

A CLASSIFICATION SCHEME FOR ANALYSING WEB 2.0 TOURISM WEBSITES

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ABSTRACT

This article proposes a Web 2.0 classification scheme developed from a study of tourism websites that have adopted Web 2.0 features. The article goes on to outline various website analysis techniques noted and reported in the literature. Moreover, the authors contend that these previously documented approaches are inadequate when used to analysis commonly encountered features associated with typical Web 2.0 website – many sites containing a combination of weblogs (blogs), videos, rating systems, images or other forms of user-generated content. The article continues with an example of how the authors developed their own approach to the analysis of Web 2.0 websites for a research study conducted on Web 2.0 tourism websites. A ‘snapshot’ of comments from the blogs on each Web 2.0 website was classified according to a blog classification scheme proposed by Nardi, Sherman and Mansfield [2004]. The usefulness of the classification is highlighted as it provides a new perspective on the analysis of blog comments.

Keywords: Web 2.0; user-generated content, UGC, blogs, classification scheme; analysis; tourism

1. Introduction

The term Web 2.0 refers to “the second generation of web-based services that have gained massive popularity by letting people collaborate and share information online in previously unavailable ways” [Reactive, 2007: 3]. Web 2.0 websites allow individuals to post their own content, opinions, videos, audio or imagery to the web for other users to see and respond to. Since Web 2.0 has emerged and begun to change the way that consumers engage with information presented via the Internet, a number of alternative phrases have been used to describe the type of sites and information that is now available (such as ‘User Generated Content’ or UGC), to highlight the role that individual consumers have in submitting, reviewing and responding to online content [Gretzel, 2006, 2007]. Another common term used to describe the rapidly growing number of pages that contain user-generated content in various formats is ‘social networking’ [Reactive, 2007]. For the purposes of this

article, the term ‘Web 2.0’ is used to describe the websites being investigated and UGC is used to describe the ‘Web 2.0’ content that has been incorporated into these websites.

The travel industry has had a varied response to the emergence of user-generated content. While travellers appear to be embracing the concept, travel industry members are still somewhat unsure of how to respond to Web 2.0 [Kelly, 2007].

Travellers’ use of sites containing UGC effectively allows them to engage in a virtual community that shares tourism experiences online [Wang, Yu & Fesenmaier, 2002]. Given the very intangible nature of tourism and travel to a prospective traveller who has never been to a destination before, it is not surprising that travellers are embracing the information supplied by other people through UGC and social networking sites on the internet [Saranow, 2004]. A number of significant travel-related UGC sites have emerged recently in recognition of the demand for consumer driven content as consumers abandon the more traditional sources of information (e.g. corporate driven advertising) in favour of word-of-mouth, peer driven information [Bray, 2007]. What effect do these have on the tourism market?

Researchers might analyse the content of websites for a number of reasons. One of the primary reasons is to determine how businesses have altered their online presence over a period of time. Indeed, a website should not be static, but continually evolving reflecting the firm’s own growth and engagement with its external environment. This is particularly important when attempting to document or develop strategies for businesses when setting up or implementing their online presence. To be able to do this, researchers need to have a method to classify the content of websites (refer: ‘Background: Classifying Websites’ in the next section). From a tourism perspective, analysis of the content of various Web 2.0 travel sites also provides the industry with a useful indication of which sites are being used by consumers to comment on products being offered by the industry to travellers in various ways. This can assist them with identifying appropriate websites which they should be linking with to enhance their own web marketing strategies. One of the challenges facing researchers examining websites that involve UGC in the future will be to classify the content of tourism Web 2.0 websites.

It is within this context that the authors undertook this project to examine the current role that tourism Web 2.0 websites play in the travel industry. This article describes the first phase of this research project, which was to examine the content of selected tourism Web 2.0 websites for the purposes of determining what forms of Web 2.0 content were being added to the websites.

The article begins by discussing some previous research projects that have classified the content of websites, followed by an introduction to the research project which spawned the development of the classification scheme presented in this article. The article then goes on to discuss the development of the classification scheme by introducing its two major components: classification of general demographics of the websites and classification of website comments. The results of the research project are presented along the way as a demonstration of the classification scheme. Finally, implications for future research are discussed.

