hours to weeks. Spatially, this encompasses short visits to points of interest close to one of the desert settlements, transcontinental expeditions and everything in between. Most importantly here, the variation is in the remoteness of the tourists from support systems.

A related variable is, of course the level of skill, experience, equipment and expertise possessed by the participants. While it would be hoped that the longer and more remote and/or challenging the trip then the higher would be the skill levels of the participants, this is not necessarily the case. A further consideration is the scale and organisation of the trip. At one extreme, there are 4WD tours in which the drivers/mechanics/cooks are tourism professionals and the tourists are but passengers. In tag-along tours the tourism professional acts as guide and group leader while the tourists either own or hire the 4WDs that they drive and bring the bulk, if not all, of their own equipment. At another intermediate level 4WD clubs and societies organise their own group expeditions. And, informally, friends and extended families might travel together in several vehicles while the sole vehicle – and even the sole driver – comprise the other end of the continuum.

Finally, both 'Adventure/thrill seekers' and 'Activity/environmentally oriented' tourists can be further subdivided according to the focus of interest for their trip. For the former group it might be, as it is for climbers, the challenge of a particular itinerary (such as the Canning Stock Route) or of a particular feature (such as a gorge or a dune system). For the 'Activity/environmentally oriented' the choices are extremely wide; for example, ornithology, fossicking for gems and minerals, or visiting areas for their cultural heritage, be this pastoral, explorer-related or Aboriginal.

While virtually all 4WD desert tourists would be located towards the allocentric end of Plog's (1994) psychographic tourist profile they exhibit, as does any group at the edge of a bell curve, considerable internal diversity in terms of where they wish to go, how well-equipped they are to go there, and how realistic their perceptions are of both the environments they will encounter and their abilities to deal with the challenges that these environments will present.

A survey of the relevant academic and 'grey' literature revealed that both means (namely, education, and regulation) of minimising the harm done by 4WD desert tourism operate in two ways. Four-wheel drive desert tourists require two kinds of knowledge and skill. The first is directly vehicle-related and

concerns driver education, particularly the handling of a 4WD in specific terrain, such as deep sand, and mechanical knowledge, including the repair and maintenance of vehicles in remote conditions. The second relates specifically to the desert environment, both physical and cultural, informing potential tourists of its vulnerabilities (that is, the damage that a 4WD and its occupants can wreak) and its dangers, such as flash floods. While the former is likely to attract the 'Adventure/thrill seekers' and the latter the 'Activity/environmentally oriented' it is clear that there is a need for all tourists to be fully acquainted with both forms of knowledge.

Within Australia, sources of both types of education are numerous and widespread. They are provided through the many local 4WD clubs and societies across the country. A plethora of published information is also available. Furthermore, the provision and dissemination of these programs and this information is strongly supported by interest/environmental groups, such as the Tread Lightly organisation mentioned above and by governments. For example, 4WD clubs can be given registered training organisation status, which provides them with national certification of their courses.

However, while this information and these courses are readily available, to most Australians in most towns and cities it is non-compulsory. Four-wheel drive owners and hirers are free to travel to remote desert environments regardless of the amount of training and reading that they may have undertaken. While most 4WD owners in Australia may only drive so-called 'Toorak Tractors' (4WDs used only in the city and suburbs), the number of 4WD owners with little or no off-road and, particularly, desert-driving experience is growing rapidly. An area of greater concern relates to hirers who may have little or no experience of driving a 4WD in any conditions, let alone in remote and rugged desert terrain. In the case of some international hirers, this may also mean limited comprehension of English and therefore limited understanding of various operating instructions. For this reason one researcher conducted a 'mystery shopper' exercise visiting all the 4WD hire outlets in Alice Springs, posing as an inexperienced 4WD driver who wished to hire a vehicle for several days to travel into a remote desert area (Andrew Taylor, pers. comm.). Overall, the information, materials and advice provided to him was minimal. It is probably an overstatement to state simply that those most in need of this education (for example, international 4WD hirers) are least likely to receive or to make use of it. But there is certainly no guarantee that all 4WD desert tourists have the knowledge and skill levels appropriate to their particular travel plans.

Given that it is therefore unrealistic to assume that all 4WD desert tourists have appropriate skill and knowledge levels, it is understandable that governments, landowners and land managers have sought to regulate the behaviour of 4WD desert tourists in various ways. O'Connor (2000) distinguishes between 'regulation on the ground vs. regulation of people'. 'On the ground' refers to physical barriers such as fences and gates – and, more hopefully, through signage. 'Regulation of the people' refers to the various permit and pass systems and requirements for travellers to register their entry to and departure from various remote areas and routes.

Regulation on the ground is often unfeasible in most parts of desert Australia because of the sheer distances and areas involved as well as the very low population densities. Physical barriers (such as gates and fences) are easily broken or circumvented and, in such remote areas, they can be prohibitively expensive to repair and maintain. In view of the administrative and bureaucratic fragmentation of desert Australia, it is likely that many 4WD desert tourist trips could cross several state and/or territory boundaries and enter a range of pastoral properties and Aboriginal and conservation reserves. This makes regulation of 4WD travellers difficult. Many separate permits may be required. In addition, authority to enter certain areas may only be obtainable in advance and these may need to be obtained from diverse and widely scattered capital cites and/or from desert stations/communities far from the tourists' place of residence. These challenges and complexities may lead to unintended consequences. One paradox is that stricter regulations are often imposed on those, such as licensed tour operators, who might be considered to be more experienced and responsible than private 4WD tourists (Hercock 2007). More seriously, the sheer amount and complexity of the regulation of 4WD desert tourism may increase the likelihood of inexperienced or less responsible

travellers failing to obtain the necessary permits or to register their movements and thus of their being less traceable in the event of mishaps.

It is also possible to consider integration of the education and regulation processes. This practice of educating 4WD tourists about the reasons behind the regulations could also be undertaken more widely by including information on and the rationales behind the various regulation systems in driver training programs. An 'Advanced Traveller Information System' could provide place-specific information of a nature both regulatory (flooded roads or Aboriginal communities engaging in 'sorry business') and educational (landscapes and wildlife).

1.3 Information and communication technologies for independent travellers

Independent self-drive travellers, such as four-wheel drive travellers, already tend to use a range of information and communications technologies when travelling and planning to travel in remote areas (see, for example, Hardy & Gretzel 2008). Pre- and post-trip they engage in online peer-to-peer communication through sites such as exploroz.com and forum.australia4wd.com. Here they post trip itineraries (including GPS way points), discuss products and attractions, and seek information for their next trips. In-trip, they use GPS systems not just to navigate but to locate facilities, attractions or places to stay as they move around. They make use of mobile or satellite phones, both for maintaining contact with the rest of the world and for soliciting additional information. Their use of technology demonstrates a desire not only to receive information but also to be active participants in its production. The challenge then is around the facilitation of this information exchange.

While there is no existing information exchange system aimed specifically at remote travellers, systems with similar intent have been developed in tourism and other contexts. For example, in the field of maritime communications, two-way information exchange problems between vessels at sea and 'ship-to-shore' are currently being addressed primarily by upgrading very high frequency (VHF) and medium frequency (MF) radio communications systems. The latest in marine radio technology is Digital Selective Calling (DSC), which is gradually being made available to commercial and recreational boaters. Essentially, DSC combines automatic 'mayday' (such as the existing EPIRB, or Emergency Position Indicating Radio Beacon) with improved VHF voice communications as part of a much more flexible and dynamic maritime communications network known as Global Maritime Distress and Safety Systems (GMDSS) (Figure 1.2).

