Online Technology Use and Adoption Among Australian Accommodation Enterprise Operators

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ABSTRACT
We report on a recent study aimed at gaining a more contemporary picture of online technology diffusion, adoption and use among Australian accommodation establishments. At this stage, our results are preliminary only but they do seem to indicate that the situation may have improved substantially over the past five years or so – particularly among small-to-medium enterprises.

Keywords: *Australian accommodation enterprises, online technology adoption.*

INTRODUCTION

Previous studies have tended to indicate that small-to-medium Australian accommodation enterprises have been relatively slow to take advantage of online technology (see e.g. Sharma, Carson and DeLacy, 2000; Morrison and King, 2002). We suspect, however, that the picture may not be quite as grim as that painted by previous research. Specifically: i) much of the data on which the major, previous Australian studies (e.g. STCRC, 1999; Morrison and King, 2002) were based is now somewhat dated; ii) locally, some recent research suggests very substantial growth in travel product purchases over the Internet (Roy Morgan Research, 2003 and 2004); and iii) internationally, tourism-related businesses (and accommodation enterprises in particular) are experiencing vary rapid growth in online sales (PhoCusWright, 2003; Weber et al., 2005). Consequently, there would appear to be a need for a current study into online ICT diffusion among Australian hospitality enterprises and, in this paper, we report on some preliminary research directed towards this objective. At this stage, our results are indicative only but they do seem to point towards increased online technology adoption and use.

RESEARCH DESIGN OVERVIEW

Our research was undertaken in two stages: first, semi-structured interviews were conducted and, then, this was followed by a survey focussing on some specific issues that had been highlighted during the interview stage. This initial stage was part of a research project sponsored and funded by the Australian *Sustainable Tourism Cooperative Research Centre (STCRC).* It commenced in January 2004, ran for 12 months and involved seven researchers from four Australian universities. The major

objective was to produce a *National Information Architecture for the Australian Tourism Industry* and one of the three central project tasks involved a series of interviews conducted with over 40 key stakeholders within the local tourism industry. The major objective here was to identify major industry information and information systems gaps and needs. A detailed account of the project is presented in (McGrath et al., 2005).

One of the major outcomes of our interviews was that there appeared to be an urgent need for a survey of small-to-medium tourism enterprises (SMTEs), addressing their takeup of IT and, particularly, the extent to which they were coming online (and utilizing the various online technologies). It was recommended that the survey should address the extent of front-office, back-office and online system takeup; online system functions covered (purely informational or bookings as well); plus levels of data accuracy, currency, robustness and timeliness. This particular recommendation is still under consideration by the STCRC Executive but, fortunately, another of the three central project streams involved a survey into the willingness of Australian SMTEs to adopt a novel and very advanced online technology, and we were able to feed some of our own more-detailed, follow-up analysis requirements into this study. We recognize that this is not ideal, but the approach has allowed us to quantitatively test at least some of the 'impressionistic' findings resulting from our interviews. In this paper, we focus on the survey component of our research. A more detailed account of the complete study is presented in (McGrath, Abrahams and More, 2005).

SURVEY RESULTS

As noted, the principal purpose of our survey was to determine the degree of interest among Australian accommodation enterprises in an advanced, new online technology. The survey was Web-based and questionnaires were sent to 4,632 eMail addresses taken from the Royal Automobile Club of Victoria (RACV) online accommodation component of the AAA Tourism website[1]. 600 messages

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[1] See http://www.aaatourism.com.au

were returned from expired or invalid addresses and, from messages received (plus a follow-up analysis of the address names of non-respondents), it was estimated that a further (approximate) 800 addresses from the original list did not belong to accommodation enterprises (but identified wineries, art galleries, skydiving operations etc.). 381 valid responses were received, giving us a response rate of approximately 12%. This is quite reasonable for a Web-based survey of this type, but our sampling approach does have significant external validity implications (discussed later in this section).

Geographically, our respondents' distribution was slightly biased towards Victoria. Specifically, 24.0% of our sample enterprises were based in Victoria compared with an actual figure of 21.4% (ABS, 2002: 13). More significantly, the number of responses from WA, the ACT and NT were very low (7, 8 and 13 respectively). 31.6% of respondents were hotel/motel operators and 27.2% were B&B/guesthouse operators (see Table 1). Most enterprises (57.7%) were rated at the 4-4.5 Star level, 30.5% were 3-3.5 Star operations and only 4.4% were rated at 2.5 Star or less (Table 2). This is not representative as, according to the ABS (2002: 18), only 23.3% of Australian accommodation establishments are rated at 4-5 Star, 53.5% are 3 Star establishments and 9.2% are rated at the 1-2 Star level (14.0% are ungraded).

