

Dynamic in-destination decision-making: An adjustment model

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ABSTRACT

The study of tourist decision-making usually focuses on destination choice, framed in terms of informational inputs into the rational decision-making processes of individuals. We report on a study of on-site tourist decision-making in the South Island of New Zealand. The framework within which decision-making is conceptualised draws on process accounts derived from work in naturalistic decision-making, and adaptive, situated and embodied cognition, and in this respect the study distinguishes itself from much previous work in this area. One hundred and forty qualitative interviews were analysed thematically to identify four dimensions of an emergent process of decision-making: (In)Flexibility; Location/timing; Social Composition; Stage of Trip. Decision-making varies on these dimensions in line with various 'Types of Trip' also identified from the data. This study provides support for process approaches to tourist decision-making and characterises it in terms of a continual process of socially mediated adjustment to features of the destination and overall trip evolution.

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1. Introduction

The management of tourism depends in part upon the successful management of tourist behaviours and experiences. Tourism, and leisure travel in particular, presents a dilemma in this regard. Leisure travel operates within a realm of relative freedom often said, though not without controversy, to be a crucial feature of the leisure experience (Neulinger, 1976). It is recognised by both tourism researchers and practitioners that part of a successful leisure travel experience is often the sense, for the tourist, of relative freedom of choice, open-ended exploration (including Crompton's (1979) motive of exploration of *self*) and autonomy over the travel episode. Compared with other life spheres, researchers often assume that the performance of tourism is at the tourist's leisure, rather than in conformance with coercive forces or formal obligations.

This freedom presents a significant challenge for both managers and tourism researchers seeking to understand and predict the aggregate behaviours of tourists. These behaviours range between a fundamental concern with route taken and overall itinerary, through choice of accommodation, transport and activity to the daily purchases made on-site. Further complicating this challenging task is the growing uncertainty over future flows of tourists in

response to such global factors as climate change and peak oil (Becken, 2008).

Increasing macro-level uncertainty leads, logically, to even greater concern over how best to derive the benefits from tourism that are desired by businesses, communities and nations, that is the 'yield' from tourism. The present authors are not concerned primarily with the question of yield - its definition, scope and enhancement. However, it is worth emphasising that whatever the notions of tourism yield mean, central to its enhancement will be innovative insights into how tourists act on-site and *in situ*.

Formal approaches to modelling tourist behaviour have typically relied upon conventional econometric modelling and market segmentation and analysis techniques (Jafari, 2003, pp. 145–146; Mathieson & Wall, 1982; Schmoll, 1977; Um & Crompton, 1990, 1991; Wahab, Crampon, & Rothfield, 1976). Such modelling, however, operates on reasonably coarse-grained assumptions about the relevant features of the tourist and the environment within which tourists express their behaviours. Finer-grained approaches to modelling tourist behaviour have focused on individual tourists' presumed decision-making strategies or processes and so at least appear to build an understanding of tourist behaviour using a 'bottom up' approach (Correia, Kozak, & Ferradeira, 2010; Decrop, 2006; Decrop & Kozak, 2009; Decrop & Snelders, 2004, 2005; Woodside, MacDonald, & Burford, 2004).

Much work on tourist decision-making in this vein has adopted a model of tourists as rational decision-makers engaged in a motivationally-driven process of searching for an efficient means of

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satisfying desires and needs in relation to travel (Um & Crompton, 1990; Woodside & King, 2001). This process, often based on work in consumer behaviour (Pizam & Mansfeld, 1999), is assumed to involve a directed search for information about available and accessible options to satisfy a desire to travel or go on holiday (Fodness & Murray, 1997, 1999; Mansfeld, 1992), and evaluation of these options against resources, preferences, etc, leads to choice. Typically applied to destination choice, this approach to modelling tourist decision-making conventionally incorporates general decision models such as choice set theory (Crompton, 1992; Crompton & Ankomah, 1993), on the assumption that destination choice represents a high-involvement decision and a significant amount of deliberate search behaviour.

There has been criticism of this approach to decision-making (Smallman & Moore, 2010), resulting from research both on the process of general decision-making and the process of cognition (Anderson, 2003, 2005; Edwards & Potter, 1992; Edwards, 1954; Gigerenzer, 2007; Gigerenzer, Todd, & the ABC Research Group, 1999; Lipshitz, Klein, Orasanu, & Salas, 2001; Moore, 2008; Payne, 1982; Payne, Bettman, & Johnson, 1993; Smith & Collins, 2009; Smith & Semin, 2004; Zsombok & Klein, 1997). Amongst other insights, these developments emphasise the embedded, embodied and socially situated dimensions of human cognition and behaviour. In addition, they highlight the enduring insight from psychology that behaviour is a constant and adaptive process of dynamic, interactive *adjustment*. Given this characterisation of decision-making processes and behaviour, attempts to model tourist behaviour will themselves need to incorporate and respond to such properties.

In tourism research the dominant rationalistic approach to decision-making does provide some useful insights across tourism choice. However, it is less suited to the often relatively unplanned, hedonic, opportunistic and impulsive decision-making that often characterises tourists' behaviours on-site within a destination (Decrop, 1999). More generally, it is arguable that rational models of motivation and decision-making systematically underestimate the importance of affective processes in tourists' behaviour (Gnoth, 1997; Goossens, 2000; Holbrook & O'Shaughnessy, 1990). There are also indications that there may be a 'hierarchy' of tourists' decisions during a trip, ranging from relatively planned and early decisions, through 'looser' sets of decisions to almost entirely unplanned, 'spontaneous' decisions (Becken & Wilson, 2006). Gunn (1979, 1988) too pointed out the distinction between primary, secondary and tertiary attractions, which were determinative of going to a destination (primary), on the known list of 'to do's' at a destination (secondary) and encountered at a destination (tertiary).

We outline the development of an emerging model of tourist decision-making that reflects some recent developments in decision-making research. The model has arisen out of an intensive qualitative study of international tourist decision-making in New Zealand. That study forms part of a larger research project that aims to develop an agent-based model (ABM) to simulate tourists' decision-making and behaviours.