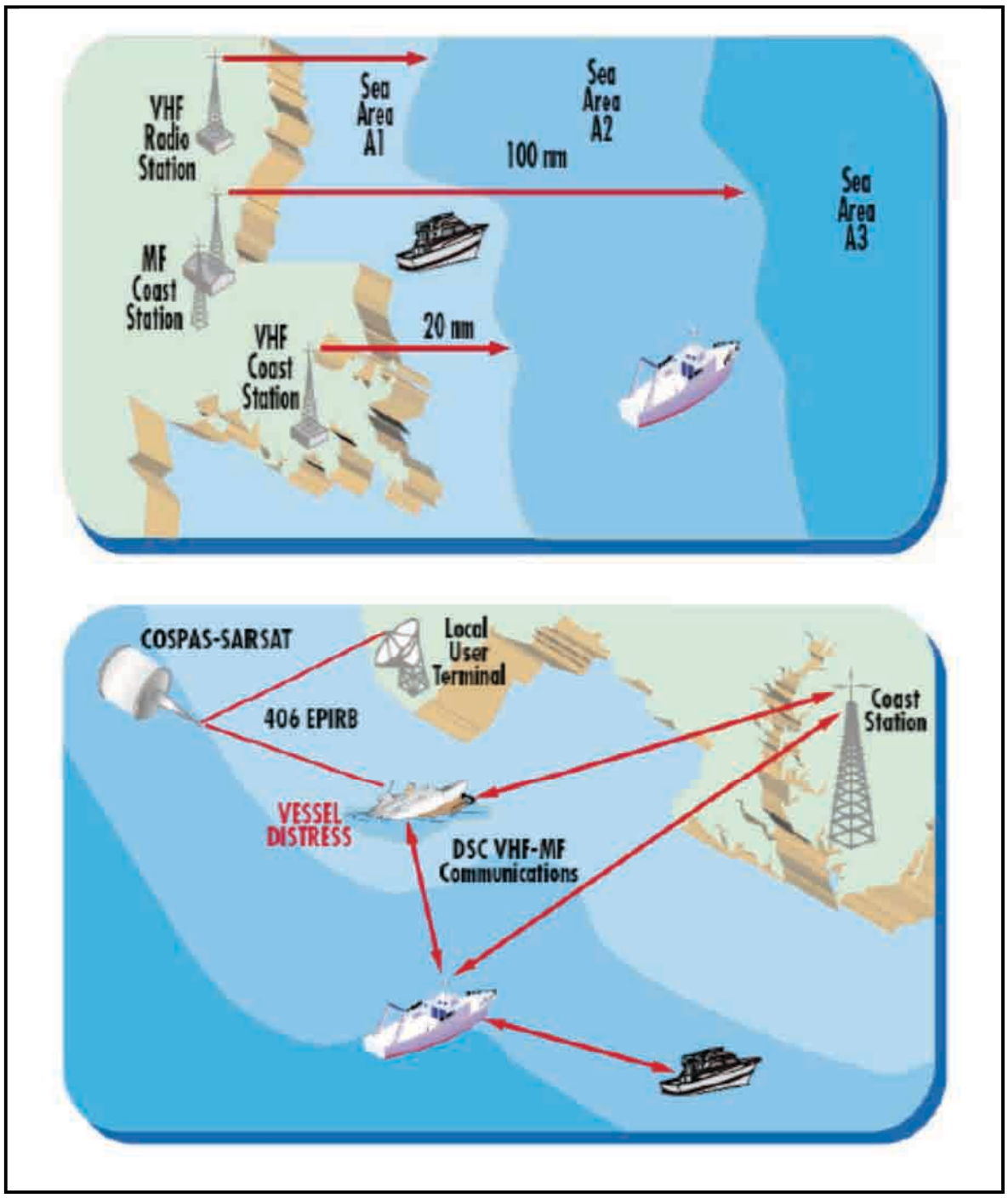

Figure 1.2: GMDSS basic concept
Source: United Safe Boating Institute

Figure 1.2 shows that, as more and more vessels (and coastguards) switch to DSC, ships that once found themselves in communication 'blind spots' (sea area A3 in Figure 1.2) are now better able to communicate with coastguards and other ships. The US Coastguard, and indeed other such organisations around the world, including in Australia, are beginning to harness these new technologies as part of upgrading their existing systems. The onus is on improving safety at sea with regard to natural hazards, unexpected events, adverse weather conditions, or medical emergencies; however, DSC also facilitates general communications between ships, both commercial shipping and/or recreational boaters. DSC, then, has implications for the tourist industry as more and more travellers choose boating as their means of 'escape'.

In tourism generally, the majority of location-based systems (LBSs) have been developed to allow tourists to receive location-specific information while moving around (Erikkson 2002; Antikainen et al. 2006; Berger et al. 2003). The main functions of LBSs in tourism have included the locating of persons and their routing between places (e.g. navigation, mapping and tracking), searching for objects in proximity (restaurants, accommodation or attractions), and receiving information about travelling conditions (e.g. traffic congestion reports) (Berger et al. 2003; Antikainen et al. 2006; Curran & Smith 2006). However, few LBSs currently allow tourists to send their own information while on the move. To date the role and the potential of dynamic peer-to-peer communication in information exchange among independent travellers has largely been overlooked.

LBSs have almost exclusively been designed for use in urban areas and well-established tourism destinations. There is very limited research on how such LBS services could be implemented in regional and remote areas where infrastructure provision and services are more limited (Antikainen et al. 2006). This is particularly important in remote Australia where, at the moment at least, reliable uninterrupted connectivity simply cannot be achieved except at enormous cost (Carson & Taylor 2008; Hohl & Tisdell 1995). While plans are in place to broaden the coverage of technologies such as broadband internet, their full realisation is still some way off.

In asssessing iOutback™, the research team needed to consider the user needs specifications and the processes that could best be followed to address the communication problems given existing, but rapidly changing, infrastructure constraints. At the same time, there was the desire to develop a system which could take advantage of infrastructure improvements as they occurred.

2. Focus group

2.1 Consultation and development

A remote destination – the Oodnadatta Track in South Australia – was selected as an appropriate location on which to base a proof-of-concept analysis of the conditions and requirements for iOutback™. The Oodnadatta Track is one of Australia's 'top 10' four-wheel drive touring routes (Basham 2005). It covers 615 km, starting in Marree (about 685 km north of the South Australian capital of Adelaide) and ending in Marla. There are several small towns and settlements (with populations ranging from 10 to 150 inhabitants) along the way, but distances of more than 100 km between any two items of built infrastructure are common. The Oodnadatta Track is a good example of a remote Australian self-drive destination because it has some commercial tourism development (South Australian Tourism Commission 2007a), is subject to isolation from emergency and medical services, and possesses limited telecommunications infrastructure (South Australian Tourism Commission 2007b). Delivering in-trip information and monitoring visitor safety and responsible behaviour along the track are therefore key issues.

A workshop with stakeholders interested in the Oodnadatta Track was conducted in Adelaide in June 2008 to develop user-needs specifications for iOutback™. Participants included local tourism operators, community members, private tourism consultants, and representatives of Tourism South Australia, the Outback Areas Community Development Trust (which provides the equivalent of local government services in remote South Australia), the South Australian Department of Water, Land and Biodiversity Conservation, the South Australian Department of Environment and Heritage, and the Royal Automobile Association of South Australia. In total, 15 participants took part in the workshop (see Appendix 1 for a full list of attendees). They were asked to identify the types of in-trip information needed by travellers and about travellers. The discussion then focused on describing scenarios where lack of effective information exchange had been observed and had negative consequences for one or more stakeholders. The process was similar to the Scenario-based User Needs Analysis (SUNA) approach (Gardner et al. 2002), except that follow up was done with individual participants rather than in additional workshops. The SUNA approach included discussion of existing technologies and of their suitability in the scenarios that participants described. This process was completed at a more technical level by the research team following the workshop.

2.2 Outcomes

Instead of documenting the total range of scenarios discussed in the workshop, the results noted here will focus on the user needs that were identified from the scenarios, and from the technologies that were proposed as, at least partially, meeting these needs. Some of the stipulated user needs were very similar, and have been combined into slightly broader categories rather than reported on in detail. As an example, a scenario was proposed where a flash flood had occurred and made the crossing of a particular creek dangerous for all but the most experienced four-wheel drive travellers. Furthermore, the weather conditions remained unstable, and the road could become completely impassable with further rain. According to the workshop participants, the user needed to get access to information about the current road conditions and about the likelihood of continuing adverse weather conditions. They also needed to know whether alternative routes were available, and how the use of these routes would affect their overall trip plans. If they did not wish to take an alternative route, but preferred to delay their onward travel, they would need to be able to let friends and relatives know. This simple scenario raised many user needs issues, including the need:

- for information about the 'normal' road conditions and the level of skill required to negotiate the crossing
- for information about the specific conditions on the day of planned travel
- for real-time information about existing and likely weather events in the region
- for information about amenities, facilities and attractions on the alternative routes

- to contact friends and relatives to advise them of the changed plans.

The fundamental characteristics of the system would include two-way communication and the ability to overlay dynamic information (current road conditions) on relatively static information (the alternative routes from A to B and the facilities available along the way). Workshop participants reported that current systems for doing this involved a mix of technologies. These included maps (electronic or hard copy) providing information about alternative routes; notices at visitor information centres, police stations, and road houses along with temporary signage alerting travellers about current road conditions; and alerts posted by the Bureau of Meteorology via radio broadcast, websites and HF radio services. Satellite telephones could also be used to contact friends and family. Apart from the complexity of negotiating the multiple technologies, the current system was seen as less than ideal because:

- many roads were not regularly monitored by either police, local government or National Parks agencies, and it was often the travellers themselves who collected information about road conditions and, by various means, passed this on to other travellers.
- posting and removing notices and signage is labour intensive and the currency and accuracy of the information is frequently questioned.
- sifting through the range of information available to find information about a specific road of interest is time consuming.
- use of satellite telephones is expensive, and relatively few travellers use this technology.
- key decision-making occurs around what to do in response to changed conditions rather than just the acknowledgement of those conditions. Obtaining recommendations about alternatives is not easy in situations where other knowledgeable people and/or data sources are unavailable.