Q4: What type of business are you in?

	Cnt	%
Hotel/Motel	121	31.6%
Apartment/Holiday Unit	75	19.5%
Caravan Park/Camping Area	33	8.6%
Chalet/Cottage	35	9.1%
Backpacker/Hostel	6	1.6%
Bed and Breakfast/Guesthouse	104	27.2%
Houseboat/Cruiser	9	2.4%

Table 1: Respondents by business type.

Q5: What is the Star Rating of your business?

	Cnt	%
2.5 Star or less	17	4.4
3 - 3.5 Star	117	30.5
4 - 4.5 Star	221	57.7
5 Star	28	7.3

Table 2: Respondents by Star rating.

60.8% of respondents had an online booking facility and 26.4% had a secure online payment capability. Overall, 73.4% reported that 20% or less of their customers booked their accommodation online. Still, 17.2% reported that between 21 and 50% of their customer base booked online and another 10.4% indicated that more than 50% of their customers generally used their online booking

facility. This contrasts with the findings of Weeks and Crouch (1999), who estimated that less than

50% of Australian accommodation enterprises had websites and, of these, only about one-third had

booking facilities. Other Australasian studies conducted around the year 2000 (e.g. Applebee et al.,

2000; Clark et al., 2001) report similar, low levels of Net-readiness among tourism and hospitality

enterprises and, thus, we conclude that our survey provides some support for the belief that

accommodation enterprises (in particular) and their customers have now embraced Internet technology

to a significantly greater extent than was the case some five years back.

Q8: What proportion of your customers book their accommodation online?

| | Customers Booking Online | | | | | | | | | | | | | |
| | 0% | | 1-5% | | 6-10% | | 11-20% | | 21-50% | | 51-100% | | Totals | |
Star Rating	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct
2.5 Star or Less	3	17.6	5	29.4	5	29.4	2	11.8	2	11.8	0	0	17	100
3 Star	4	12.5	13	40.6	5	15.6	4	12.5	6	18.8	0	0	32	100
3.5 Star	10	11.8	31	36.5	16	18.8	13	15.3	9	10.6	6	7.1	85	100
4 Star	9	6.8	24	18.0	26	19.5	37	27.8	27	20.3	10	7.5	133	100
4.5 Star	5	5.7	12	13.6	17	19.3	17	19.3	17	19.3	20	22.7	88	100
5 Star	1	3.6	7	25.0	5	17.9	6	21.4	5	17.9	4	14.3	28	100
Totals	32	8.4	92	24.0	74	19.3	79	20.6	66	17.2	40	10.4	383	100

Table 3: Customers booking online – by Star rating and within percentage ranges. For example, with properties rated at 2.5 Star or less, 17.6% of hotels reported that none of their customers book online.

As indicated in Table 3, there does appear to be a relationship between the quality level (AAA Star

rating) of a property and the percentage of online bookings. Merging the percentage data from Table 3

into three categories *(less than 4 Star, 4 Star* and *more than 4 Star)* and applying a chi-squared test

yields a value for that variable of 44.3. With 10 degrees of freedom, that is well above the value of

23.2 which might be expected (at the .01 level). Thus, our data indicates that there is a significant

relationship between enterprise quality level and the percentage of customers booking online.

Furthermore, as illustrated in Figure 1, it would appear that better quality accommodation enterprises

are more likely to have their customers book online. This seems to contrast with the findings of

Mistilis et al. (2004) who, in a survey of the use of ICT in a small number of Sydney hotels, reported a

significantly higher proportion of Internet bookings in 3 Star hotels than in those belonging to more

luxurious categories. Our conclusion, however, does appear to be broadly consistent with the results of

a recent study by Fotiodis et al. (2005): specifically, in looking at ICT adoption and use among Greek