Modelling human behaviour in complex and ill-defined situations such as tourists' decision-making (Tay & Lusch, 2005) is now commonly undertaken through the development of ABMs. These computer-mediated models of complex human decision-making revolve around exploring the representation and interaction of heterogeneous agents in response to cues in their 'world'. By nature of their inherent architecture, ABMs disaggregate ecologies, which enables them to

'be more sophisticated, subtle and faithful to the complexity of these phenomena than the more traditional modelling methods.' (Midgley, Marks, & Kunchamwar, 2007).

The use of ABMs in consumer behaviour is not common (Schenk, Löffler, & Rauh, 2007; Zhang & Zhang, 2007), and less so in tourism applications (Zhang & Jensen, 2007). That stated, there is related work in identifying heuristics associated with tourists travel choice (Van Middelkoop, Borgers, & Timmermans, 2003), in multi-criteria decision-making in solving spatio-temporal problems (Bishop, Stock, & Williams, 2008; Matthews, 2006) and in economic modelling (Leombruni & Richiardi, 2004).

As a precursor to developing our ABM, we grounded our emerging model in the direct identification and interpretation of the 'rules', 'heuristics' and 'themes' embedded within tourists' discursive accounts of their decisions. Our rationale for adopting this approach was that the kinds of dynamic, complex and seemingly unpredictable behaviours of tourists 'in the wild' are best identified and tracked via qualitative methods that emphasise 'real time' investigations as decisions, and their corresponding behaviours, emerge. Furthermore, this approach is compatible with a search for the underlying and non-obvious generative processes that may be responsible for such complex and constantly adjusted behaviour. To paraphrase the philosopher Ludwig Wittgenstein, these generative processes are more often *shown* in the discourses used by tourists rather than explicitly *said*.

We first outline the significance of developments in decision-making research and work on human cognition for understanding tourists' behaviours. We then describe the general characteristics of the study sites, the methods employed in the study and the analysis performed on the collected data. Third, we discuss the general findings and decision-making themes that arose from the data and present a four-dimensional 'cascade' model of tourist decision-making based on those themes. Fourth, we explain the model and its application to understanding the emergent, in-destination decision-making and behaviours of tourists. Fifth, we discuss the theoretical implications of the model, before the management implications and recommendations arising from the model are considered. Broad conclusions are then drawn.

2. Research on cognition and decision-making

The usual understanding of decision-making is as a vital cognitive process that directs or organises much human behaviour (Neisser, 1967). Early cognitive psychologists were strongly influenced by a rapidly developing computational analogy for the functioning of mind (Gardner, 1985). The mind became conceptualised as an information processor or 'software program' whose 'hardware' was the brain. Interactions with the external environment were understood in terms of informational input. The mind was primarily understood as a representational device that transformed sensory 'input' into internal representations that came to be transformed or processed in various ways to produce adaptive behaviour as an 'output' (Fodor, 1980; Garfield, 1990; Pylyshyn, 1990). Knowledge of the world came to be seen as composed of internal representations, often stored for extensive periods in long-term memory.

This early form of cognitive psychology quickly morphed into the study of how knowledge is represented and processed, and adopted a 'radically rationalist' explanation of behaviour. Decisions, from this perspective, involved the processing of external input ('information') via internal cognitive processes that involved, in part, accessing stored representations (knowledge). This characterisation of human decision-making mirrors, and is compatible with, the kinds of rational-economic models that have been influential in understanding tourist decision-making.

From these early conceptualizations, the intellectual landscape has changed considerably (Bem & Keijzer, 1996). Replacing "a linguistic and formalistic conception of mind" is "an approach in

which mind is conceived as sensitivity and adaptivity to the environment” (Bem & Keijzer, 1996, p. 449). The artificial intelligence community is a bastion of ‘radically rationalist’ theories of mind or, ‘intelligence’, yet a body of work on ‘embodied cognition’, ‘distributed cognition’, ‘situated robotics’ and ‘artificial life’ has emerged (Anderson, 2003, 2005; Brooks, 1999; Clancey, 1997, 1993; Clark, 1997, 1998; Dreyfus, 1972, 1992; Hutchins, 1995; Lakoff & Johnson, 1999; Langton, 1995). At the same time, a well-established literature on the social and discursive construction of mind has emphasised the contingent and constructive interpersonal processes underpinning psychological processes (Edwards & Potter, 1992; Gergen, 1973, 1978, 1985; Harré, 1983, 1997; Harré & Gillett, 1994; Moore, 2002; Vygotsky, 1978).

We contend that these developments:

‘... force the conclusion that “a proper account of mind and behaviour must be externalist, interactionist, evolutionary, developmental and social.” Further, it is only “from such accounts [that] a range of facts about the human mind [can] be explained: Its adaptiveness, flexibility (i.e., its ‘plastic’ abilities), dynamism and ability to achieve intersubjective (i.e., interpersonal) coordination.’ (Moore (2008, p. 83), emphasis in original).

Together, these characteristics of a “proper account of mind and behaviour” share three important features relevant to the model presented below. On this basis, the mind and, consequently, decision-making, is *embedded* in the physical and social world, is a *product* as much as a cause of *action*, and is primarily a process of constant *adjustment* (Moore, 2008).

These broad developments reflect findings on ‘naturalistic decision-making’ (NDM). As a review of the area by Lipshitz et al. (2001, p. 346) pointed out, “[n]aturalistic decision-making researchers seek to understand ‘cognition in the wild’” and emphasised the need for greater study of dynamic and complex decision-making in naturalistic settings. Further, the main theoretical challenge was identified as the specification of

“the link between the nature of the task, person, and environment on the one hand and the various psychological processes and strategies involved in naturalistic decision[s] on the other” (Lipshitz et al., 2001, p. 347).

This marks a call for greater focus on understanding the interactive processes between persons, tasks, environments and decision strategies, as they unfold over time in their natural settings.

These theoretical and empirical threads strongly indicate the need within work on tourist decision-making for the sorts of modelling and analysis that we present and argue for here. In many ways, tourist decision-making may be a particularly appropriate site to advance these general approaches to cognition and mind, especially given the presumed relative freedom and exploratory nature of much tourist behaviour.

3. Methods

Much research on tourist decision-making adopts a quantitative approach to the analysis of tourists’ decisions. The focus is on identifying variables predictive of tourist choices and, in particular, overall destination decisions. By contrast, in its attempt to identify the *underlying* ‘drivers’ of the process of tourist on-site decision-making, we distinguish this study from much of that work both in intent and in the methods employed.

