

The Perceived Value of Location-Based Services in New Zealand Tourism
Research conducted as part of an MCom (Marketing) thesis at the University of Auckland, 2005

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Introduction

Despite mobile technologies' increasing pervasiveness in our everyday lives, there is still relatively little research which explores consumers' perceived value of mobile services from a marketing perspective. Specifically, location-based services (LBS) and tourism are an ideal mix as travellers are often found in unfamiliar areas (Barnes, 2003). "In mobile devices, location is a key factor" (Burak & Sharon, 2004, p93). The capability for a user's location to be pinpointed, and the ability to access the services regardless of their location, is the major differentiator between mobile services and other marketing channels, such as the internet. LBS basically encompasses any service delivered on a mobile device which makes use of the user's position information to deliver value-added services (Nokia, 2001). LBS have been hailed as the next 'killer application' for the mobile industry, and despite their initially disappointing uptake, they are currently undergoing a renaissance (Iso-Rautio & Huff, 2005). Furthermore, tourism is one of the New Zealand's largest and most important industries, comprising 9.4 percent of GDP, 9.9 percent of employment and 18.3 percent of total export earnings (TRCNZ, 2005). To date, there have been no empirical studies which explore the perceived value of LBS in New Zealand tourism, a gap which has been filled by this research.

The overall objective determining the research and its process is:

To explore the perceived value of LBS in New Zealand tourism from a consumer-centric perspective, as well as the perceived value of mobile services in general in terms of the value it can add to the tourism experience, particularly for advanced travellers.

Literature Review Summary

"Marketing involves exchanges; exchanges depend on customer value; therefore, customer value is the fundamental basis for all marketing activity" (Holbrook, 1994, p22). Customer value has been conceptualised in the literature as a trade-off made by a customer between the costs and benefits of a particular product or service. It is important to highlight the perceptual nature of customer value, as it is based on individuals' expectations and evaluations (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994), not "objectively determined by a seller" (Woodruff, 1997, p141). There are broadly two categories of value: utilitarian, which is task-related and rational, and hedonic, which is characterised by an affective and sensory experience of fantasy and fun (Babin & Darden, 1994; Dhar & Wertenbroch, 2000). Contextual factors such as time and place are also an important part of customer value (Heinonen, 2004; Pura, 2004). Sheth, Newman, & Gross' (1991) theory of consumption values –functional, conditional, social, emotional and epistemic – is particularly useful as it largely includes all of these dimensions, and thus will be referred to throughout this research.

Research Methodology

The first phase of the research consisted of semi-structured in-depth interviews with expert informants in the mobile industry. As we are seeking to understand LBS from a consumer perspective and were under time constraints, these have not been thoroughly analysed; nonetheless, a much fuller picture of the important issues for LBS from the firm's perspective, especially in the context of New Zealand tourism, was formed. In general, the expert interviewees confirmed the salient attributes of LBS discussed in the literature such as usefulness, ease of use, security & privacy, personalisation, interoperability, as well as the examples of LBS applications mentioned in the extant literature. Some issues specific to the New Zealand context were also raised, such as mobile network coverage, and the interoperability between the two major mobile networks. Together with the relevant literature, these constitute the grounding for the consumer-centric focus groups – the main focus of this thesis.

The second phase of this research involved the use of semi-structured consumer focus groups with international travellers, particularly "advanced travellers", who have greater demands for immersive travel experiences, are relatively familiar with technology, and are probably more likely to use them during their travels. Given New Zealand's long term strategy of offering sustainable, world-class tourism experiences, this segment is the optimal target market for the country.

Five focus groups were held in two different backpacker hostels located within central Auckland. Each session consisted of between five to seven international travellers. A total of 31 travellers (20 male, 11 female) from six different countries participated in the study, all of whom were screened to ensure that they possessed the "advanced traveller" characteristics. Within the focus group session, a rough guide was followed to ensure high-quality data and comparability between groups. This consisted of: self-introductions, asking participants to define LBS, providing a proper definition and then finally asking them to think of situations where LBS could have improved their travel experiences, and discussing these as a group.

All focus group sessions were audio-recorded, transcribed, and then analysed using the qualitative research software QSR NVivo. An iterative and interpretive process of abstraction and comparison was conducted using a combination of open and axial coding (Spiggle, 1994; Strauss & Corbin, 1998), whereby recurring themes were identified and categorized to develop a coding scheme and, subsequently, a conceptual model. The results of this analysis are summarized in the section below.