Pursuing this scenario-based approach, a set of information/content domains (Table 2.1), a set of ‘rules’ for information exchange, and a set of technology requirements were developed.

Table 2.1: Description of content domains

Domain	Information
Transport infrastructure conditions	Relatively static information about road/track surfaces and level of skill required to negotiate Relatively dynamic information about changes in conditions
Weather conditions	Relatively static information about the impact of weather events on infrastructure (transport, camping grounds, availability of water etc) Relatively dynamic information forecasting weather events
Entry permits and access regulations (for example, travelling through Aboriginal land)	Relatively static information about regulations and procedures Relatively dynamic information about specific events (such as a death in the community) affecting access
Behavioural/ land use regulations	Relatively static information about general rules of behaviour – collecting firewood, driving through private property, camping, rubbish disposal etc. Relatively dynamic information such as fire bans, water availability/ quality etc.
Services and amenities	Relatively static information about what services exist (fuel, food etc.) Relatively dynamic information about accessing services (contacting service providers to arrange fuel drops, for example)
Tourism products and attractions	Relatively static information about what products exist Includes relatively dynamic information about accessing products (making bookings or appointments)
Visitor monitoring	Relatively static information about overall trip plans (dates of arrival and departure, main routes planned etc.) Relatively dynamic information about changes in plans

An important feature of information exchange includes the range of information providers who are involved. A number of agencies have 'formal' responsibility for communication about specific information domains – emergency services, Bureau of Meteorology, local government, national parks agencies, destination marketing organisations, state government infrastructure managers, Aboriginal land councils and so on. Where travellers cross state and regional borders, individual agencies are likely to have jurisdiction for only part of a given trip. As we have seen, 'informal' sources are also important, either because they can supply knowledge not available to formal sources, or because they have opinions and recommendations that are highly valued by travellers. Within a typical trip, therefore, travellers may need to, or want to, access information from tens or dozens of formal and informal sources.

The other information exchange requirement was the need for travellers to be able to interact with the information providers – to ask questions, seek clarification, and add their own opinions and observations. The most obvious and pressing case was the need to inform emergency services of an accident or health condition, but more broadly the contribution by travellers to the totality of information (static and dynamic) that is known about a destination was highly valued. Two-way exchange could also facilitate transactions, such as the obtaining of visitor permits for entry to national parks or Aboriginal land, or making arrangements to visit an attraction.

The workshop participants provided a critique of existing technologies against the user-needs specifications that emerged from the discussion of information domains and information exchange. These needs are summarised as:

- allowing for multi-way communication between travellers and other information providers

- providing instantaneous, real-time and up-to-date, location-based information
- allowing user-generated content
- enabling easy updating by a range of formal information providers
- taking advantage of equipment that travellers are likely to have (laptop computers, mobile phones, PDAs etc.) rather than requiring purchase of expensive new equipment
- bundling information from multiple sources on a single platform
- being easy to use – not requiring particular expertise or training.

2.3 Discussion

Most mobile technologies, including mobile phones, smart phones, PDAs or laptop computers, are able to fulfil most of the logistical specifications identified in the workshop. Unfortunately, their use is currently restricted in remote areas because mobile phone coverage or wireless network reception is limited to bigger towns and settlements. The ongoing development of satellite technology will hopefully provide a key opportunity in the near future. With the evolution of satellite technology, access to phone, television, radio and internet services, regardless of the distance from infrastructure, is inexorably and rapidly becoming easier. Satellite phones are increasingly being used in remote settings, allowing communication to standard telephone networks, including transmission of voice, fax and SMS messages, from any given location to anywhere in Australia (and the world). Satellite phones are also smaller and more portable than conventional HF radios and are much easier to use. Newer editions also have special features, such as GPS tracking or email functions (Jacka 2008). Essentially, satellite phones are able to transmit and receive instantaneous information in remote areas. In combination with a GPS receiver they could also provide navigation functions and location-based information services. However, the cost of this technology (both to purchase and to use) is still very high and, so far, their use has been limited to essential/emergency communication. What was of more concern to workshop participants was how the in-vehicle information system for independent travellers (iOutback™) would operate in terms of presentation and exchange of information. Again, existing systems can be used as templates, including bulletin boards, discussion groups and so on. The query module would require users to specify (perhaps through a map interface) the geographic area and the date range of interest. Content could be filtered accordingly and could also be downloaded in a batch, and available for review at a later point in time (which would be particularly useful for static content).

Virtual communities provide a model for how iOutback™ might engage with multiple suppliers of information. Also, newer trends in user-generated content applications, such as micro-blogging, might be well worth a closer look. These allow for short peer-to-peer and two-way communication at much less bandwidth cost and could therefore be appropriate in remote areas. The views of the workshop participants revealed substantial challenges in this regard – with formal information suppliers being uncomfortable with operating within a system that also allowed informal contributions that could be inaccurate or even bogus. Information suppliers would also be less willing to participate in a system which required them to reformat or repackage information. Rather, the system should be able to extract data packets that are already routinely produced.

What the research revealed was that existing technical barriers to improved communication with self-drive travellers in remote Australia were likely to be short-term, but that several challenges of accessing multiple sources of information, needing two-way communication, and needing real-time, location-based information services would persist in the longer term. Challenges in how to source content, to ensure content accuracy (and thereby trustworthiness) and to encourage system uptake were substantial. Nevertheless the potential for such a system was deemed to be sufficient for a scenario-based exercise demonstrating the value of this information for suppliers and travellers to be undertaken through the use of a short web-based film clip and a related survey.

3. Video clip and questionnaire

3.1 Development and design

While most publications on the use of communication technologies of this type report the views of the relevant practitioners and the research community, the views of the wider travelling public have thus far been less widely canvassed. Their input is essential in a proof-of-concept process. Consequently this section describes and discusses the views of remote travellers/potential travellers as to the potential of the proposed iOutback™ system.

Data collection methods for this report sought to capture the views of a range of travellers/potential 4WD travellers to remote areas, both within Australia and worldwide, within a relatively short timeframe and in a cost-effective way. A short video clip was produced promoting the benefits of the proposed iOutback™ system by means of a 'disaster' scenario. This was posted on a Desert Knowledge CRC YouTube website. A URL link was placed at the end of the video that directed viewers to the on-line survey host SurveyMonkey and to a short electronic survey/questionnaire.

Essentially, the promotional video clip presents two opposing scenarios. The first part depicts a novice driver/remote traveller without an iOutback™ system becoming stranded in the desert and in a life-threatening situation. The second part depicts an alternative scenario that shows the driver using an iOutback™ system to remedy such a situation. The video clip is basically, a 'what if' presentation. The idea of a video was to outline the benefits of iOutback™ as a system that can facilitate the exchange of relevant, location-specific information (in this case focused on safety) instantaneously/in real-time between travellers. While there are, of course, existing available technologies (e.g. mobile phones, GPS, satellite phones, HF) that drivers might or could use in such situations, these are not always available, reliable and/or efficient and they can be expensive (e.g. HF). The video, then, promotes iOutback™ as a more flexible system that may be able to compensate for any such shortfalls, and/or in the long term perhaps complement existing technologies. (iOutback™ is meant to augment rather than to replace existing technologies).

In this context the above scenarios show an unexpected event, for which a novice driver in particular might be completely unprepared, and how, by communicating informally and locally with fellow travellers, using iOutback™ the novice driver was quickly and easily forewarned, thus avoiding a potentially dangerous and life-threatening situation. Essentially, the video promotes 'prevention rather than cure' as one of the potential benefits of developing an iOutback™ system, for travellers and especially novice travellers to remote areas.

The unexpected event scenario was thus relevant to improving safety. The rationale behind choosing such a scenario was that safety is of primary concern to many travellers/potential travellers and is therefore an issue with which viewers would be most familiar and thus perhaps find most engaging. Another proposed benefit of iOutback™ is that such a system can also be used for exchanging more general local information (such as mapping and direction finding, natural environment, accommodation, culture and heritage, and local events). It was therefore important that the promotional video also demonstrate this potential. As such, the above scenes included the depiction of exchange of some relevant environmental information of which a novice driver in particular may be unaware. The promotional video scenarios thus show how an iOutback™ system can help travellers deal with the unexpected, avoid potentially life-threatening events, and raise awareness of the local natural environment. The video clip thus promotes the potential of iOutback™ as a means by which travellers can participate in traveller education as well as improving safety.