Seeking a ‘process theory’ of tourist decision-making, we adopted process research methods proven successful in organization and management theories, which focus on decision-making. Hence, we adopted an overarching research strategy of ‘iterative grounded theory’ (Orton, 1997). Lying between inductive and

deductive research, in this approach we cycled between theory about decision-making processes and data about decision-making processes. This is not conventional grounded theory, although it is a common misconception that grounded theorists should enter the field in ignorance of relevant theory. Glaser and Strauss (1967) clearly make the point that extant theory cannot be ignored and indeed should be utilised, but that it should not prevent data from “speaking”. Hence, our theoretical departure points were a limited number of process theories of tourists’ decision-making (Decrop, 2006; Decrop & Snelders, 2004, 2005; Moore, 2008; Smallman & Moore, 2010; Woodside et al., 2004). Of these, Woodside et al.’s (2004) “grounded theory of leisure travel” was particularly influential throughout our iterative exploration of theory and data, although not to the detriment of meaning in the data themselves.

Our data collection was based on semi-structured interviews with tourists and interviewers’ note taking and reflections on-site. Such methods are well placed to probe the decision-making process and, therefore, to identify underlying ‘drivers’ of that process. The approach was ‘grounded’ and naturalistic in the sense that it relied heavily on insights gained from direct observation and ‘interrogation’ of tourists’ self-reported decision-making processes as they occur *in situ*. It also allowed us to respond to emergent themes as they became available. That is, when such a theme began to emerge it redirected the interview process, altered the focus of subsequent interviews or even suggested the adoption of additional methods to probe the insight further.

Our primary focus was international tourists’ decision-making in New Zealand. Drawing on the process of decision-making identified by Woodside et al. (2004), we talked participants through their decision-making process for different types of travel decisions: the destination they were at, their overnight accommodation, an activity they had participated in and a daily purchase (e.g., food, souvenirs). We asked participants questions about how decision-making processes evolve in their travel party. A range of demographic and trip data were also collected from interviewees including, gender, age, nationality, country of residence, travel group details, length of stay in New Zealand, day number of trip when the interview occurred, number of previous visits to New Zealand, general itinerary and main type of transport used during their stay. We also asked tourists if they had made any changes to their planned itinerary while in New Zealand. In a final set of questions, we asked participants if they had a budget for their trip in New Zealand, if they kept a record of their spending, their general interest in New Zealand and how they normally preferred to experience tourist activities. We also asked how experienced they perceived themselves to be as tourists, and how many international trips they had taken in the previous ten years. The initial interview protocol is available from the authors.

During the initial phase of interviewing, it sometimes proved difficult to keep participants focused on specific decisions or events rather than detailing a general narrative about their whole trip. In an effort to counteract this, we developed a new interview schedule and this was used by one of the research team at one final research site only. These 15 ten-minute interviews followed the standard interview protocol, but the decision-making questions focused only on what the tourists had done on the previous day although sometimes this included events that occurred immediately before the interview, if this was relevant to understanding the flow of decision-making for the previous day.

The purpose of the research, the content and length of the interviews and the research institution involved were outlined to potential interviewees and they were asked if they were prepared to participate. We advised all tourists that participation was voluntary and that they were able to withdraw their participation at any time. Before interviews began, we showed participants

a more detailed information sheet and asked them to sign a consent form. The interviews took between 5 min and 1 h, most were around 20–25 min; several interviews were cut short when tourists had to leave. As just noted, the amended interview schedule used by one of the researchers resulted in shorter interviews.

Drawing further inspiration from process organization and management studies, we combined two analytical strategies for making sense of our process data (Langley, 1999): grounded theory as a matter of course from our overarching approach, but which adapts well to eclectic data and the ambiguity that is inherent in human decision-making; and a quantification strategy, allowing us to focus on 'events' and their characteristics.

We performed both descriptive and thematic analysis of interview data. The analytic process that followed can be understood as a series of steps, although it is important to realise that these steps did involve an iterative/'back and forth' process that underpins many qualitative systems of analysis.

Further, a distinctive feature of the analysis was that it incorporated a parallel process throughout (identified as Steps 1 and 2 below). This involved simultaneous analysis of descriptive Excel spreadsheet data, and topic and theme coded transcripts using NVivo and HyperResearch. While perhaps unconventional, this parallel process was employed quite deliberately to achieve the later aims of the overall project. Specifically, it was realised that any agent-based model would, eventually, have to be validated against known statistics of tourist behaviour in New Zealand drawn from databases such as the International Visitors Survey (IVS). The categories used in such databases are primarily quantitative and descriptive of basic tourist and trip characteristics. This suggested a constraint on the qualitative analysis, which needed to be handled carefully given the requirement for the validity of the qualitative analysis.

3.1. Step 1

A first, 'parallel strand' of analysis used quantifiable or categorical data extracted from the interviews and the interview transcripts, through manual analysis of data entered into an Excel spreadsheet. This allowed identification of tourist and trip characteristics that appeared to relate to decision-making (e.g., transport type, accommodation type, itinerary type, travel group composition, length of trip, etc.) and their inter-relationships. Another team member, not involved in the original analysis, independently checked this analysis, and the findings were validated accordingly.

3.2. Step 2

A second, independent 'parallel strand' of analysis involved use of both NVivo and HyperResearch software packages (one analyst used a PC and another used a Mac). Thematic coding focused on decision-making styles, topics and themes, with the researchers working independently. A starting point for the coders was the use of Decrop and Snelders's (2005) grounded typology. Early in the analysis, however, it became clear that this typology was not distinguishing 'agents' over the range of decisions being made (the typology was developed largely on the basis of destination decision-making, rather than on-site, 'unfolding' series of decisions). Coders therefore decided to switch to a more 'grounded' process of identifying thematic 'free nodes'. Those parts of the interview transcripts that dealt specifically with decision-making were so coded.

3.3. Step 3

A series of coder meetings were held in which the two parallel forms of analysis were drawn together. A purposive approach was

adopted in which the aim was to meld the emergent 'trip types' from the spreadsheet data with decision-making characteristics (identified as 'free nodes') from the transcript (NVivo and HyperResearch) analysis. In essence, the aim was to match 'trip types' to 'cases' (i.e., interview transcripts) and to extract decision-making dimensions that mapped onto this categorisation scheme.