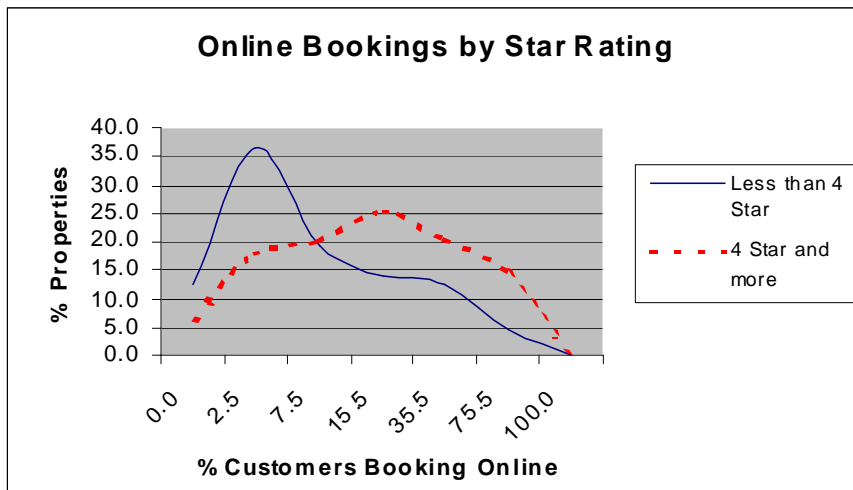hotels, they reported a positive correlation between hotel size (and quality) and Internet use.

Online Bookings by Star Rating

Figure 1: Percentage of customers booking online, broken down into properties rated less than 4 Star and those rated 4 Star and above (note that the X-axis is not to scale).

Respondents were asked to nominate where they listed online (in addition to their own websites). The results are illustrated in Figure 2. Clearly, operators like to promote their enterprises on promotional sites close to home. It is also interesting to note that properties rated 4 Star and above seem to be considerably more likely to list on international sites.
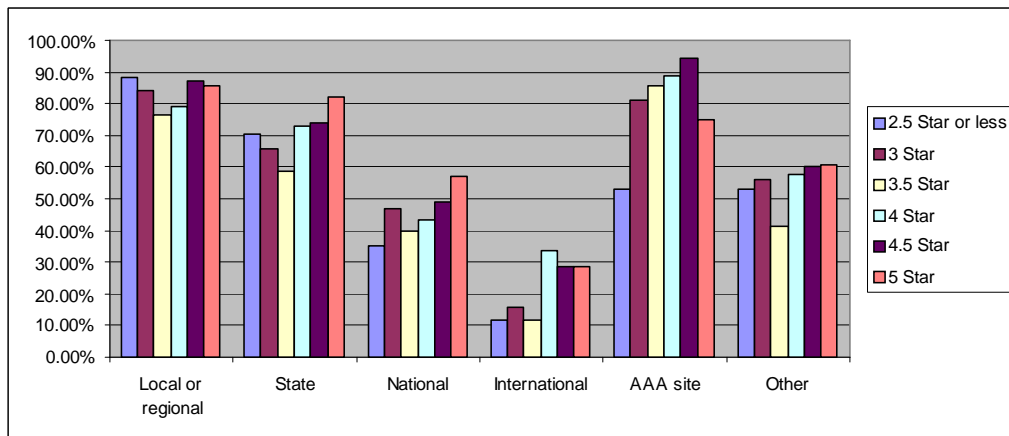

Figure 2: Online promotional outlets additional to property websites.

The desire to list closer to home was also apparent in the interviews conducted during Stage 1 of our study. For example, several interviewees believed that SMTEs are reluctant to list at the national level – perhaps unreasonably. For example:

> *SMTEs have a negative attitude towards national sites ----- they don't see that they get any inbound custom. I suspect they do though – particularly from second and third-time visitors, who have done the capital cities and the other major attractions and are now looking to get off the beaten track a bit.*

(Interviews, 2004)

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Another interviewee saw Regional Tourism Organizations (RTOs) as the key to bringing SMTEs

online:

> *"The RTO should be a destination marketing organization – it is the logical place to provide the required 'mix-and-match' functionality. STAs are too far from the action and commercial intermediaries will want to take their cut: RTOs are non-profit". However, the same interviewee warned that high-quality leadership is essential: "RTO board membership is critical but the key is high-quality leadership. ---- The RTO CEO has to be paid at an appropriate level if you are going to get the right person – and mostly – they aren't!"*

<div align="right">(Interviews, 2004).</div>

However, another interviewee expressed doubts about RTO websites and, in particular, was concerned

with data integration:

> *Maybe many operators would prefer to list at the regional level and most regions have their own websites. This makes it hard though to do a state-wide search for something like 4-star accommodation, plus a 5-star restaurant, plus horse riding and golf. Governments should control the regions more strictly.*

<div align="right">(Interviews, 2004)</div>

A number of other interviewees echoed this call for better integration (of both data and processes).