Filming and video post-production began following the development of the two scenarios in late 2008. Filming and post-production took a total of four months to complete (March to July 2009). Following the development of the questionnaire (Appendix 2), a rapid 'snowball' process was initiated: firstly, known contacts (stakeholders who had attended the Adelaide workshop; OACDT members; Desert Knowledge CRC) were advised of the availability of the iOutback™ promotional video; secondly,

these informants alerted other colleagues and associates about the availability of the promotional video. This was considered to be the fastest and most effective method given the time and budget constraints. However, this method alone was not seen as sufficient since it limited responses to certain organisations, agencies and/or businesses and did not, in itself, achieve the research aim: to seek the views of as diverse a group of travellers/potential travellers to remote regions as possible. To publicise the survey, a detailed electronic 'flyer' was developed (Appendix 3), which both explained and advertised the availability of the iOutback™ promotional video to 4WD/remote travel associations and/or organisations. In terms of the rapid 'snowball' effect method described above, the flyer was sent to these groups inviting them to forward the flyer to their affiliated local clubs. Again, given the time and budget constraints, this method was deemed the most appropriate and effective way of reaching as many potential viewers and on-line survey respondents. As a further means of attracting respondents, and with the assistance of the Desert Knowledge CRC media advisers, a research team member was interviewed on several ABC regional radio programs while the survey was on line.

To obtain the required information a suitable electronic/on-line method of delivering the questionnaire was selected. In the above contexts, SurveyMonkey was deemed the most appropriate medium for this purpose. Once the electronic/on-line version was completed, a link was provided at the end of the video which viewers/respondents could use to move directly from viewing the video to completing the on-line survey. Survey responses were collected from the months of September through to November 2009.

3.2 Results

One of the main constraints associated with this process is that, while the promotional video and questionnaire certainly had the *potential* to reach a wide audience and collect a large amount of data, it relies in the end on the chance that viewers will choose to access the video, respond to the questionnaire and, ideally, inform others to do likewise and thus initiate an effective snowball process. Researchers thus have limited control over the number of responses once the video is on-line. Regrettably, out of 174 'hits' to the Desert Knowledge CRC's YouTube website only 26 viewers/respondents went on to complete the electronic/on-line questionnaire – a response rate of 15%. While this response rate is disappointing, those respondents completing the questionnaire did so thoroughly and provided valuable, and by and large positive, feedback. Therefore, while the low response rate precludes generalisations or firm conclusions being drawn, in conjunction with previous data collected for this project sufficient information is provide to suggest that further market analysis for the iOutback™ concept should be pursued. Showing the video clip to focus groups in 4WD societies may be one means of reaching a larger number of respondents at no great expense

3.2.1 Demographics

This section presents and discusses the results of the iOutback™ survey. Figure 3.1 shows the percentage of female respondents in the 18–40 age range (19%) to be more than twice that of males in the same category (8%). In the 41–60 age range the percentages of male (31%) and female (27%) participants are broadly similar. There are thus more female respondents in the younger age ranges. However, what makes this significant, perhaps, is that there are no female respondents in the over 60s ('older') age range. That is, Figure 3.1 indicates that perhaps, the iOutback™ concept might be of most interest (and therefore might be marketed, initially) with the emphasis on safety and improving remote travel experiences for novice desert tourists as exemplified by female travellers in these younger age groups. On the other hand, the fact that over 60 age group is male dominated suggests that iOutback™ might also be of interest to and usefully be marketed for male retirees. However, given the small number of responses these only represent possible avenues for further exploration with larger sample numbers.

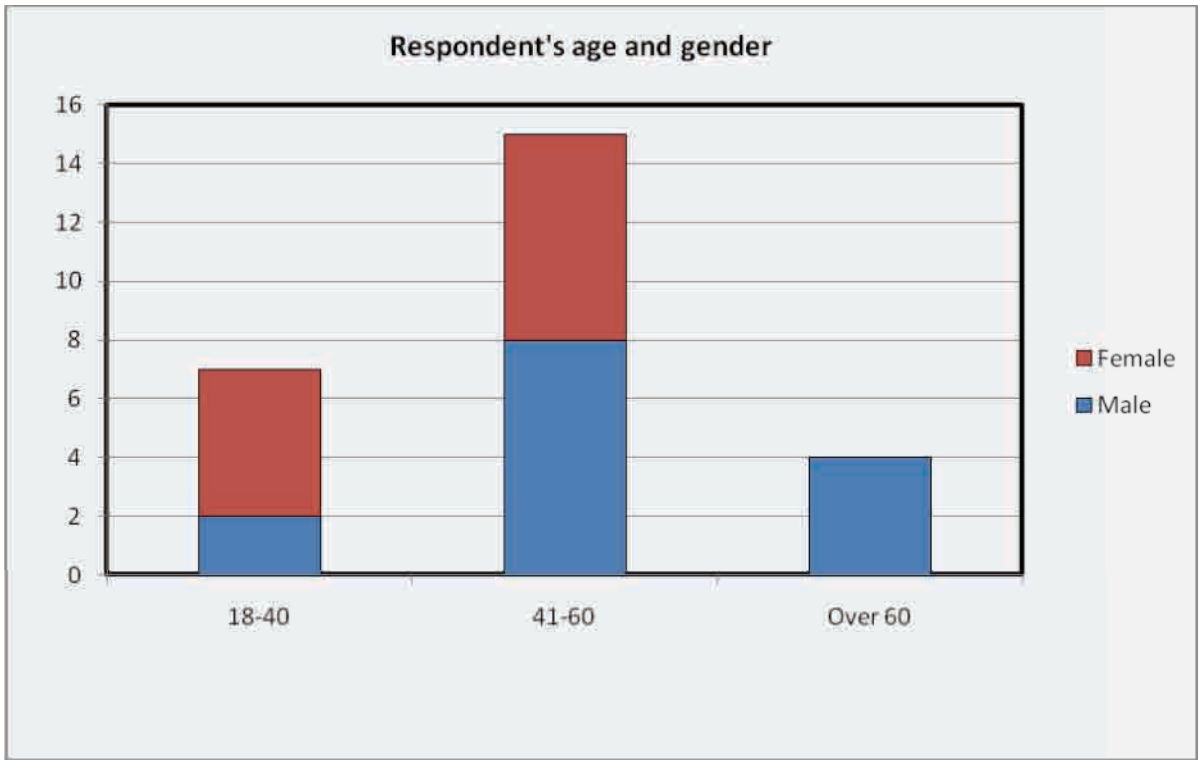

Figure 3.1: Age ranges of iOutback™ survey participants

Figure 3.2 shows that all respondents currently reside in Australia and, more specifically, that the majority of them already live in regional and remote areas, in particular in South Australia and the Northern Territory. The numbers involved are too small on which to base any actual strategies but, if the variations by age and gender in the response rates from different states and localities were to be replicated in any larger study, this might suggest where and to whom any initial development and marketing strategies for iOutback™ could be promoted.