2. Background: Classifying Websites

There are a number of ways to classify websites. For instance, they can be classified by the level of development that they have achieved. There are a number of published models that document how small businesses build their website over times. Some of these are known as ‘staged’ website development models. Whilst not specifically classifying their features, websites are ‘grouped’ by the existence (or lack of existence) of various features into different categories. Early stages of websites, usually the simple form of ‘information provision’ websites, are typically known as *electronic brochure* or just *brochure* websites. As the websites grow in complexity they are given different labels. At the most advanced stage, website complexity is typically reflected by having online transactions (usually credit cards) and websites that matured to become fully integrated with the ‘back office’ systems of the business [Burgess & Cooper 2001; Lawrence 2002; Levy & Powell 2003; Rao, Mets & Monge 2003].

One example of these types of models is by Rao et al [2003], who have proposed a model reflecting electronic commerce development by small and medium sized enterprises.

The model is characterised by four stages:

- *Presence*: This provides for a basic brochure site. Communication is ‘one way’ from the business to the user.
- *Portals*: This level introduces ‘two way’ communication via order placement and building customer profiles through communications.
- *Transactions Integration*: Online financial transactions are introduced.
- *Enterprises Integration*: This is full back-office integration.

Another example of a staged model is that proposed by Burgess & Cooper [2001], a web adoption model (‘3Ps’) that has been applied to various Australian industries such as tourism and metal manufacturing. The 3Ps model proposes that websites have three stages, with appropriate content associated with each stage:

- *Promotion Stage*: This is the brochure stage.
- *Provision Stage*: This stage adds functionality to a website and adds features such as a catalogue or price list (non-database), support for the customer in the form of frequently asked questions (FAQs) and internal site links that add value for a visitor to the site.
- *Processing stage*: This is the transaction phase and involves online ordering, processing and payment activities associated with business products or services. This stage can also involve linking with (usually larger) suppliers or customers in an extended supply chain.

Although the delineation between ‘stages’ in these examples is different, the similarity of approaches (from basic to more sophisticated websites) is obvious in both. An important point to note about these models is that they do not specifically address individual website content.

There is also some criticism of these models. Levy & Powell [2003] suggest that such models may not hold and that few small businesses even go beyond the early stages of website development. Alonso Mendo & Fitzgerald [2006] support this assertion and suggest that many business websites can remain in a ‘dormant’ state for months or even years. Martin & Matlay [2001] refer to these types of models as ‘linear’ models and also argue that they may be too simplistic due to the great diversity that small businesses exhibit or analysis of their content.

Whilst these models have their use in relation to being able to classify business websites into general categories, they do not seem to be useful in providing categories for the specific types of features that Web 2.0 can provide in that they refer to more general classifications of websites (and sometimes website features).

Alonso Mendo & Fitzgerald [2006] have developed a technique to study the changes made in small business websites. They have proposed a framework that examines how businesses change their websites over time (the process of change), what kind of changes they make (the content of change) and why they change them (the drivers of change). Each of these dimensions are considered together and thus provide a holistic viewpoint of the implementation and maintenance of websites in small businesses. In a study of 192 websites in ten different industry sectors over a ten month period, Alonso Mendo & Fitzgerald [2006] examined two dimensions of their framework – the process of change and the content of change.

The authors suggest that this framework is suitable for generally understanding the evolution of small e-business practices in general at a strategic level over a long period of time – but that it is not designed to analyse the impact of Web 2.0 features, such as blogs, that can change quite quickly in a matter of hours.

