Dynamic in-destination decision-making: An adjustment model

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A R T I C L E   I N F O

A B S T R A C T

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.

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; Zsambok & 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