Results

The emergent themes from the focus groups can be summarized by the conceptual model below:

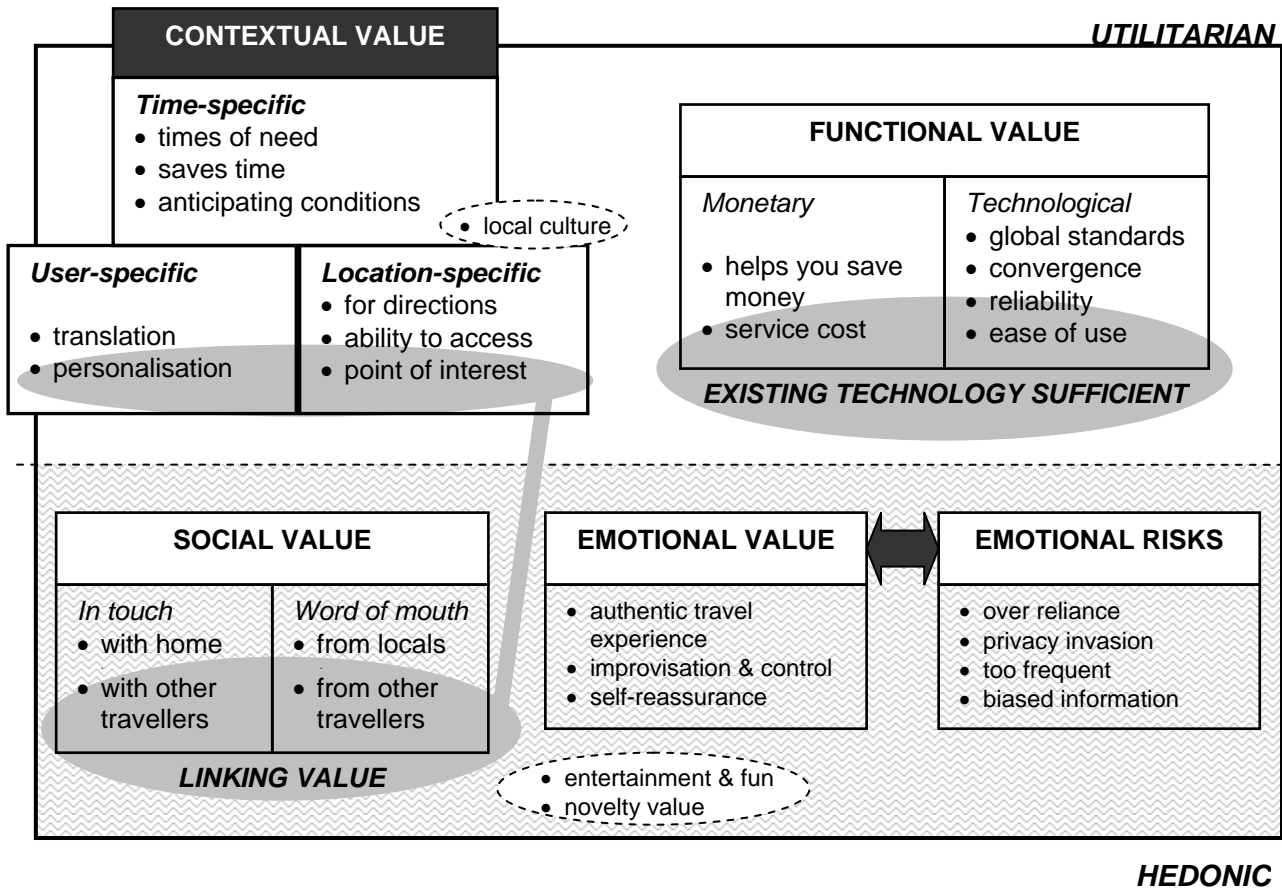


Fig 1 A Conceptual Model of the Perceived Value of LBS in Tourism

Contextual value

This is an overarching theme which influences all the other values, as each consumption experience has a user with their own personal needs ('*user-specific*'), and is set within a particular spatial ('*location-specific*') and temporal ('*time-specific*') context. *Local culture* was placed within contextual value, as it also has an overarching influence on the other values, despite the fact that it did not clearly fall into any of the pre-defined categories. Contextual value was also perceived to be of the greatest importance, while functional, social and emotional values, along with emotional risks, follow closely behind and the three appear to be quite evenly matched in salience. This is unsurprising, given the contextual nature of LBS, and is consistent with the literature which stresses that mobility and context-awareness are the key defining factors for mobile services (e.g. Advani & Choudhury, 2001), and the importance of conditional value for LBS in particular (Pura, 2005).