Some of the authors of this article have developed a scheme by which to classify the features of websites. It involved the identification of specific *website features* on a website – and catalogued the existence or non-existence of these features. For instance, a business would either have or not have its address listed on the website, a location map for finding it, a product catalogue, a frequently asked questions section, a shopping cart facility or other related features. This approach does not monitor how often the content of these features is updated – just if the website feature exists or not. The technique could be used to monitor how business websites altered over time, but also could identify differences between businesses in different industries. It has been used in a number of studies, such as to analyse the differences between different types of micro businesses [Burgess, Bingley & Sellitto 2007], different types of community-based organisations [Burgess & Bingley 2007] and the content of websites of Australian accounting practices [Burgess, Quiazon & Breen 2007]. However, as with the Alonso Mendo & Fitzgerald framework, it is not really suitable for analysing the content of Web 2.0 features as changes in content *within* the website feature are what are important.

One technique recently used to analyse the relationships between Web 2.0 contributors is social networking analysis, which involves examining links between individuals in groups, as well as the identification of cliques, power structures and information flows within social groupings. This technique maps the interactions between individuals in these settings. A recent example of this is the examination of the communications between contributors to an Australian football supporters’ website [McGrath 2007]. Again, whilst this technique has its strengths and can obviously be applied to Web 2.0 websites – it is more concerned with mapping who is talking to each other and the relationships between them rather than what is being said.

So – the authors were left still searching for a classification technique that would meet the needs of researchers examining the websites of businesses in the travel and tourism industry.

3. A Tourism Web 2.0 Website Classification Scheme

Given the lack of suitable classification techniques for the authors to adopt, they employed an approach that could be described as being similar to grounded theory in that it involved the examination of a number of tourism websites that employed UGC without any preconceived notion of what the classification scheme might actually end up looking like. In explaining this process, the narrative approach is employed as it is one means that can be employed to effectively describe the process behind the development of the classification scheme [Williamson 2002].

The approach used here to classify tourism Web 2.0 websites was developed as part of a larger study, funded by the Australian Sustainable Tourism Cooperative Research Centre (STCRC) and conducted in

conjunction with Tourism New South Wales (NSW) which promotes and manages tourism in the most populous state of Australia.

Tourism NSW were particularly interested in the content of Web 2.0 websites and the manner in which they were perceived and used by prospective travellers. The first phase of the project was conducted in late 2007 and reported in this article. It involved the design of a system by which to classify the content of tourism Web 2.0 websites – the classification system being subsequently used to analyse the content of a set of websites. A list of 33 websites was developed by the researchers based on a review of popular Internet travel sites that contained some form of user-generated content. This list was then reviewed by Tourism NSW to ensure that all sites were of relevance. There was one site where the URL did not work, and two sites where the website comments were so generic and spread about the site that it was virtually impossible to categorise them. After these three websites were removed from consideration, 30 websites remained. These websites were used for the development of the initial tourism website demographics. However, eight of the websites had no type of user generated content, so 22 of the 30 websites were used for later Web 2.0 user generated content analysis.

The website analysis was conducted in August–September 2007. Henderson & Cowart [2000: 377] cite McMillan [2000] in suggesting some steps that need to be followed when carrying out this type of study. Firstly, the sample websites need to be selected carefully. This has been described earlier. The next task is to define the unit of analysis categories. These are outlined below. The next important step is to train the judges examining the websites to ensure that each of them is ‘measuring’ in the same manner. In our case a single person (one of the authors) who had previous experience in website analysis carried out the content analysis. Finally, McMillan suggests that the data are gathered, analysed and interpreted.

Note, the websites that were analysed do not represent a scientific sample of tourism websites – more a ‘snapshot in time’ of websites that are of interest to the travel and tourism industry many of which incorporate Web 2.0 features.

The classification technique used here did not draw heavily on the literature discussed earlier regarding website classification techniques. This is mainly because the authors were looking for novel ways in which to examine and analyse the content of these websites. Previous techniques that involved longitudinal studies examining changes in websites over time, or models that classified website development according to various ‘stages’ of development, or even classification schemes that examined traditional website features (as used previously by some of the authors) were not applicable in this instance. Thus, a new scheme was developed, specific for tourism websites with ‘Web 2.0-like’ features.

The classification scheme evolved over two stages. The first involved the classification of content to establish Tourism Web 2.0 website *demographics*, and, having established this, an analysis of *Web 2.0 user generated content*. In the latter this was limited to user generated text and the classification scheme did borrow from some previous research (analysing website blogs). The results of the study report both stages of the classification scheme.