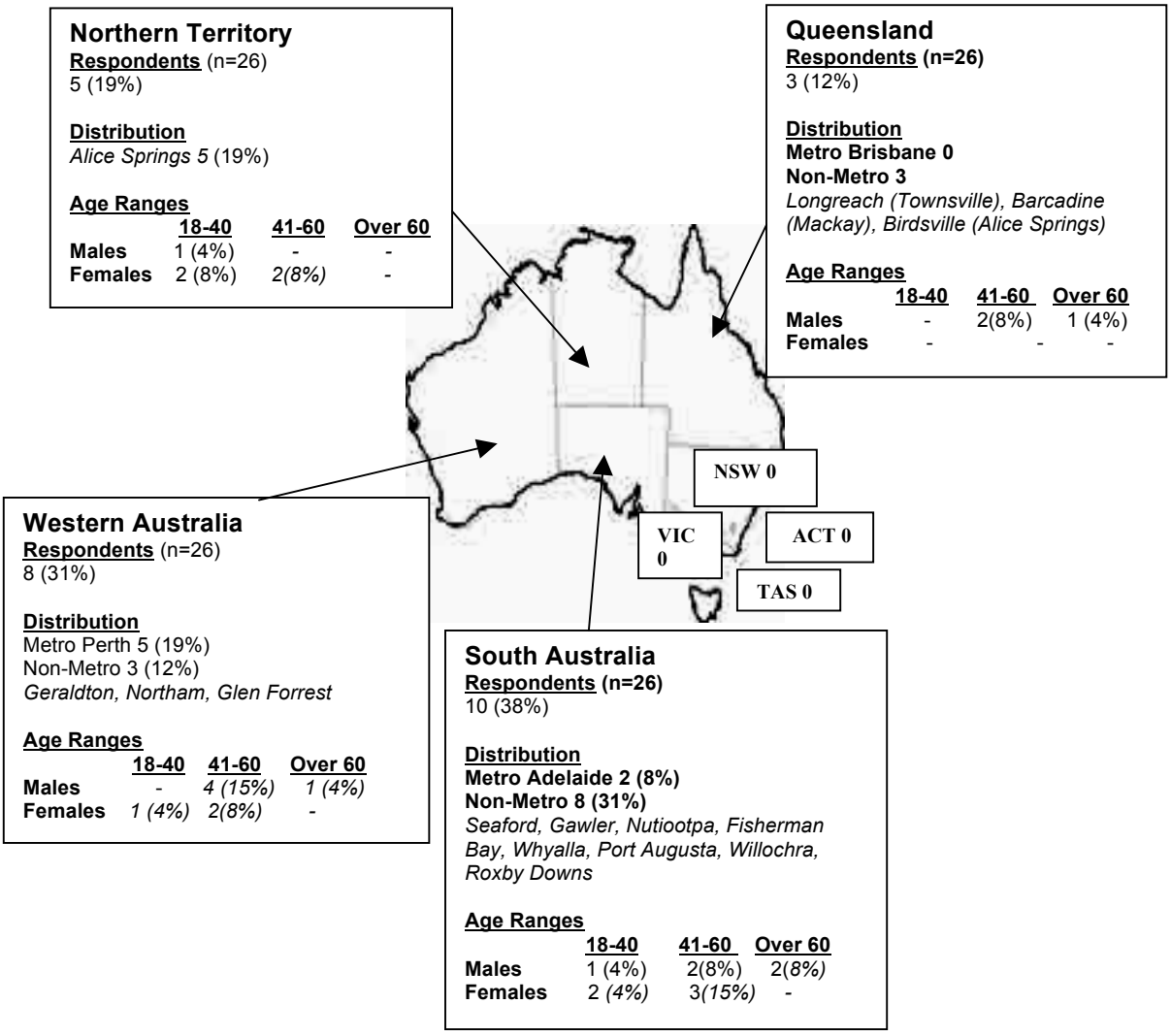

Figure 3.2: Geographic distribution of iOutback™ survey participants

3.2.2 Remote travel experience

Figure 3.3 lists the states and territories within which participants indicated that they have travelled. The purpose of this table is to help determine the extent of the respondents' travel experiences, both overseas and within Australia. Firstly, the results indicate that participants have much more experience of remote travel within Australia than overseas. Even though only 12% of people indicated that they have overseas remote travel experience, this suggests that, while initial development and marketing of iOutback™ should be Australia-focused, such a concept has international potential. Although not illustrated in the table, the results also indicated that, in terms of places visited, males have more experience of remote travel within Australia than do females in all age ranges.

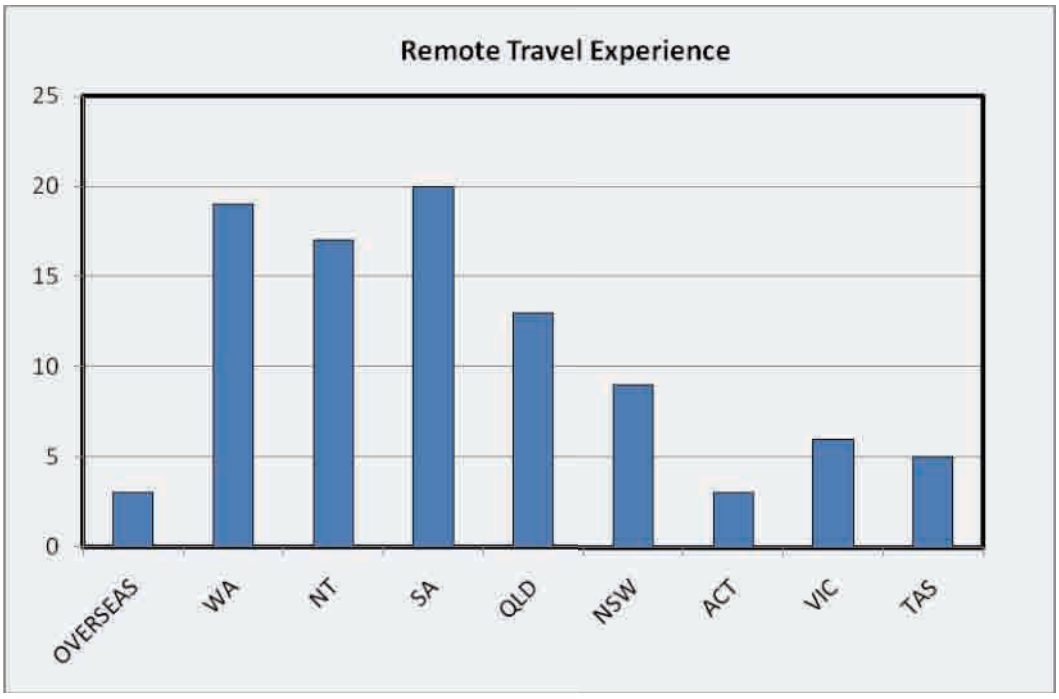

Figure 3.3: Participants' remote travel experience (place)

Following on from participants' travel exposure, Figure 3.4 reveals that overall the survey participants travelled to/within remote areas in most years. However, the levels of experience amongst the respondents varied greatly, with about a quarter travelling at least every year and nearly 20% with no remote travel experience at all. Therefore a wide spectrum of travel behaviour needs to be considered in formulating the specifications of iOutback™.

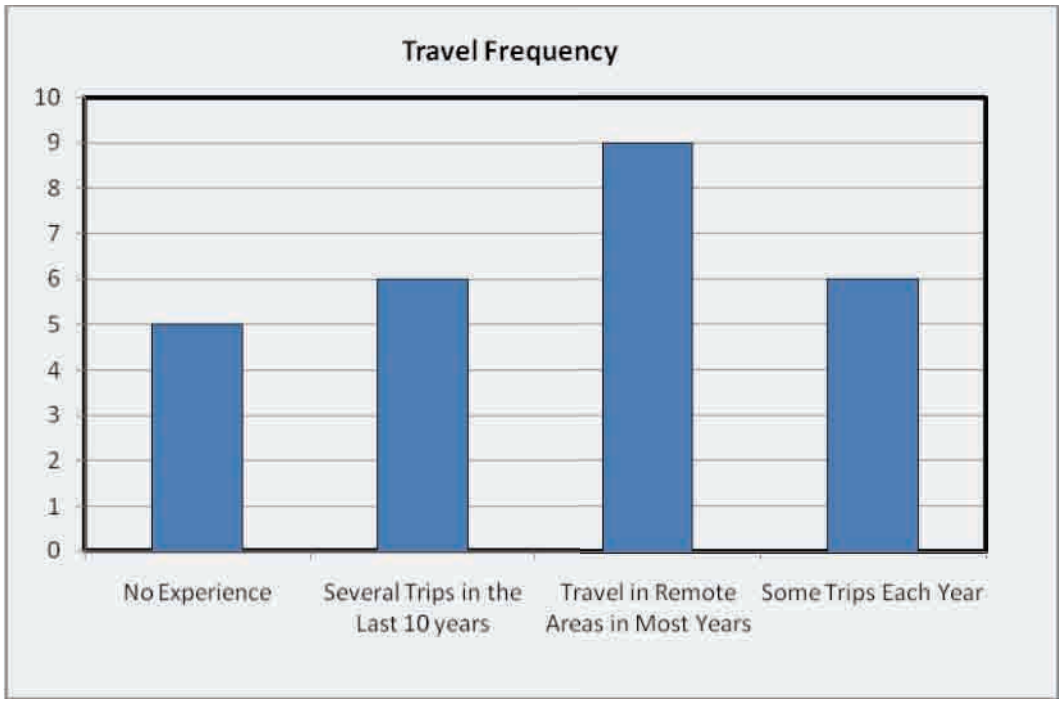

Figure 3.4: Participants' remote travel experience (frequency)

3.2.3 Activities undertaken during remote travel

Figure 3.5[1] shows that most survey participants, when travelling to remote areas, prefer to spend time exploring the areas they visit, and/or like to experience something new each time they travel. Fewer prefer to keep to the main highways and fewer still choose to go to a single 'favourite spot' each time. This may indicate, generally, participants' desire to experience fully the 'adventure' of remote/outback travel and it indicates the likely value of an iOutback™ system to people travelling in this manner.