3.4. Step 4

Interview data were then further analysed using recoded and emergent characteristics from the descriptive, spreadsheet, analysis (recoding often involved simplifying or 'collapsing' categories). 'Free nodes' were indexed to 'tree nodes' in an iterative process to extract general dimensions of decision-making (see Results section) that, in turn, 'clustered' around 'trip types'.

The use of different hardware and software platforms forced the team to crosscheck thematic coding for reliability (which would normally be undertaken even where a common analytical environment was used), both in terms of definitions of themes and the text indexed under themes. Again, where there was disagreement, the core team of four researchers met to discuss and agree a resolution, which led to thematic recoding.

One researcher then interpreted the descriptive analysis and thematic code sets (including their underlying texts) developing a narrative-based theory of how tourists make decisions 'in-country'. This was independently reviewed by each of the other three team members, and was then collectively reviewed by the team as a whole.

The project's steering group accorded further validation of the findings through a second review. The group consists of New Zealand national and local government tourism, industry lobbyists and Iwi representatives (from indigenous Maori representative bodies). The steering group further assured the research team of the credibility of the findings.

The need to study decision-making *in situ* made the selection of study sites vital to the success of this study. All five sites chosen for interviewing tourists in this study were in the Canterbury region of the South Island of New Zealand. They are all accessible on the region's road network, which is the almost universally adopted means of travelling to, from and between the sites.

Adopting a regional focus within New Zealand allowed the selection of a range of types of sites and provided insight into the sequencing and connections within at least a portion of tourists' itineraries in New Zealand. Five research locations represented different destination types: A 'gateway' is an entry point into New Zealand (Christchurch); a 'terminal' site is a location that is at the end-point of a diversion from a main through-route (Akaroa and Hanmer Springs); a 'through-route' is a site that is located on a significant travel corridor (Kaikoura and Tekapo) (see Fig. 1 for their geographical locations). This range of destinations chosen enabled the inclusion of people at various points in a trip and, engagement with different destination types. It was expected that the tourists encountered at each place would be interested in different types of activities, have different purposes of visit, be following different itineraries and so on. More detailed information on each site is available from the authors.

Interviews took place at two locations at each research site, usually one at a specific tourist attraction and one in a more generic tourist area. Visits to the locations for interviewing occurred from December 2008 until February 2009, months that represent the peak summer period for New Zealand tourism.

At the selected sites, potential participants were approached on a non-random, 'first past the interviewer' basis and, in each case, a filter question was asked to ensure that the person approached was an international tourist. Given the qualitative nature of the



Fig. 1. Fieldwork locations.

study methods, we did not seek a representative sample, although sampling aimed to gain a 'saturated' data set (i.e., we stopped sampling once no new insights or significant differences arose from further interviewing).

Between fieldwork periods we cycled between data and theory, using the analytical strategies outlined previously. Our findings enabled us to derive an iteratively grounded theory of tourists' in-destination decision-making, and we now turn to our empirical findings, before proposing our new theory.

4. Findings

4.1. Sample characteristics

Altogether, we conducted 140 interviews at the five research locations. The majority of interviews (101) involved only one person, the remainder (39) involved either two or three tourists: altogether, 182 tourists were involved in the interviews. We describe and analysed the majority of the research findings with reference to 140 travel groups represented by these 182 tourists.

The interview sample was made up of 107 females and 75 males. Whilst all age groups from 15 to 70+ years were sampled, the age distribution of interviewees was bimodal with peaks in the 25–29 years and 55–59 years.

While the sampling did not aim to be representative of the visitors to New Zealand, there was some attempt to ensure that interviews occurred with tourists from the main tourism markets. Of the 182 people involved in the interviews, 126 were visiting New Zealand for the first time and 56 had been between one and eight times before. The majority of repeat visitors interviewed were from Australia and the UK with 21 tourists from each having been to New Zealand before. The remainder of repeat visitors were from the United States (4), Germany (3), Netherlands (2), Switzerland (2), Denmark (1), Japan (1) and Korea (1). Generally, tourists from Australia had visited the most times previously, although one German tourist was on their seventh visit and one Japanese tourist was on their fourth visit.

The length of stay in New Zealand ranged from six days to one year. The mode was 21 days (13 travel groups), with similar numbers staying for 14 days (11 travel groups), 30 days (12 travel groups) and 42 days (10 travel groups). For analysis purposes, 'length of stay' was coded as one of four measures:

1. **Short** – up to, and including, two weeks (34 travel groups)
2. **Medium** – between two weeks and one month (53 travel groups)
3. **Extended** – over one month, but less than three months (35 travel groups)

4. Long – over three months (18 travel groups)

The extended stay visitors were more likely to travel using rental vehicles, private transport or a combination of private and some other form of transport. Long stay visitors were also more likely to travel using private transport or a combination of private and other transport (see Table 1). The tourists staying the shortest time were more likely to travel by rental vehicle. Half of those travelling by tour were staying for a medium length of time, associated with the longer length tours operated by the modular 'hop-on hop-off' providers. There were some differences in length of stay by study site with more short stay visitors encountered in Hanmer Springs and more medium stay visitors encountered in Kaikoura, Hanmer Springs and Akaroa. In Tekapo, there were slightly more medium and extended stay than short stay visitors and no long stay ones.

Although participants were not specifically asked about their motives for visiting New Zealand, coding the interview data for itinerary categories suggested that the tourists interviewed represented a range of *trip types*. These trip types, in turn, influenced tourists' style of travel, itineraries, transport and accommodation choices and ultimately their decision-making. Most fell within the IVS 'purpose of visit' classification as either 'holiday/vacation' or 'visiting friends or relatives' (VFR); the only exceptions were a tourist who was working for one week of his stay in New Zealand, and two tourists who were undertaking courses whilst in New Zealand. The IVS, however, asks those surveyed to record only their main reason for travelling in New Zealand, whereas the interview data suggest that tourists often have multiple motives.