Functional value

Classified either as *monetary* or *technologically* oriented, it was not uncommon for users to compare LBS with existing mobile services, and if the *service cost*, *ease of use*, and in some cases *reliability* was inferior to these with which they were already familiar, then the value of LBS would be greatly diminished, and it was deemed that *existing technologies were sufficient* for their needs. Overall, *service cost* appears to be the most important functional value, while *ease of use*, *reliability*, *convergence* and *global standards*, is assumed to be inherent in the service, otherwise they will simply reject and avoid using it altogether.

Social value

This is derived via interpersonal interactions, such as *keeping in touch* with others, and also from receiving *word of mouth* advice. Interaction with other travellers holding similar interests ('*personalisation*'), whether

for purposes of keeping *in touch* or sharing *word of mouth* advice regarding a particular *point of interest* results in *linking value* (Cova, 1997). Consumers perceived *word of mouth from other travellers* to be of the greatest value to them, followed by the value of *keeping in touch with home, other travellers*, and then lastly *word of mouth from locals*. It was frequently mentioned by the travellers that they would put more weight on advice from other travellers than what was written in guidebooks or other official tourism information sources, further confirming a fact the importance of word of mouth communication, particularly in tourism (Moutinho, 1987). In terms of *keeping in touch* both *with home* and *with other travellers*, mobile technologies were considered to be a quick and highly convenient way of achieving this; LBS is also a helpful way of facilitating travellers' efforts to keep in touch *with other travellers* during their trip by way of friend-finding or buddy-tracking services, though this is also associated with emotional risks such as *privacy invasion*.

Emotional value

Akin to the paradoxes of technology (Jarvenpaa & Lang, 2005; Mick & Fournier, 1998) in that they coexist simultaneously as a set of affective or emotive responses to the technology by the user. Finally, while *entertainment & fun* and *novelty value* did not strictly fall into either social or emotional value as defined within this research, they were still definitely non-utilitarian and therefore were placed within the 'hedonic' half of the model. LBS which facilitates the generation of authentic travel experiences are likely to be perceived as having the greatest value to travellers. Related to this is the theme of *improvisation & control*, as having greater control over their itinerary is a crucial part of traveling independently. Meanwhile, *self-assurance* is a highly internalized concept – while times of need describes a specific context in which an emergency has occurred and LBS would be of value, *self-assurance* is when the user feels more secure or safe just by knowing that the service is available if needed.

Emotional risks

Privacy and security are often cited as one of the key issues for LBS (Varshney, 2003), and consumers' negative reactions against the concept of firms invading their privacy through mobile services confirmed this. However, through further discussion and explanation, the travellers agreed that they would be less worried about this risk if they had full control over who could access their location information, and the amount of detail they would see. *Fear of biased information* is a perceived risk of using location-based tourism information services, particularly peer-rated point of interest information, which may either be biased by other consumers with opinions on the extreme ends of the spectrum, or via sabotage by firms to falsely influence the results to their advantage, or to another firm's detriment.

Linking value & co-creation of value

Interaction between travellers with similar interests ('*personalisation*'), whether that be for purposes of keeping *in touch* or sharing *word of mouth* advice regarding a particular *point of interest*, facilitate the formation of postmodern communities, which are inherently unstable, small, affectual and unfixed by modern society's parameters (Cova, 1997). The concept of the advanced traveller fits well within that of postmodern individuals, who are highly autonomous and mobile in both a spatial and social sense (Cova, 1997); it was expressed by the focus group participants that travellers meet many people along their journey but few of these become enduring contacts, while at the same time they utilize technologies such as the mobile phone to keep in touch with close ties virtually. The advanced traveller who seeks authenticity forms a strong sense of community with fellow advanced travellers, and an understanding of tribal marketing (Cova, 1997) and value co-creation (Prahalad & Ramaswamy, 2004) is highly beneficial to this end. Mobile technologies are empowering these travellers to gain even greater control over their itinerary and making it easier to stay connected to the world regardless of where they are physically located. Furthermore, these consumers have a very low tolerance of firms which abuse the business-consumer relationship by sending marketing messages too frequently or misusing their private information; these will have a highly negative impact on perceived value, and are likely to result in switching or avoidance behaviour. Overall, advanced travellers appear to be the ideal targets for location-based tourism services because they will derive the most value from these services, which enable them to travel more independently and enjoy a more authentic travel experience, given that the emotional risks can be overcome and the service is properly implemented.