3.1. Tourism Web 2.0 Demographics

Initially, all of the websites were visited by two of the authors for the purpose of examining the types of features that they possessed. The websites were individually examined to see whether they were ‘commercial’ or ‘non commercial’. In this instance, they were classified as ‘commercial’ where they were obviously associated with a business. For instance, sometimes these businesses were well-known, such as sites operated by Yahoo or Lonely Planet. In other instances it appeared that the website was the primary purpose for setting up the related company (for instance, *Trav Buddy* was operated by Travbuddy LLC and *Schmap* was operated by Schmap, Inc.). For commercial websites, it was possible to readily identify a company or business name on the website. ‘Non commercial’ websites were typically identified as being developed by individuals or by interest groups that supported their operation. Around three out of four sites analysed (77%) were classified as ‘commercial’, with the remainder being ‘non-commercial’.

A feature of many travel-related websites is they can offer a chance for users of the site to rate the various travel-related offerings on their website. Most websites that had this feature offered a rating from one to five stars or a chance for users to rate accommodation and/or destinations from ‘1’ to ‘5’. The authors have labelled this ‘5 star’ rating websites. There was one other website that had a different form of rating. Often, *average* user ratings (out of five) were shown for services such as hotels and sometimes for other travel products, such as tours. Of particular interest to the authors were those sites where *users* had a chance to submit ratings as opposed to where the website offered their own rating. Approximately two out of five of the websites that were analysed had a user generated rating feature, with the majority having no ratings feature at all (refer Figure 1).

An interesting aspect which emerged during the study relates to Figure 1, where the website categories are categorised by the type of weighting systems that the websites have. It is interesting to note that *all* of the websites that contain a ‘5 star’ rating fell into the ‘commercial’ category (refer Figure 2). This is revealed to be important when the content of the websites is examined (later in the article).

It was therefore decided that a useful starting point for differentiating between different types of tourism Web 2.0 websites might be to classify them according to categories of websites (refer Figure 3): commercial

websites that had 5 star rating options; commercial websites with no ratings and non-commercial websites. Thus, our first suggestion for the scheme is that Tourism Web 2.0 websites be classified as either 'Commercial - 5 star', 'Commercial - no rating' or 'Non-commercial' websites.