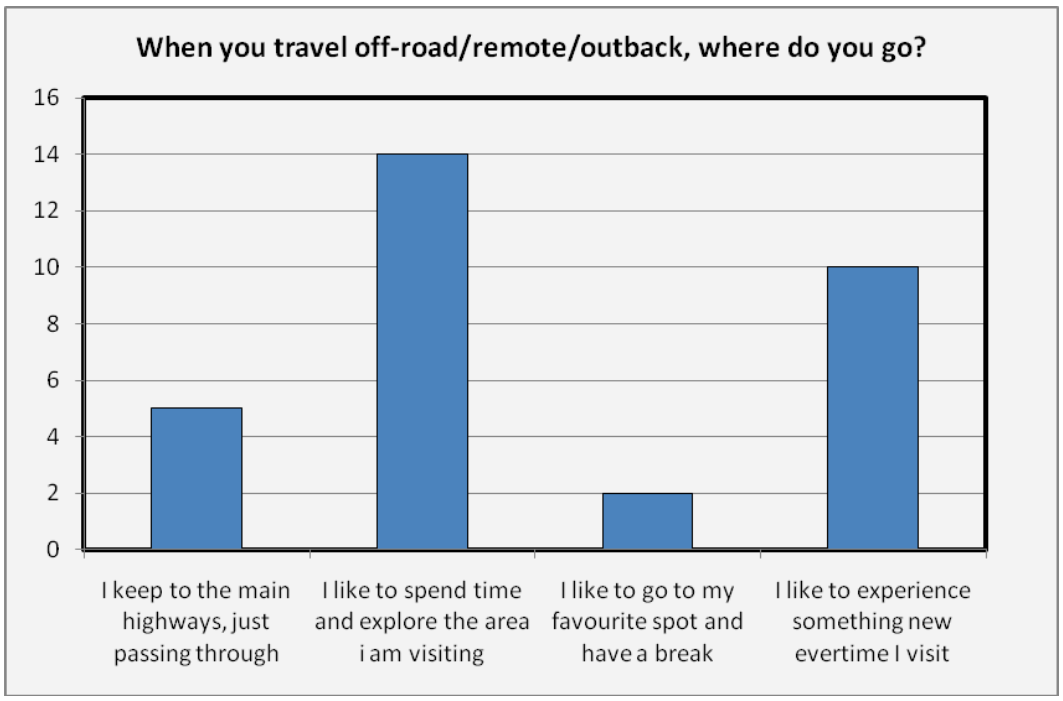

Figure 3.5: Participants' remote travel experience (activity)

Another indicator that might be used to determine the levels of experience of travellers/potential travellers is the preferred mode of travel to remote areas. When asked about their travel modes, an overwhelming 88% of respondents favoured travel in private vehicles. These results appeared to be unaffected by age or gender. Broadly, this indicates that most respondents prefer independent travel and are less likely to want to experience the constraints of organised tours or 'tag alongs' or, indeed, the possible time limits and costs associated with vehicle hire. The desire for independence, whether travelling locally or further afield, is thus very strong. Clearly, an iOutback™ system should primarily be developed technically and marketed for such independent travel.

3.2.4 Communication issues/topic of concern

Even though it is proposed that an iOutback™ system facilitate two-way real-time communication of a wide range of information (from wildlife to available accommodation), the survey sought to better refine the pertinent issues by asking participants to rank a range of topics for iOutback™ in their order of perceived importance. Table 3.2 shows the issues/topics survey participants considered to be most important for two-way real-time information exchange. Participants were asked to number the issues/topics in order of preference (1 = most important, 6 = least important). For the purpose of analysis/tabulation, each preference was first assigned a numerical value or weighting (Table 3.1). The total numerical value for each preference was then calculated and percentage weightings applied.

[1] Participants may have selected more than one preference in some cases and so the total number of responses may exceed 26.

Table 3.1: Numerical values/weightings for preferences

Level of importance	Numerical value/weighting
1	10
2	8
3	6
4	4
5	2
6	0

Table 3.2: Main issues/topics for information exchange

Level of importance	Safety	Mapping and direction finding	Natural environment	Culture and heritage	Events	Accommodation
1	22	3	2			
2	3	17	4	1		1
3	1	4	9	7	2	2
4			5	11	8	4
5			3	3	13	6
6			3	4	3	13
Totals	250/260	190/240	132	100	70	48
	96%	79%	51%	42%	29%	20%

Table 3.2 clearly shows that 'Safety' is the primary issue and, indeed, that it is the major topic desired for information exchange. What cannot be ascertained from the data is whether the selection of 'Safety' as the key concern was in any way influenced by the video scenario. 'Mapping and direction finding' was the second most important issue for participants (79%), with 'Natural environment' ranked third. When the data was compared according to gender there were broad similarities in most cases. However, the most apparent difference was found in the relative rankings of accommodation. Males rated accommodation as least significant, while for females it was noticeably more important. Remote travellers do not always plan in a meticulous way for accommodation, wishing instead to experience 'life in the bush'; however, in some unexpected circumstances/situations they may need it in a hurry. A local iOutback™ system then may complement existing technologies that could be used in such situations (mobiles, satellite phones, HF – still not always fully reliable) by facilitating the (traveller-to-traveller) development of a comprehensive list of locally available accommodation that travellers perhaps chose not to consider or were unaware of prior to their travel but subsequently required at short notice. Such notions are further supported below.

Notwithstanding the diverse potential functions of iOutback™, the results strongly suggest a primary focus on safety. While the meaning of the category 'Safety' is self-evident, there are two other categories that can be related to improving safety levels for travellers – 'Mapping and direction finding' and 'Accommodation'. It is important that remote travellers are able to find their way around and avoid potential risks. It is equally important for travellers to know where they can find suitable accommodation (boarding houses/hotels and or campsites) for respite or out of necessity (in an emergency or for health reasons). Although this question was designed to determine relative importance and not absolute importance, not allowing any topic to be discounted, it would seem at this stage that any technical development and marketing of iOutback™ system should focus first and foremost on its capacity to improve safety.

3.2.5 Perceived usefulness

Thus far the information in this report suggests possible directions for future research to direct the technical development and marketing of an iOutback™ system. The final section reports on the perceived usefulness of such a system and on the potential likelihood of it making a big difference to participants' travel plans. Figure 3.6 indicates, generally, that the majority of participants would find such a system very useful or useful (81%). However, Figure 3.7 indicates that participants' feelings were more mixed about the potential of an iOutback™ system to change their travel plans, although 31% of participants did feel that such a system would be either 'much more' or 'more likely' to change their travel plans. Half of the participants felt that iOutback™ would make no real difference to their travel plans, with the remainder were not sure. In the above context, then, this might mean that, for example, while an iOutback™ system would make no real difference to travellers/potential travellers in terms of increasing their desire to travel further afield and/or more frequently, they would find such a system generally useful in enhancing their existing travel plans (i.e. within local areas). Assistance in finding appropriate local accommodation might be one example of how this might work both to help improve safety in practice and contribute to local economies.