Managerial Implications

Given the increasing prominence of LBS within mobile commerce and the practical motivations behind this research, the findings of this study have important implications for managers across different industries, from the mobile to the tourism industry, and will now be outlined below by going through each of the major types of value presented in the conceptual model. Overall, these implications are framed in the context of offering LBS to advanced travellers within New Zealand.

Contextual value

It is essential that LBS are fully context aware in terms of the individual's personal interests and preferences, their physical location, and their temporal situation. Given the highly personal nature of the mobile device and the technical possibility to achieve this, having messages which are personally catered to

each individual consumer is already an expected part of the service offering. In terms of directions given through LBS, careful testing is required to ensure that they actually yield results which are practical and efficient; if they are not, consumers will be unlikely to try the services again.

The ability to access the services within New Zealand is also a highly problematic factor given the local terrain and the need to invest significant amounts of money to ensure that the whole country is reliably covered by mobile networks. As there is no overnight solution to this problem, which may yet prove unsolvable, managers will just have to be aware of which areas are problematic in terms of coverage, and ensure that these do not have a large negative impact on their service offering, either by giving ample warning to users regarding the lack of access in particular areas, provide alternative sources of information during these times, or use a combination of different technologies to give the same effect as a ubiquitous network, such as the combination of GPS technology.

Times of need proved to be one of the most, if not the most important context in which LBS would have value; however, firms cannot purely base their business models around this as it is rather unpredictable, and there is also a confounding factor that the services may not be accessible from certain geographic areas during times of need when no alternatives are available. However, it may be appropriate to market LBS's applications during times of need to attract consumers, who may then find other uses for it as well.

Advanced travellers prefer to make the most of their time in New Zealand and be in full control of their itinerary; therefore they are likely to derive greater value from mobile services which allow them to do this, partly by becoming informed about certain conditions in advance, such as weather. This combination of contextual values is linked with emotional value to enhance the advanced traveller experience.

Functional value

As the category contain the values which can be most easily influenced by firms, the implications here are highly salient and generally reflect the recommendations from previous research, particularly industry white papers (e.g. BWCS, 2004; Nokia, 2004; TruePosition, 2003).

Firstly, the cost of the services must be reasonably low; consumers expressed that they were unwilling to pay a price premium for new mobile services when existing services, such as voice calls and SMS, serve their purposes well enough. The consumers being targeted with LBS tend to be especially price sensitive, as they are in younger age groups with lower disposable incomes; more specifically, advanced travellers tend to be careful with their spending to ensure that they are making the most of both their time and money within a certain country. There are some niche applications which may command premium pricing, such as safety and emergency services, but as mentioned earlier these situations cannot be predicted and may not offer a stable business model.

Secondly, the services must be both intuitively easy to use and fairly reliable; if a user's first experience of the service proves otherwise, then they are unlikely to give the service another chance. Thus, effort must be invested during the research and development phase, and rigorous pre-release testing is needed to ensure that these criteria are fulfilled.

Thirdly, in terms of convergence, consumers appear to have mixed opinions on whether this is a positive or negative thing, but most accept this as an inevitable fact. The firm's task is to ensure that any additional functions on converged mobile devices do not come at the expense of its original intended purpose, such as communication. Any mobile device sporting LBS will need to similarly ensure that the presence of this service is not to the detriment of other applications.

Fourthly, in a point which is of particular importance to travellers, all mobile devices should be easily transferred across different countries. Preferably the user will have had a chance to familiarize themselves with the service prior to their trip, and their connection and device should function seamlessly well when they arrive at the destination. Network and device standardization and interoperability is a macro issue which the mobile industry as a whole must give serious consideration toward, as it will greatly facilitate the adoption of LBS by end-users, especially travellers. Finally, this research also confirms the findings of Pura (2004; 2005) and Jarvenpaa, Lang, Takeda, & Tuunainen (2003) in that LBS must fulfill real, concrete user needs in order for it to be successful.

Social value

The social aspect of mobile services should definitely not be overlooked by managers given the value it can provide to travellers, even though this is rarely discussed in industry reports. Perhaps the most important factor for managers to remember is the high weighting that consumers, especially travellers, give to word of mouth advice. LBS which serve to facilitate the sharing of such advice should ably complement the interpersonal interactions which usually lead to the exchange of such advice.

Emotional value

In the tourism context, managers targeting the advanced travellers described throughout this thesis should do everything they can to ensure that they are providing an authentic travel experience through the understanding of concepts such as the co-creation of value, and how the paradoxes of technology will affect their service offering. The greater the sense of control felt by the user of the service, the more appealing this is likely to be. Overall, given the frequency with which the authentic travel experience was discussed, it is conceivable that LBS which targets consumers' emotional needs in this way are more likely to be

successful than those which do not. In any case, managers should not only think of LBS as a way to fulfill tasks (i.e. utilitarian value), but as a way to fulfill social and emotional needs.