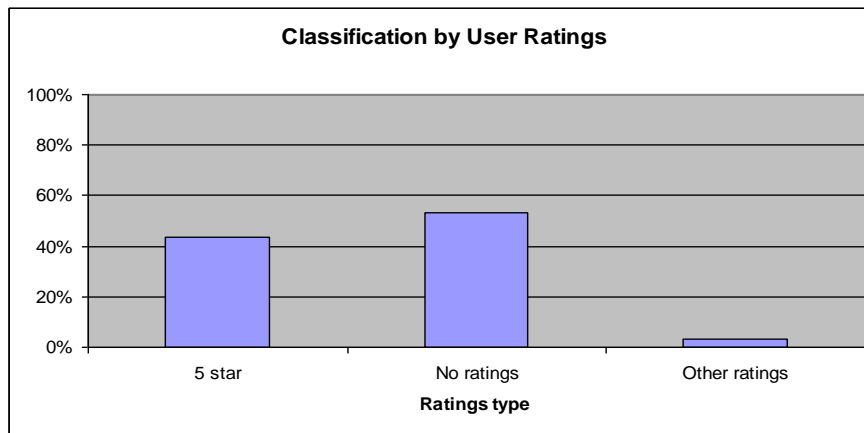


Figure 1: Website Breakdown by User Rating System

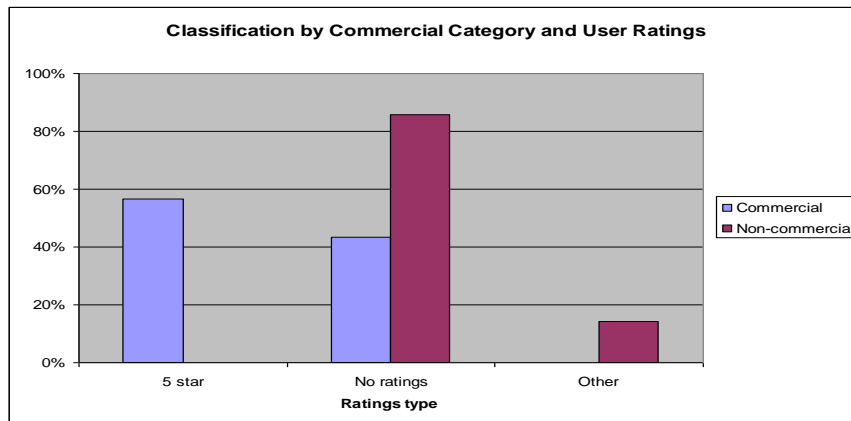


Figure 2: Website Category by Rating System

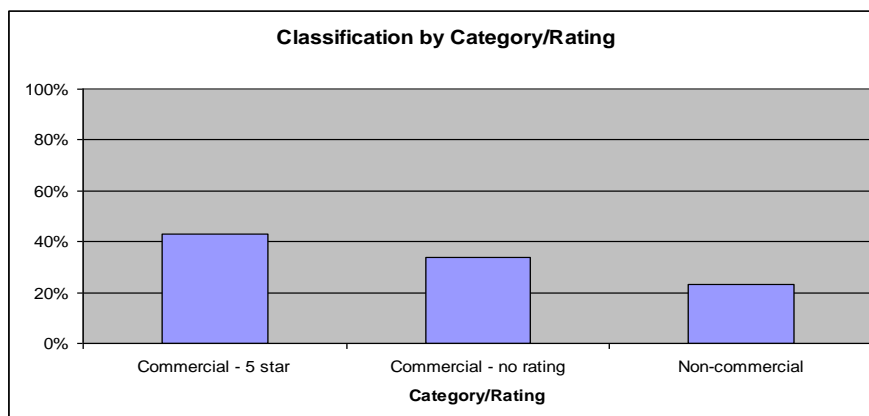


Figure 3: Website Breakdown by Category/ Rating

Thus, we see the main classification for demographic purposes as being a combination of the commercial status and the types of ratings the website possesses. An example of the usefulness of this classification is when we use it to assess other features on the Tourism Web 2.0 websites. For instance, we can do this in relation to the types of commercial features which they contained - in particular, sponsored advertisements and sponsored links (refer Figure 4). Seven out of ten of the websites had sponsored advertisements and just over half had sponsored links - so these features were quite prominent and an obvious source of revenue. The '5 star' rating

websites were quite prominent with sponsored advertisements and links. Interestingly, a higher proportion of websites that were classified as ‘non-commercial’ websites had these commercial features than commercial websites that did not offer ‘5 star’ ratings.

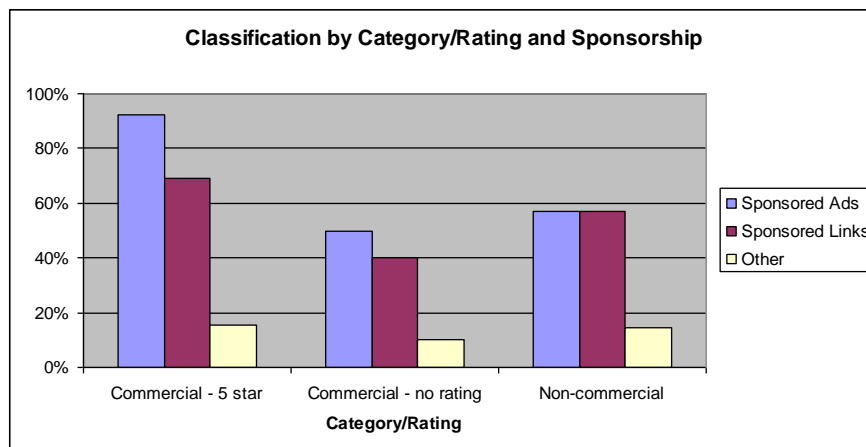


Figure 4: Website breakdown by Category/Rating and Sponsorships

The websites were also classified by a number of other features, such as the existence of online booking options and other features (such as trip planners and street directories). However, for the purposes of this article we are interested in predominantly classifying the Web 2.0 features, so we will concentrate on those.