Importantly, 'Type of Trip' emerged as a principal category in understanding yield-relevant tourist decision-making. Once a tourist is categorised in this way, important features of their decision-making processes can be understood and explained. Type of Trip can be best thought of as the overall pattern of international tourists' behaviour in New Zealand. To this extent, Type of Trip is related to a tourist's motive, but goes beyond the notion of a 'purpose of travel' because it is based on patterns of behaviour and the 'rules' implicit in that pattern.

The trip types identified were: sightseeing, visiting friends and family (VFR), holiday/family, working holiday and 'round-the-world' (RTW). It was possible for more than one of these categories of trip type to apply to each travel group. The Type of Trip impacted on a number of other characteristics of travel including the length of stay, type of transport used and itinerary taken.

In interviews, we asked tourists how long they were staying in New Zealand, and the day of that stay. As noted earlier, their length of stay (given in number of days) was recoded as either a short, medium, extended or a long stay. In addition, the day of the trip

they had reached was recoded according to whether they were in the first, middle or final third of their trip.

Altogether, of the 140 travel groups interviewed 38 (27 percent) were in the first third, 60 (43 percent) were in the middle third and 42 (30 percent) were in the final third of their New Zealand trips.

We encountered more middle third tourists in both Hanmer Springs and Akaroa, than in the other research sites. In Christchurch, only one travel group was in the middle third of their trip.

Although there were variations associated with tourists' overall length of stay, it emerged that, in general, tourists had more planned in the first third of their trip, were more unplanned in the middle third and demonstrated changed priorities and behaviours in the final third. Decisions for accommodation, e.g., may be 'locked in' for most of the initial third of the stay, open-ended during the middle third and be of a different type (e.g., more 'luxurious' accommodation) during the final third, prior to departure.

These general findings, combined with further exploration of the interview data, suggested a number of basic themes and, ultimately, dimensions that underlay and were weaved throughout the dynamic process of on-site decision-making.

4.2. Decision-making themes

To understand tourist decision-making we considered three scales of interest:

1. Processes that generate the overall route/itinerary within New Zealand;
2. Processes that generate site-specific decisions and behaviours;
3. Processes that generate 'between site' decision-making and behaviours.

Between-destination decision-making entered into the data collection indirectly via tourists' accounts of the specific decisions that were probed and, more directly, in the interviews that focused on tourists' accounts of their previous day's activity.

In relation to the first scale, interviews indicated that a primary context – often 'locked in' prior to arrival in New Zealand – is length of stay and, perhaps to a lesser or more conditional extent, available money for the trip and travel party composition. Length of stay and available money, in particular, represent 'book ends' for many tourists' visits to New Zealand, both probably accentuated because of New Zealand's distant location from many origin countries. In one sense, of course, they are themselves 'decisions' that tourists make. Frequently made and committed to before arrival they represent, however, a *de facto* context within which on-site decision-making must occur.

Length of stay interacts with on-site decision-making, to the extent that shorter lengths of stay are associated with pre-booking or committed decisions concerning much of the itinerary, transport options and accommodation. Importantly, activity decisions are less constrained, in this way, by length of stay, although a particular activity may 'anchor' at least part of the itinerary before arrival.

An important exception to this general trend was that some visitors from Australia, who often visited for relatively short stays and had either visited previously or expected to visit more than once, would be more open to making some of these itinerary, accommodation and transport decisions while on-site. Conversely, their itineraries were often more tightly focussed on specific regions, areas or activity-determined sites.

An important point to make about this context of tourists' decision-making is that the 'book ends' reciprocally and strongly interact with one of the central variables that emerged in this study: Type of Trip. Most obviously, Type of Trip is in part determined by available time and money. Conversely, an early decision

Table 1
Transport type and research site by length of stay (recoded).

	Short	Medium	Extended	Long	Total
Transport type					
Rental	23	24	12	–	59
Private	1	8	8	8	25
Public	5	6	3	3	17
Tour	2	5	2	1	10
Combination	3	10	10	6	29
Total	34	53	35	18	140
Research destination					
Christchurch	2	4	–	2	8
Kaikoura	6	12	11	6	35
Hanmer Springs	14	13	6	4	37
Akaroa	5	14	8	6	33
Tekapo	7	10	10	–	27
Total	34	53	35	18	140

about Type of Trip will affect the length of stay and money available.

A second dominant context for tourist decision-making that emerged from the interviews was the overall impression tourists had of the comparative *ease of travel* within New Zealand. As this 23 year old man from the United Kingdom succinctly describes:

Interviewer: You have a guide book?

Male: *Yes but New Zealand is a very easy place to travel around – you can go so many ways and it is easy to find things – that makes it very nice that it is so easy*

This did not just apply to very experienced travellers or to those who had visited New Zealand previously. Even first time visitors commented that they were likely to adopt a less pre-planned approach to organising any future trips to New Zealand based on their current experiences.

In modelling tourist decision-making behaviour in New Zealand this context of perceived relative ease of travel should not be underestimated. Not only is it likely to affect the timing of on-site decisions, but it also represents a significant influence on changes in decision-making approach *during* the time in New Zealand. That is, as on-site experience accumulates, the tendency – for all tourists – was towards a more ‘relaxed’ approach to decision-making. This represents a major learning factor in decision-making.

A third context for on-site decision-making that requires highlighting is the role of social ‘inputs’ and encounters. This is certainly true of the initial travel party composition. The composition of the travel group, particularly the presence of young children, clearly influenced a variety of on-site decisions and meant that some decision elements needed to be ensured well before arrival at a site or in New Zealand.

What this study has added to this portrayal of the role of social factors in decision-making is two-fold. First, during the trip within New Zealand, the ‘travel group’ for many tourists can change quite significantly. A typical example of this concerns VFR/VFF tourists who might spend a considerable portion of their trip staying or even travelling with local residents but also insert a period of ‘independent’ travel without their friends or relations. This, however, does not always mean that friends and relatives have no influence over decisions made for the ‘independent’ portion of a trip. Second, tourists in this study showed a strong tendency to seek out personal advice from whomever was immediately available. This included seeking advice from other tourists, local residents, accommodation personnel, front-line staff at *i*-sites, etc. This advice served two basic functions: to be informed about activities or accommodation or to receive reassurance that a contemplated decision was a ‘good’ one.