Emotional risks

These reflect the some of the key barriers to the adoption of LBS discussed by the extant literature, and reinforces their importance in the context of tourism. One of the most frequently discussed concerns of consumers with regard to advanced technologies is the potential for the invasion of privacy. Managers must ensure that they adhere to strict moral guidelines when handling their clients' private location information and work hard to maintain a high level of security around this information to ease many consumers' fear of 'Big Brother'.

Related to this is the risk of having messages which are sent too frequently and unsolicited, i.e. spam. An understanding of permission marketing (Godin, 1999) is vital for any manager in the mobile marketing industry, whereby consumers must first have given their consent to the firm, and, after that, are only sent messages relevant to their particular needs. If this is not followed, it will result in an overload of spam to mobile phones which will have an even greater negative impact on our everyday lives than the spam problem that nearly all email users are faced with daily, due to the ubiquity of the mobile device.

Another fear which firms must work to alleviate is that of biased or untrustworthy information, such as skewed user ratings for a particular point of interest, or the sabotaging of this by those with ulterior motives. Service providers could put in place some measures such as allowing a phone number to leave only one rating for a particular point of interest, or patrolling comments threads to ensure they are appropriate. However, this 'causes another dilemma, as any censorship would also undermine the trustworthiness of the service itself. Thus, a balance must be reached, and the processes of the firm should be made as transparent as possible so as to minimize this fear of biased information.

Future Research

Given the exploratory nature of this research, there are ample opportunities for future research to build upon the findings presented within this thesis. The full spectrum of travellers who fall within the advanced traveller segment was not necessarily represented within the final focus group sample, and it would be greatly beneficial to conduct further focus group sessions, e.g. with independent travellers staying at higher-end accommodation, who may find a high level of value from having a high degree of autonomy and authentic travel experiences, and may therefore consider service cost to be less of an issue. Furthermore, only international travellers were included in the study – the perceived value of LBS from the point of view of local tourists could also be explored to see if these differ to the values ascribed to LBS by international travellers.

Location-Based Tourism in Practice

Since the completion of this study, some mobile LBS applications for travellers have been launched in New Zealand, with even more due for release in the near future – these are valuable opportunities to observe actual usage behaviour and link this with perceived value. There are also numerous examples of location-based tourism applications overseas, which may also provide useful case studies for any firms launching LBS in New Zealand. Some examples are listed below:

- **KRUSE** [www.krusenz.com] *New Zealand* – in-car GPS system which automatically provides commentary on local history, people, flora, fauna, landmarks and scenic attractions in New Zealand.
- **MIVIS** [www.mivis.co.nz] *Pukaha-Mt Bruce Wildlife Centre, New Zealand* – provides information on local culture, recreation, food & wine, flora & fauna, mapping and weather.
- **Timespots** [www.timespots.com] *Amsterdam* – handheld device which provides a city guide, maps, travel tips, news, weather, events, a phone and internet access.
- **Beyond Guide** [www.beyondguide.com] *Washington, New York, Athens* – audio tour guide providing speeches, commentaries, and sounds of events which occurred at the user's location.
- **BBC's Coast Project** [www.bbc.co.uk/coast/] *United Kingdom* – information about the history of UK's coast accessible via mobile phone.
- **Intellitours** [www.intellitours.com/] *Montgomery, Alabama, USA* – a GPS-guided narration played on a historical 'trolley' tour of the city.
- **Blobject** [www.blobject.es] *Córdoba, Spain* – electronic cars and Segways outfitted with a touchscreen display showing points of interests within 100m along with various multimedia info. (English information: <http://news.bbc.co.uk/1/hi/technology/4176126.stm>)
- **Crumpet** [www.elec.qmul.ac.uk/crumpet/] *EU* – 'Creation of User-friendly Mobile services Personalised for Tourism'.

Conclusion

LBS have the potential to greatly enhance a traveller's experience within New Zealand. However, such services may be deemed particularly unnecessary here, given its well-developed tourism infrastructure and friendly local culture. In order to succeed, potential location-based tourism providers in New Zealand must understand that LBS is perceived to be of most value to travellers within specific spatial, temporal and personal contexts during their travels, particularly where existing technology is insufficient, linking value is maximized, emotional values are taken into account, and the emotional risks can be avoided or minimized.

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