3.2. Community Features

One of the groups or categories of features that we might expect to see on Web 2.0 websites are those that encourage setting up online communities of like-minded individuals. The idea here is that the users will be usually be able to communicate with each other and/or share information on about topics of mutual interest. Half of the websites examined had a feature that allowed users to set up a group for friends or contacts. These features were slightly more prevalent on non-commercial websites (refer Figure 5). Two websites that had features that had a community theme, however, they did not allow the setting up of groups or contacts. A non-commercial site allowed users to set up their own ‘private’ blog and a ‘commercial - 5 star’ rating website allowed users to become members of the site to receive newsletters and change alerts. Arguably, this latter feature is not exclusive to the Web 2.0 environment given that it has been possible to do this before the emergence of Web 2.0 as a concept.

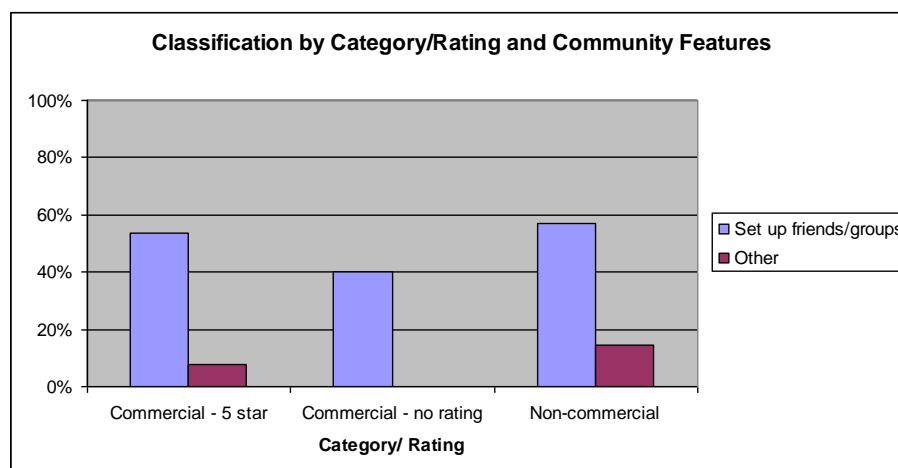


Figure 5: Website breakdown by Category/Rating and Community Feature

3.3. Navigation Features

A typical feature we would expect to see on Web 2.0 websites is one where users have the ability to generate their own ‘tags’ that can be subsequently associated with travel products, travel information and/or even their own user-generated content. We examined these as part of an overall assessment of how users might navigate (search) through a website to eventually get to their desired web page location. Thus, the websites were examined for the existence of four major types of search options:

- **Keyword – User Generated Tags:** This is where users of the website have the opportunity to create tags attached to various forms of website content (the ‘Web 2.0’ feature).
- **Keyword – Controlled Tags:** This is where tags are allocated to website content by the website operators or controllers. They cannot be altered by website visitors and users.
- **Location Map:** This is where one or maps are provided. These can be clicked on by the user to gain access to a website’s services for a particular destination.
- **Hierarchy:** This is where a traditional search hierarchy is provided on the website. Users can select from a number of topics on the home page and ‘drill down’ to the destination or website service they wish to investigate.

Figure 6 provides the breakdown of the types of search options available on the websites that were investigated. Most of the websites had one or more different search options available, with the most popular being user generated keyword tags (73% of all the websites investigated had this type of search option). It was expected that these types of tags would be popular on non-commercial websites and they were with some 86% of them having this search option. Notably, none of the non-commercial websites had a keyword search by controlled tag. Also of note was the finding that ‘commercial - 5 star’ rating websites were much more likely to also have location maps and hierarchy search options. Seemingly, the more ‘professional’ the website was, the more likely it had the ‘controlled’ features that allow the user to navigate through the website.