In this way, the context of social inputs into decision-making also interacts with non-social information sources (e.g., guide books, brochures, websites). The information in such sources was often tested against the advice of others. Tourists actively ‘probed’ and interacted with their immediate social environment to carry out a process of adjustment and refinement of decisions and actions. A special case of this interaction was a tendency to rely on Internet sources based on the opinions of other travellers.

4.3. Decision-making dimensions

These contexts suggest a number of significant dimensions along which tourists’ on-site decision-making can be positioned. Based on the analysis and the identified contexts of decision-making, three dimensions were isolated that, together, help to explain most of the data on decision-making reported above: (In) Flexibility; Timing/location; Social composition. These dimensions interact, but can vary ‘independently’.

The dimension of (in)flexibility represents an amalgam of a number of factors that were identified from the interviews: A perceived and actual ‘ease’ of travel in New Zealand; decision openness, partly a function of Type of Trip; facilitation openness (receptiveness to advice and information). The following husband and wife couple from the United Kingdom on a two-month trip to New Zealand explain how their itinerary had elements of both inflexibility (e.g., elements in place prior to arrival) and flexibility (especially length of stay in particular destinations):

Interviewer: So did you have a pretty fixed route plan before you got here or not?

Female: Yes, I think with it being two months, I know it sounds a bit odd but it’s not very much time, two months to do the whole of North and South....

Interviewer: ...did you have a plan for how long you’d stay places?

Male: Not really, no, we’ve just sort of made it up as we’ve gone along

Interviewer: So you had more of a plan for the actual route, and not so much

Male: Yeah

Interviewer: So you’ve made a few changes to your route and you didn’t really have one [a plan] for your time

At the extreme of flexibility was an Australian woman travelling with her two teenage daughters. Importantly, she had emphasised how it did not matter what they did and where they went this time because they would always have ‘next time’:

Interviewer: So, basically, you’ve done the country, apart from ...

Female: Well, there’s a few places we haven’t been but we figured, hey, next trip because I wanted to go to Bluff, but it’s 16 hours from Queenstown, and I thought, no, too far, so we missed Queenstown altogether and thought, right we want to do some spa stuff at Hanmer - we’ll go there.

Interviewer: Good, good.

Female: And next trip we can do what we, what else we wanted to do....

Interviewer: So these places that you list here, did you have them all in mind before you came?

Female: No, we came and thought, we’ll go where the wind takes us, you know, didn’t plan anything.

Interviewer: Good.

Female: The best holidays are unplanned.

The dimension of timing/location primarily describes the tendency to have made a decision before arriving, while in the country or even at a specific destination. It is a function of tourist concerns over likely risks of not booking in advance, the significance of particular needs of group members, Type of Trip, and type of decision.

A young German tourist, travelling and working for ten months in New Zealand, explains how she made the decision to bungy jump at a particular place (an activity available at numerous sites in New Zealand):

Interviewer: Could you describe to me once again how you came to make that decision?

Female: (Laughing) No, well I’ve just always wanted to do that, a bungy in New Zealand because, I don’t know, and then I went to Taupo, famous for something? and I went to Taupo and then I saw the place where you can do the bungy with the Waikato River and I thought ‘oh I’ll have to go and do that’, it looked so beautiful.

Interviewer: So you just came across it, did you realise there was a bungy in Taupo?

Female: Yeah I know there was a bungy, but I didn't um, expect to do that, I just thought let's go there and maybe look, and then I decide to do that because it was so beautiful, the area.

Interviewer: Ok, knew beforehand and decided actually while you were there?

Female: Yeah.

The dimension of social composition describes not only the tendency to involve various members of a travel group in a decision, but also the tendency to include and seek out the input of immediate 'others' in the decision. An important factor in that tendency is the extent to which others are perceived to have some valid, usually personal, familiarity with New Zealand. Another couple from the United Kingdom visiting New Zealand for a month demonstrate how decisions made prior to arrival in New Zealand were influenced by some New Zealand based friends' familiarity with New Zealand:

Interviewer: These places, particularly the one's you've been to, which ones did you particularly want to visit while you were in NZ, say prior to arriving you thought to yourself, definitely...

Female: Personally it was ...

Male: Well for me it was Napier...

Female: Yeah, I liked Bay of Islands, and um, (pause) the Coromandel, and Akaroa.

Male: Yeah, here as well.

Interviewer: Oh, ok, so you'd heard about Akaroa before you ...

Male: Yeah, we'd knew from our friends who are living here at the moment, they've done a big tour of New Zealand.

A 19-year-old German woman travelling with her partner for ten months in New Zealand describes a particularly systematic way of collecting these pieces of advice and constructing her itinerary out of them:

Interviewer: Have you added places that you have wanted to go since being here in New Zealand?

Female: Umm, I've got a journal where I ask people to write where I should go and that's how I am travelling around you know, people tell me there are some nice farm, so stay there and I work on the farm. And people tell you go to Queenstown and do the jet boating and the skydiving, so I am travelling around on suggestions of other people.

A 'fourth dimension' to emerge from the data is 'Stage of Trip'. This dimension incorporates the dynamic changes in decision-making that typically arise during a trip within New Zealand. This has been characterised in terms of 'trip thirds' (first, middle, last), but principally represents a psychological shift in decision-making style and priorities as a trip unfolds. It appears more pronounced at the mid-range of 'length of stay' categories, but is also evident in very short and very long lengths of stay categories.

A fifty-two year old male from the United Kingdom, travelling alone, and in New Zealand for 25 days noted, mid-trip, that he was already likely to have to make a decision not to go to Queenstown. Interestingly, he did not see this as much of a problem as he was going to be able to do all the activities he had planned to do in Queenstown, elsewhere:

Interviewer: Have you missed anything or do you think there's going to be anything you'll miss?

Male: Hopefully not, well I did want to go right down to the south, I did want to do Queenstown, but time won't permit, but from what I've been told, all what I'm doing I'm not missing much, so, (laughing).

Interviewer: So, you're managing to do everything that [you] might do there, elsewhere?

Male: Yes, yes.

5. A 'cascade' model of tourist decision-making

Based on the findings and further analysis, we propose a model of how tourists make various decisions (see Fig. 2).