However, another warned against centrally-driven, large-scale integration projects:

> *When I was with [a public sector organization], we spent $8 million on a 'customer relationship management' (CRM) exercise – it was a disaster! Also, it wasn't needed ----- 97% of customer calls were concerned with billing complaints and [of that 97%] 95% didn't ask about anything else. It's the same in the travel industry. [STA] want you to go to their site and find a destination, book accommodation, book travel, book restaurants etc. ----- It's the great God of integration for its own sake - but nobody has worked out how to pay for it!*

<div align="right">(Interviews, 2004)</div>

Recalling that the primary reason for conducting our survey was to ascertain attitudes among

accommodation enterprise operators to the use of new Web-based technology, survey subjects were

asked whether they would consider overhauling or rebuilding their websites in order to use a new,

improved Internet technology. Results are presented below in Table 4.

Q13: How likely are you to overhaul or rebuild your website in the next 12-18 months?

Star Rating	Don't Know		Definitely Not		Unlikely		Maybe		Likely		Definitely		Totals	
	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct	Cnt	Pct
2.5 Star or Less	1	5.9	0	0.0	1	5.9	4	23.5	8	47.1	3	17.6	17	100.0
3 Star	6	18.8	0	0.0	1	3.1	8	25.0	9	28.1	8	25.0	32	100.0
3.5 Star	8	9.4	0	0.0	6	7.1	35	41.2	24	28.2	12	14.1	85	100.0
4 Star	6	4.5	0	0.0	1	0.8	54	40.6	44	33.1	28	21.1	133	100.0
4.5 Star	4	4.5	0	0.0	4	4.5	30	34.1	25	28.4	25	28.4	88	100.0
5 Star	4	14.3	0	0.0	0	0.0	10	35.7	8	28.6	6	21.4	28	100.0
Totals	29	7.6	0	0.0	13	3.4	141	36.8	118	30.8	82	21.4	383	100.0

Table 4: The likelihood of operators overhauling or rebuilding their websites within 12-18 months by Star rating.

As indicated in Table 4, while many respondents were equivocal about using a new technology (the 'Maybe' group), a great many more respondents were receptive to the idea than were against it (only 13 in the 'Unlikely' category against a total of 200 in the 'Likely'/'Definitely' groupings). Moreover, and perhaps somewhat surprisingly, the quality level of an enterprise does not appear to be a significant determinant of its interest in *new* technology[2] More specifically, merging our data into the same three quality groupings used previously and applying a chi-squared test to the data in Table 4, yields a value for this variable of 13.3. This is not significant at the .05 level.

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[2] This is not to say they will actually adopt and use the new technology: i.e. contrast this response with discussion on the correlation between enterprise quality and online bookings presented earlier in this section.
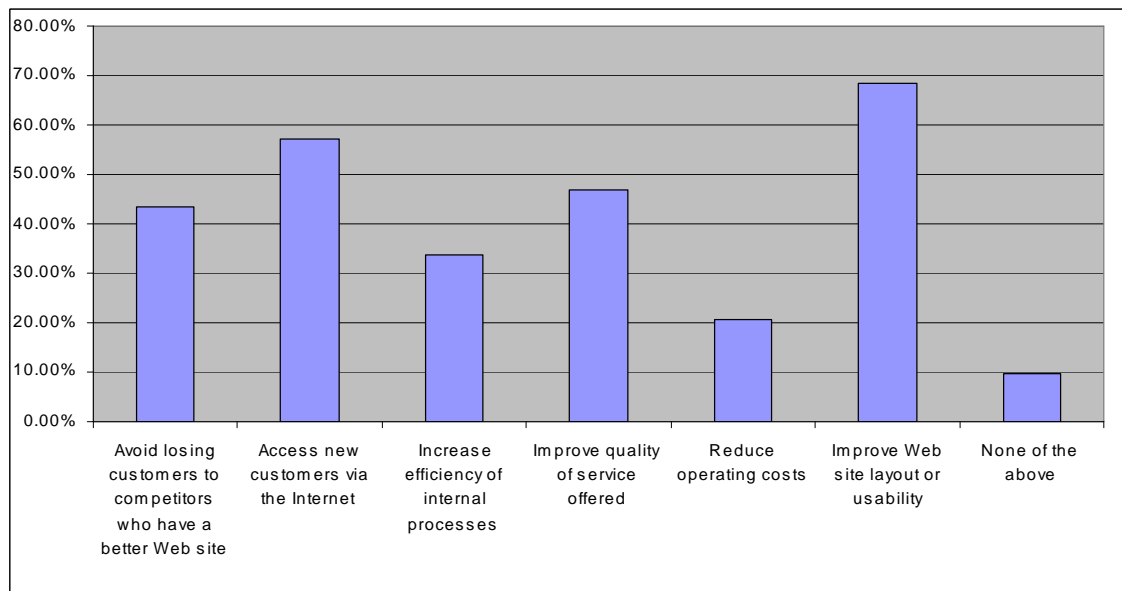
Figure 3: Factors contributing to a decision to overhaul or rebuild a website.