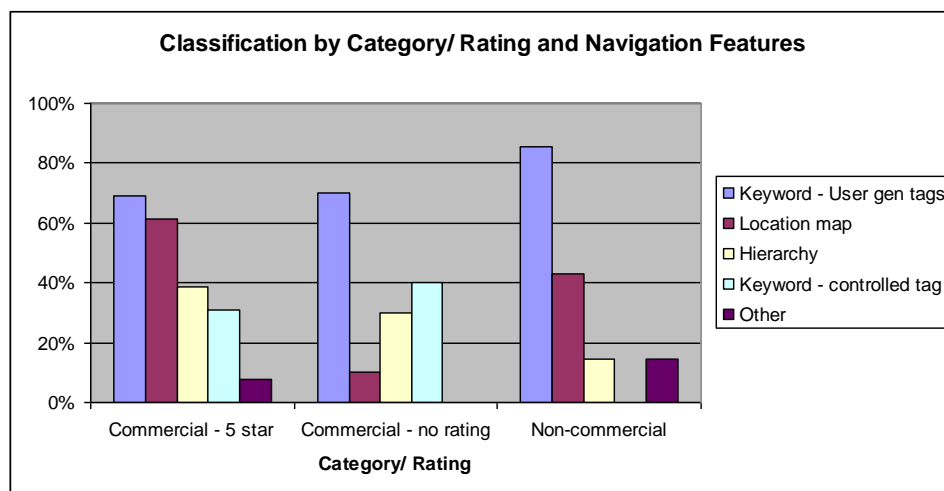


Figure 6: Website breakdown by Category/Rating and Navigation Features

3.4. Initial Classification Scheme

Our initial version of the Tourism Web 2.0 website classification scheme is concerned with three major areas. The first is a combination of whether the website is commercial or non-commercial, combined with whether it offers a chance for users to rate travel products. For the moment, this classification has produced three potential combinations, but if any ‘non commercial’ websites are found to offer the rating feature on their websites then a fourth combination will emerge. Our other classification options relate to the possibility of Web 2.0 content reflecting community features and the different types of navigation features that can be potentially encountered on such sites. The initial classification scheme is represented in Table 1.

Table 1 provides an initial classification scheme that addresses the demographic features associated with Web 2.0 tourism sites. In the following section we further develop our classification scheme to take into account the content of messages that were left by users on the tourism Web 2.0 websites that we examined.

3.5. Classification of Website comments

One of the most interesting aspects that Web 2.0 sites provide is the ability for users to generate their own content, be it text (via blogs), images or video. Indeed, the vast majority of the websites that we examined captured user-generated comments that reflected views and opinions and were predominately published in text form. Thus, a primary focus of this phase of the research was to attempt to analyse and classify the types of comments (or blogs) that were made on the websites. As mentioned earlier, 22 of the websites that we examined allowed users to add their own comments to the websites. Overall, 14 of these had comments from general user generated content (UGC) blogs that could be analysed. It was virtually impossible to categorise all of the comments on the websites, so a ‘sample’ of approximately 100 comments were selected from each website that had comments for analysis. Where comments were available in different areas of the website the number of comments were divided equally between each category to make up 100 comments.

For each section, the comments were analysed from the ‘top’ downwards until the required number of comments were gathered. In the vast majority of cases this meant that the most recent postings were analysed

first. In this way, a ‘snapshot in time’ was gained of the comments on the websites at the particular time they were viewed. It was hoped that this might provide some indication of the types of comments that were made in different areas of the websites. In total, 1240 comments were analysed and classified from these websites (three of the websites did not have 100 comments to analyse at the time of investigation). Furthermore, eight commercial websites allowed comments to be added for a *particular purpose* – such as reviews of hotels, attractions and so forth. Although not ‘blogs’ as such, these did allow for a form of UGC by website visitors, so a limited number of these comments (227) were also analysed to gain a feel of the types of comments being made.