In this model, the decision process and sequencing is understood as a function of the three basic dimensions of (in)flexibility, social composition and the timing or location of a decision ('Off-site – On-site'). Some 'decisions' are 'locked in' early in the decision process and act to constrain or channel the approach to later decisions. In effect, these early 'decisions' configure the Type of Trip that travel groups engage in on-site. Time, money and the 'motivation' for a particular Type of Trip interact to provide the overall framework for trip decision-making.

Each Type of Trip represents an option that then leads to a particular 'cascade' of decision-making. These subsequent decisions are then located in a three-dimensional space derived from flexibility, social composition and timing/location. In this space, it is possible for a particular 'decision box' to have a range of sizes that incorporate a range of variation related to a Type of Trip on each of the model's dimensions. For example, 'Daily purchase' decisions may have a short length on the On-site – Off-site dimension, a moderate length on the 'Social Composition' dimension and a short length on the (in)flexibility dimension.

The principal 'driver' in this model is 'Type of Trip'. This driver is a label for the overall 'form' of a tourist's travel. It is not just to be equated with 'purpose of visit' as it incorporates particular discourses, justifications and implicit guidance on 'how to' travel according to such a Type of Trip. It is akin to the notion of a kind of 'game' that a tourist engages in while travelling in a country. Alternatively, it represents a typology of the kinds of 'ideologies' of tourism, specifically within New Zealand. As Leiper (1990) argued, 'tourism' is one amongst many '-isms' and, hence, is primarily "the ideology of being a tourist". The Type of Trip typology derived in this study effectively represents different 'ideologies' practiced or followed by international tourists in New Zealand and their effect on decision-making.

One of the unanswered questions in this study is how tourists' choices of Type of Trip are determined. This is because the influences on this choice occur largely outside of New Zealand and so were not the focus of the data collection. Nevertheless, as the findings show, Type of Trip has dependable relationships with a range of other tourist attributes. In this way, Type of Trip can be inferred through triangulation using these other attributes. That is, a proxy for Type of Trip can be derived from particular mixes of

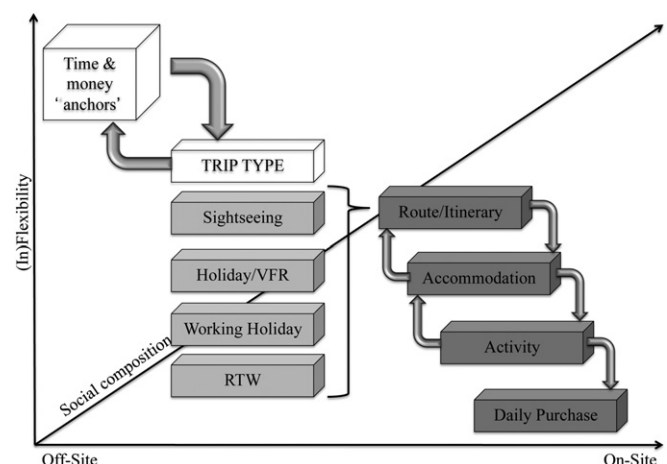


Fig. 2. Three-dimensional 'cascade' model of tourist decision making.

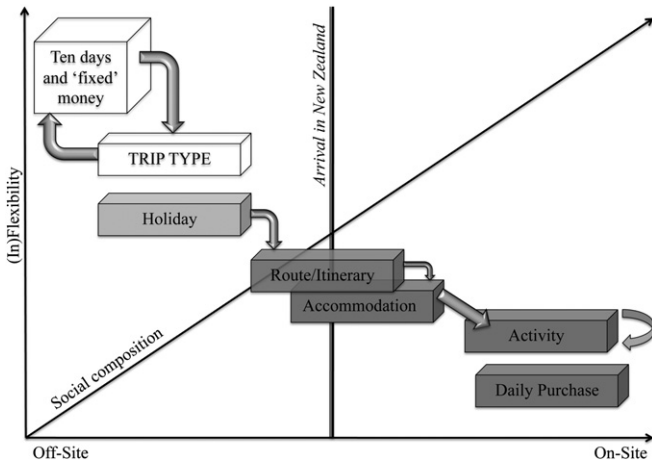


Fig. 3. An illustrative example of the 'cascade' model of tourist decision making.

tourist attributes that form part of commonly collected statistics on New Zealand tourists and those in other countries.

There is an important sense in which 'Type of Trip' is less a choice, *per se*, than it is the framework for other choices. While we have not studied how 'Type of Trip' arises, we speculate that it is like a residuum that falls out of a person's life at a particular point in time. At a younger age, e.g., a tourist may be in a life position such that, if travel is considered, it is more likely to be of a longer, multi-destination form. Culturally available forms of travel such as the 'gap year' for UK youth or the overseas experience (OE) for New Zealand youth, supported by institutional arrangements (e.g., 'round the world' tickets, visa regulations and working holiday arrangements), may become the default form of travel adopted. While we would caution against overstating the deterministic role of these forms of travel, they clearly come with discourses, structural conditions and implicit heuristics that channel the kinds of decisions and patterns of decision-making that occur. In that sense, they are important predictors of the way in which processes of *adjustment* operate in tourist decision-making.

An example of the application of this model is provided in Fig. 3.

Here 'holiday' type of travel represents a relatively 'constrained' type of travel in that many of the itinerary and accommodation decisions have been made before arrival in New Zealand (i.e., inflexibility is 'high' for these decisions) and they will typically be of shorter duration. They are also resistant to social input and so are 'low' on social composition. Activity and daily purchase decisions, however, are lower on inflexibility and are relatively 'high' on social composition.

Through such analysis, it is possible to identify those aspects of the decision-making of particular tourist types that might be most easily influenced in relation to various measures of yield (financial, economic, environmental and social) that are the central concern of the overall project from which this study is drawn. Equally this might apply to almost any other interest one might have in influencing tourists' decisions. In addition, the dimensions help to suggest the best way in which such influence could be targeted, both in terms of the time/location within a trip (e.g., for marketing of an activity to a particular 'travel type') and via the social 'inputs' into those decisions.