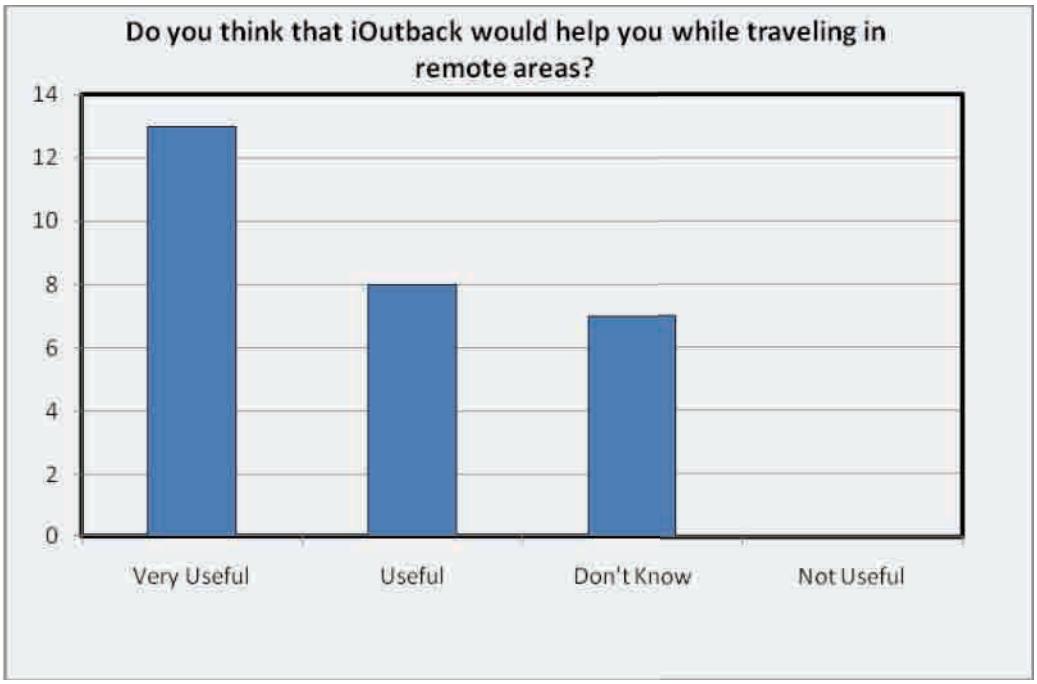

Figure 3.6: iOutback™ useful in remote areas

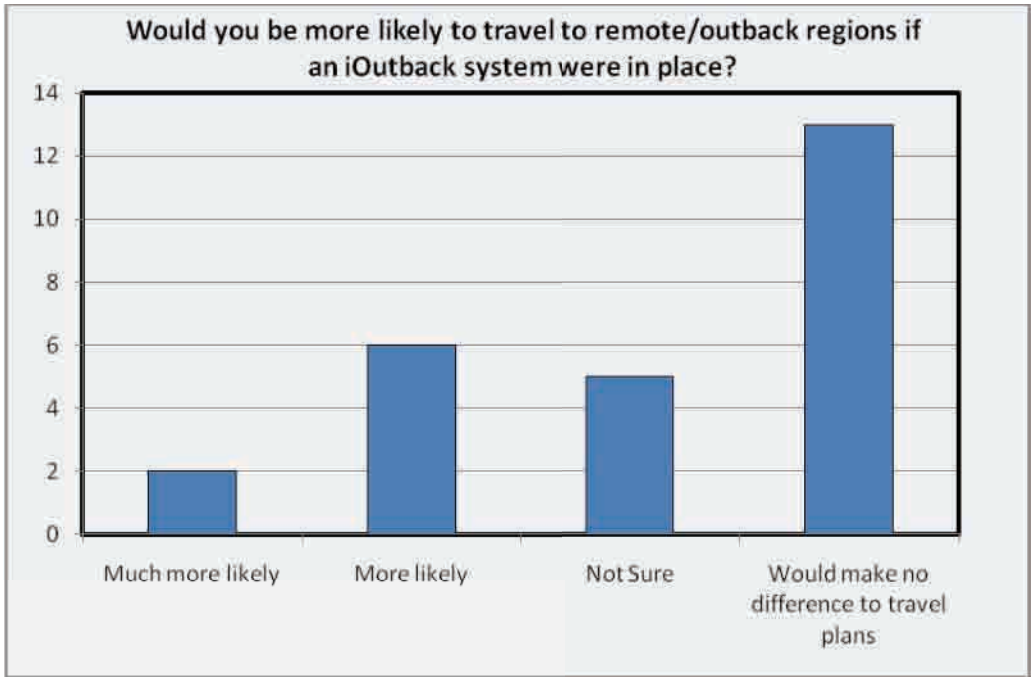

Figure 3.7: iOutback™ increasing the likelihood of remote travel

3.2.6 Costs and mode of operation

Having established a possible context for the future development and marketing of an iOutback™ system, and its usefulness within this context, Figure 3.8 illustrates participants' views concerning their willingness to use iOutback™. The vast majority of participants (77%) indicated some desire for the system and, while some were unsure, no one ruled it out. Participants were also quizzed on their preferences for obtaining the communication system. While it should be noted that a specific delivery method has not yet been defined, this question was employed to gauge people's attitudes to acquiring the system. When asked whether the iOutback™ system should be purchased or hired there was equal support for both choices. These results, albeit small-scale, suggest that it should be made available for both purchase and for hire.

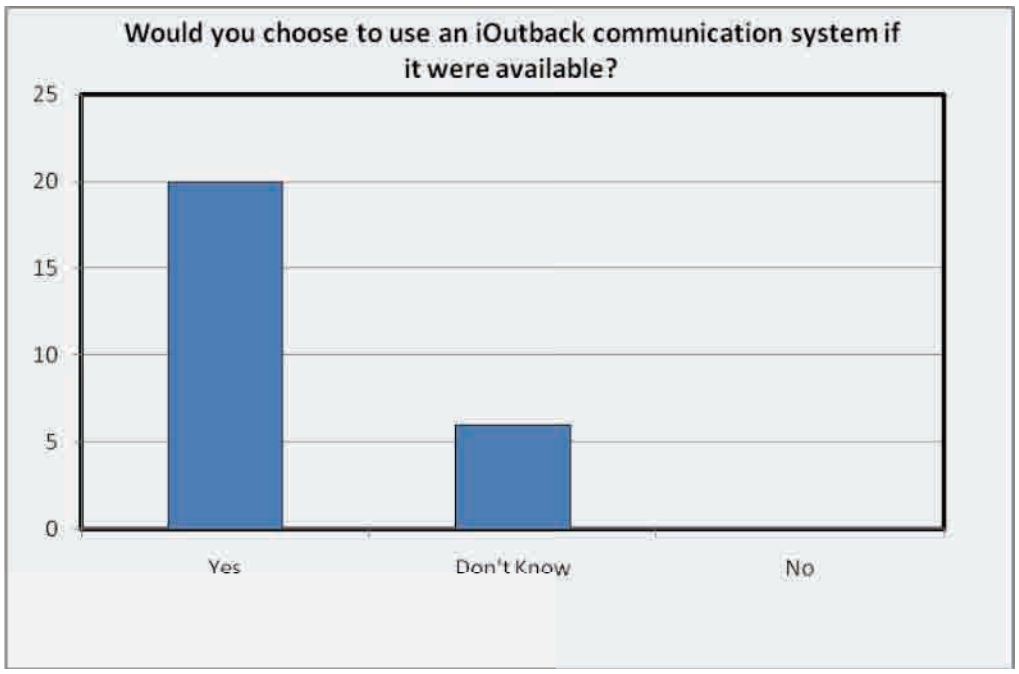

Figure 3.8: Choosing an iOutback™ system

3.3 Discussion

Notwithstanding the limitations in the amount of data obtained from the survey, enough information was collected, certainly in conjunction with the earlier focus group research, to suggest that iOutback™ might best be further developed and marketed as a local communications system. Most importantly the results begin to reveal the notion that iOutback™ be developed technically and marketed as a system which first and foremost enhances safety; the other issues need not be neglected in such a process but perhaps would be less of a priority in the initial phases of development and promotion.

In addition, the results showed that gender differences were apparent in the age groupings of respondents. However, while there were some gender associations in the survey responses generally, male and female participants across the age ranges appeared to be equally experienced and enthusiastic about remote travel in most respects, suggesting a demographically diverse market for the product.

The results also indicated the level to which survey participants valued the development of the proposed iOutback™ system. The majority of participants felt that iOutback™ would be generally useful or very useful. Nevertheless, the follow-up question (Figure 3.7) perhaps tempers this result somewhat in that it suggests that (barring disasters) iOutback™ would make no significant difference to the travel plans of the survey participants. This may have much to do with the substantial travel investment the survey participants and outback travellers more generally have already made, which give them a high degree of confidence in the plans that they make before travelling and the technologies they choose to enhance their safety. However, the fact that even the more experienced travellers still regarded iOutback™ as useful/very useful suggest that they would value the system as a 'back-up'. Moreover, perhaps in the long term iOutback™ may have the potential to change people's travel plans.

Another major issue for travellers/potential travellers is the affordability of such a system and whether it would be better to be purchased or hired. Affordability is likely to be a major factor in the technical development and marketing of such a system. The contexts for such development and marketing proposed in this report (i.e. a small, local information exchange system for enhancing safety for specific groups/kinds of travellers) perhaps make the affordability of an iOutback™ system more achievable, as compared to one that is designed with much broader communication issues and functions in mind. Similarly in this regard, the responses indicated that survey participants are ambivalent about whether they should purchase or hire an iOutback™ system. Given such opinions, any further technical development and marketing of iOutback™ should focus on making the system available for both purchase and hire in the contexts suggested in this report.

In conclusion, the topics and issues raised in the survey component of this research are by any measure preliminary. However, on a proof-of-concept basis there does appear to be a demand for a communication system such as that proposed by iOutback™. Furthermore, the research has identified some of the particular questions regarding areas of focus and concern for the development of iOutback™ while also offering a glimpse of the potential users of the system. Further research is required to fully quantify and validate these issues, but the prospect of a widely consumable safety oriented system that is accessible through either affordable purchase or hire that also enhances remote travel experiences would seem to provide a sound starting point for the continued development of the iOutback™ concept.