Perhaps the distribution presented in Figure 3 may provide some clue to this positive attitude to new technology. Here, survey subjects were asked to nominate factors that would influence them in overhauling or rebuilding their websites within the next 12-18 months. Better marketing and promotion, improved efficiency and improved quality of service all rated reasonably highly. However, a desire to improve website layout and usability was the most significant factor nominated. This may indicate a fairly common dissatisfaction with current technology and, judging by the number of hospitality and tourism industry software packages now available[3], one might reasonably assume that there is real demand for these products. During Stage 1, one of our interviewees endorsed this view but expressed doubts about the worth of many current vendor offerings:

> *Add up all the money being spent on software across the [accommodation] industry and you'd shudder. There are some very good PMS, but they've been purpose-built for larger hotels. It's the same with CRM systems: the really good ones have been built for banks etc. and require major customisation before they can be used in the accommodation sector. The price of this is coming down but it's still expensive for mid-range operators. At the other end of the market, there are lots of cheap packages but they're pretty useless. ---- The other problem here is knowledge. Many of my [operators] complain to me that hardly a day goes by when they aren't approached by 4-5 computer vendors with 'the answer to all their problems'. They just don't have the skills – or the time – to evaluate these products.*
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> (Interviews, 2004)

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[3] At the 2004 edition of the *Hospitality Industry Technology Exposition and Conference,* held in Dallas, Texas (HITEC, 2004), some 53 PMS (property management systems) and 23 CRM systems were exhibited by vendors. In addition, several hundred related products (e.g. loyalty program software, accounting systems, and customer reservations and sales systems) were also exhibited.

Finally, some comments should be made concerning the external validity of our survey results. As indicated earlier, the sample was biased: i) towards Victoria (and, more generally, the South-Eastern Australian states); and ii) towards better-quality accommodation establishments. The former issue may not be all that important but the latter almost certainly is: that is, as argued, there is evidence that enterprise quality is positively related to a willingness to adopt and use ICT and, indeed, there is evidence of this within our own survey. Furthermore, although our response rate was fair, we strongly suspect that operators already heavily involved with ICT would have been more inclined to participate. Consequently, our results should be treated with caution when applied to the 76.7% of all 4,348 Australian accommodation establishments rated up to the 3 Star quality level or ungraded (ABS, 2002: 18).

CONCLUSION

Overall, in spite of some bleak results and prognoses a few years ago, and still with some scepticism remaining about technology in the Tourism industry, there now seems a much more positive trend and attitude. And whilst the paper has not investigated or addressed this as yet, another key variable may be that of increased customer expectations and competencies. This makes possible better connectedness in an electronic environment (Lawrence et al., 2005).

Moreover, those companies at the leading edge in the diffusion of innovation processes, clearly are engaging with technology in an additional competitive way by not only collaborating with suppliers and customers effectively, but also enhancing collaboration within the broader industry sector, and setting the agenda for technology adoption. These organisations too are not only gathering and delivering information but converting that information into insight and competitive intelligence and constantly enhancing organizational capability (Ferguson et al., 2005). In terms of innovation, leading companies understand that what markets demand is not always in line with what technology offers; that an appropriate resource allocation process is vital for managing such innovation; that they understand the marketing challenge of the technology; develop appropriate capabilities; are able to deal with learning from failure; and can find the appropriate niches in a variety of small and large

players (Christensen,1997).

Finally, as in this paper, it is imperative that multiple research methods be used in this research arena, in order that the diffuse perspective on crucial industry problems be better comprehended and provide more useful applied results for Australian tourism.

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