A final, but highly significant, feature of the proposed model is that it includes the fourth dimension of 'Stage of Trip'. In Fig. 4, we depict the process of decision-making as moving through, and evolving during, a single trip. For purposes of communication and clarity, we represent that progression as equal 'thirds'. What this indicates is that during the course of a visit to New Zealand certain decisions are repositioned with reference to the three dimensions. For example, accommodation decisions may become more flexible during different stages of a trip (e.g., the middle stage) and also become influenced by a broad range of, perhaps serendipitous, on-site social 'inputs'. At a different scale, during a stay at a particular destination (e.g., Hanmer Springs in our study) daily purchase and activity decisions may also evolve. In the middle day of a three-day stay activity decisions, e.g., may become more flexible and open.

A further important consequence of this 'fourth' dimension is that destinations within New Zealand can be analysed in terms of their (temporal) position within particular itineraries. That 'positioning' information could then be used to inform marketing strategies and planning processes in particular regions based on the likely ways in which decisions made by the mix of travel types (i.e., the Type of Trip mix) passing through a destination could be influenced.

6. Theoretical implications

What we have proposed here is a departure from conventional theories of tourists' decision-making. It does build on conventions in qualitative research into tourists' decision-making (Decrop, 2006; Woodside et al., 2004), but is distinct in its micro-level focus on decision-making.

What we have established is a process theory of tourists' in-destination decision-making that is 'complex, defamiliarizing and rich in paradox' (DiMaggio, 1995). It is a narrative-based (or discursive) approach to theorizing, based in naturalistic accounts of decision made by tourists. This has allowed us to derive a framework to understand decision-makers' heuristics, their effect upon choice behaviours and the influence of contextual factors upon

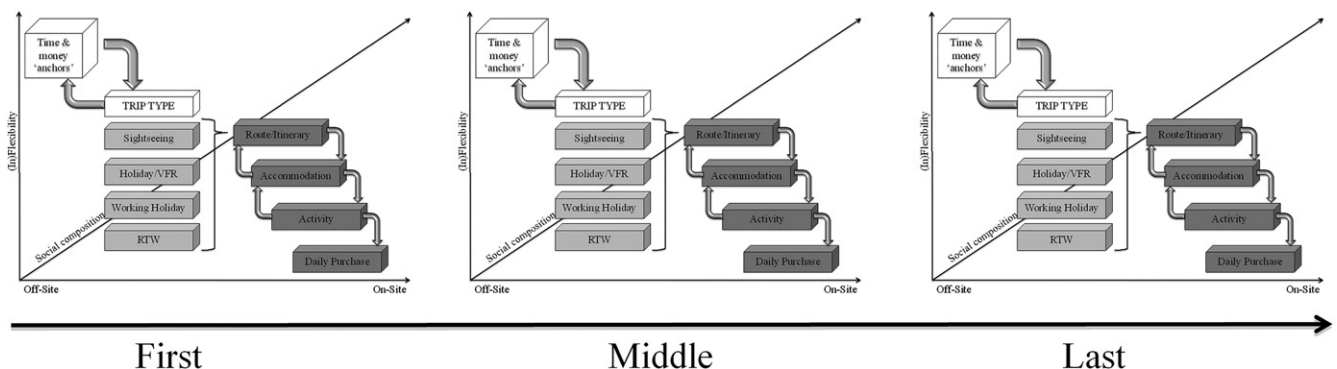


Fig. 4. Evolution of decision-making model during the stages of a trip.

these rules and actions (Sirakaya, McLellan, & Uysal, 1996). We are far from grand theories of consumer behaviour, but this manner of theorizing has led to the development of a pragmatic model of behavioural processes of which we as yet only really have a partial grasp (Weick, 1995).

One substantial advantage of this approach to tourist decision-making is that it is highly compatible with recent developments in related research areas such as naturalistic decision-making, situated and embodied cognition and the more socially and discursively oriented approaches in psychology. These connections suggest numerous new opportunities for furthering work on tourist decision-making.

7. Practical implications

The research program of which this study forms a part is a New Zealand Government funded initiative to explore means of improving economic, social and environmental yields from tourism. As such, whilst the primary focus of our work is on science outcomes, there are implications for practice.

Understanding tourists' decision-making will always require quantitative research to monitor and understand the flow of tourists across international boundaries and inside countries. However, our work suggests that there is value in supplementing this established paradigm with work that looks much more closely at the micro-level of tourists' decision-making. At this level we are able to look at underlying drivers of decisions and follow reasoning processes through to purchase decisions. This implies that we will be able to offer incisive localized policy and commercial advice, carefully targeting measures to improve yield. At a time when national and local government budgets are under pressure worldwide, and no more so than in New Zealand, care in targeting expenditures in a sector as vital as is tourism to so many economies, is increasingly important.

8. Conclusions

Studies such as ours are not common in the tourism literature. Partially this is because they challenge entrenched social sciences conventions, and are open to the accusation or lingering suspicion that they employ methods that are at best 'soft' (Denzin & Lincoln, 2000; Lipshitz et al., 2001, pp. 6–7) or at worst 'invisible, incomprehensible, illegitimate or impractical' (Orton, 1997). However, we contend that our study clearly exemplifies rigorous rich data collection and analysis.

We have opened up our understanding of tourist decision heuristics, their effect upon choice behaviour and the influence of contextual factors upon these rules and actions. This is because we have been able to narrate emergent actions and activities by which tourists' decision-making unfolds during the dynamic, temporally organized process of travelling. Using these techniques, we have identified different approaches to decision-making and the circumstances in which these apply. Because the unit of analysis is the tourist, rather than touristic or tourism artefacts, we more easily see variations across different areas of decision-making with which tourists are concerned. Our complex process approach accommodates both rationality and irrationality, because it makes no assumptions about the rationality of individuals. The focus is process, that is, "what is it that the tourist does?"

In effect, what the tourist 'does' is adjust their behaviour within a process that results from past behaviours and decisions, and the progressively encountered and changing properties of the toured place; it is also a function of the 'Type of Trip' within which a tourist is engaged. The apparently idiosyncratic yet patterned, purposive and complex behaviour of tourists on-site emerges out of this interaction.

We note that our study is limited by the heterogeneous nature of our tourist groups. Hence, further research should investigate whether or not our findings differ between demographic groups defined on the basis of nationality, family, gender, etc.

We believe that tourism researchers must look to approaches such as those developed here to understand the supposedly 'free' and emergent decision-making that is so characteristic of leisure travel.

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