4. Conclusion

Self-drive tourism forms a substantial sector of tourism in remote and regional Australia. Both its (albeit erratic) increasing presence and the high mobility of its enthusiasts make it an important tool for the transmission of economic benefits to peripheral areas. However, travelling throughout remote areas presents a number of challenges, notably those related to safety. Compounding this concern, self-drive tourism is not an activity that is limited to the highly skilled. As noted in the literature and in the findings of this report, self-drive tourists are a diverse group with a wide range of outback skill levels. Increasing access to high quality information is thus a major need for this group.

As part of the solution to this problem, iOutback™ was conceptualised as an 'Advanced Traveller Information System'. While it is not intended to replace existing technologies, it can be viewed as an evolutionary step enhancing existing technologies and systems by facilitating two-way, real-time communication between travellers and various agencies and operators. iOutback™ proposes an easily accessibly communication channel that could provide enhanced levels of safety, information provision and enjoyment for travellers in remote areas. The focus group and survey employed in this report to gather information from stakeholders, including potential customers, confirms the need for, and consumer willingness to make use of, such a system.

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Appendices

Appendix 1: List of workshop attendees

Bill McIntosh (Chair, Outback Areas Community Development Trust),
Interest: The latest technology re on-board information systems Australia wide.

Chris Burchett, (Tourism South Australia)
Interest: Believes that current tourism management practices are unsustainable in terms of their impacts on the natural environment; seeks better ways of addressing these issues.

Colin Stevens (Manager, Royal Automobile Association of South Australia Inc.)
Interest: General information for visitors.

Craig James (Desert Knowledge CRC General Manager, Commercialisation and Communication),
Interest: here to listen to what stakeholders say; what meets needs of market and investors.

David Leek (Dept of Water, Land, Biodiversity Conservation DWBLC; on Pastoral Board, CEO/Manager Public Access Routes),
Interest: Public access routes; safety standards; safe experience tourism

Jack Messenger (Independent community member)
Interest: A user of knowledge; independent use of iOutback™ Bulletin Board

Joc Schmiechen (Independent Researcher, formerly Senior Research Fellow Charles Darwin University)
Interest: Heritage.

John Watkins (South Australian Department of Environment and Heritage - DEH)
Interest: Management of national parks in desert environments; accurate and timely information for tourists.

Mark Blyth (Tourism South Australia)
Interest: Destination development – looking for new products, marketing.

Mark Sutton (Outback Areas Community Development Trust)
Interest: Travels the route frequently; looking to make it a better experience for all stakeholders.

Murray McGregor (Desert Knowledge CRC General Manager Research)
Interest: To ensure this research meets the need of stakeholders.

Pat Katnich (Private Tourism Consultant)
Interest: Studies to improve safety of travelling and improve experience for travellers; interpretation; better overall management of tourism in the outback.

Peter Cahalan (Tourism South Australia),
Interests: Seeks opportunities for on-route story telling.

Richard Trembath (Tourism South Australia)
Interest: Seeks opportunities for assimilating information in remote areas and adding value.

Rob Ackland (4WDrive tag-along specialist in Simpson Desert)
Interest: Environmental management and crowd control – technology – risk management; managing remote areas; risk; safety; occupational health; telecommunications technologies.

Appendix 2: Questionnaire

iOutback™ Survey

Desert Knowledge CRC, Curtin University and the Outback Areas Community Development Trust (OACDT) hope that you enjoyed the *iOutback*™ promotional film and that it provided some useful insights into the proposed benefits of *iOutback*™. To assist us with further development of this concept, please answer the following questions *(ticking the appropriate boxes unless otherwise stated)*:

Remote Area Travel Experience

1. How experienced are you at off-road/remote/outback travel?

No experience	☐
Several trips in the last 10 years	☐
Travel in remote areas most years	☐
Some trips each year	☐

2. When you travel into off-road/remote/outback areas, how do you travel?

In a private vehicle	☐
In a hired/borrowed vehicle	☐
Organised tour vehicle, e.g. Coach	☐
Tag-along tour	☐
Other, e.g. motor bike, plane (Please list below)	☐

3. When you travel into off-road/remote/outback areas, where do you go?

I keep to the main highways, just passing through	☐
I like to spend time and explore the area I am visiting	☐
I like to go to my favourite spot and have a break	☐
I like to experience something new every time I visit	☐
Other (Please list below)	☐

4. If applicable, please list in the box below the country or countries in which you have experienced remote travel?

If Australia, please also list state or states:

The *iOutback*™ Concept

1. Do you think *iOutback*™ would be of help for travelling in remote areas?

Very useful	☐
Useful	☐
Don't know	☐
Not useful	☐

2. Would you choose to use an *iOutback*™ communication system if it were available?

Yes	☐
Yes, provided iOutback™ is affordable	☐
Don't know	☐
No	☐

3. Would you prefer to (a) purchase the equipment or (b) hire the equipment

(a) Purchase equipment	☐
(b) Hire equipment	☐

4. Would you be more likely to travel to remote/outback regions if an *iOutback*™ system were in place?

Much more likely	☐
More likely	☐
Not sure	☐
Would make no difference to travel plans	☐

5. Which do you consider the most important issues/topics for two-way information exchange? *(Please rank your answers in the boxes provided by number, with Number 1 being most important and Number 6 the least important).*

Safety	☐
Natural Environment	☐
Culture and Heritage	☐
Events	☐
Locating accommodation	☐
Mapping/direction finding	☐

Others *(If you wish, please list issues/topics in the spaces provided in order of perceived importance; that is, with the issue/topic you think most important at the top of the list).*

6. If you wish, please make any further comments and/or suggestions concerning any of the above items, or other relevant issues you consider important.

1. Gender

Male ☐
Female ☐

2. Age

18-40 ☐
41-60 ☐
Over 60 ☐

3. Please state your country of birth

If you are a resident or citizen of Australia, please complete the following:

State

Postcode

THANK YOU VERY MUCH FOR TAKING THE TIME TO COMPLETE THIS SURVEY AND ASSISTING US WITH THE DEVELOPMENT OF *iOUTBACK*™

Appendix 3: Flyer for four-wheel drive associations

To whom it may concern

iOutback™ is a new concept in remote travel communications currently being developed by Desert Knowledge CRC, Curtin University and the Outback Areas Community Development Trust (OACDT). The idea is to develop a web-based communications system that can improve local, two-way, real-time communications in remote regions - such as the Australian Outback - between travellers and the relevant authorities, organisations and businesses to make travel to these regions a safer, more pleasurable and informative experience for all concerned. The *iOutback*™ concept has been in development for the past 18 month and now has in-principle approval from a number of important stakeholders. The developers now seek feedback from potential users of this system (e.g. remote travel tourism operators, service providers in and travellers to remote regions). Once received this feedback will help form the basis of final report, and, hopefully then, the further technical development of an *iOutback*™ communications system 'in the field' by an appropriate organisation/company.

To obtain feedback from as many interested parties as possible, worldwide, Desert Knowledge CRC, Curtin University and the Outback Areas Community Development Trust (OACDT), with the assistance of 'MattWiggFilms', have produced a promotional video and survey which now available for viewing on Desert Knowledge YouTube (see below). We cordially invite you to view the video and complete the survey. The information you provide is invaluable and will contribute greatly to the further development of *iOutback*™.

As we seek responses from as many interested parties as possible we would be most grateful if would circulate/publicise the availability of the promotional video and survey to be interested in this product and contributing to its further development.

Please do not hesitate to contact, in the first instance, the Desert Knowledge CRC information help desk info@desertknowledgecrc.com.au should you require any further information about *iOutback*™ and/or the promotional video/survey.

To view promotional video and then access the link to survey on Desert Knowledge You Tube type either of the following:

www.youtube.com/watch?v=79lxdJM4oG8

www.desrtknowledgecrc.com.au/research/4wdtourism.html

Your help is greatly appreciated

Thankyou kindly,

Curtin University Research Team

DKCRC Partners

AIATSIS

Australian Government
Department of Families, Community Services and Indigenous Affairs

ANU
THE AUSTRALIAN NATIONAL UNIVERSITY

Centre for Remote Health
A joint centre of Flinders University and Charles Darwin University

CHARLES DARWIN UNIVERSITY

CSIRO

Curtin
University of Technology

desert peoples centre

Government of South Australia
Department of Water, Land and Biodiversity Conservation

Government of Western Australia

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