Table 1: Web 2.0 Tourism website demographic classification scheme

Classification	Potential values	Classification Criteria
Commercial Category/Rating	Commercial - 5 star	Websites are categorized as being ‘commercial’ when able to readily identify a company or business name on the website; it is also ‘5 star’ if it allows users to rate accommodation or destinations on a rating systems (that is usually 1-5).
	Commercial - no rating	These are websites categorized as commercial however, they do not allow the user to rate accommodation or destinations.
	Non commercial	These are websites categorized as being non-commercial (at the moment there is no sub-classification for user ratings – but this can be added if these websites emerge).
Community Feature	Set up friends or group	This occurs where a website allows users to set up a group of friends via the website.
	Other	This occurs where the website allows other community features to be set up (such as a private blog).
Navigation feature	Keyword – user generated tags	This is where users can create tags attached to website content.
	Keyword – controlled tags	This is where tags to website content are generated by the website operators and cannot be altered by users.
	Hierarchy	This is where a traditional search hierarchy is provided on the website. Users can select from a number of topics on the home page and ‘drill down’.
	Location map	This is where maps can be clicked on by users to gain access to a website’s services for a particular destination.
	Other	Any other means by which the website can be navigated.

Figure 7 shows the breakdown of websites with general blog comments as well as those that allowed for reviews. Over half of the non-commercial websites had some type of general comment/blog facility for website users, but no area for users to enter reviews, such as for a particular hotel or attraction. A higher proportion of commercial - 5 star websites allowed for general blog comments than commercial websites with no rating feature. All of the sites that allowed reviews were commercial, with the vast majority of those being commercial - 5 star websites. Four of these websites allowed both general blog comments and specific purpose reviews.

Thus, the first consideration for our classification scheme in relation to UGC comments on Tourism Web 2.0 websites is whether the comments are made as part of a general blog or whether they are provided as a review for a particular travel product.

The authors also examined the nature of the comments. Not surprisingly, the vast majority of the general UGC blog comments that were made were either entirely travel-related (83%) or partly-travel related (10%). A typical ‘partly-related’ travel comment would include a comment about travel and then another, non-travel remark - such as a statement on what health a family member was in. All of the review comments were travel related as they reflected specific travel experiences.

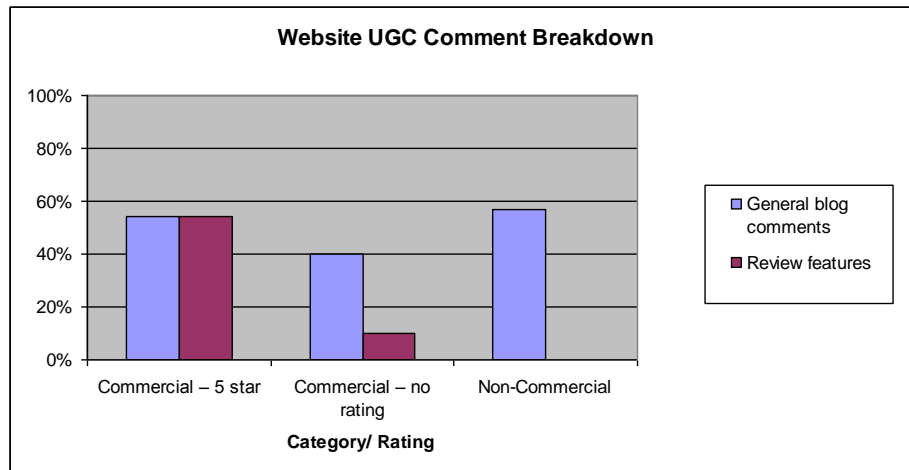


Figure 7: Breakdown of UGC comment categories

Type and Category of General Blog Comments

After examining the content of a number of general blog comments on different Tourism Web 2.0 websites, the researchers determined that the comments fell into one of three categories:

- *Website content:* This is where the content was obviously placed there by the website operators - often as a comment to commence discussion (see below). These comments comprised 32% of all comments analysed. It is important to note that these were included as part of the 'general' blog but were *not* UGC.
- *UGC Blog:* This is where the comments were generated by a user (and thus fits the category of being 'UGC') and offered some extra information about the topic of conversation. UGC blogs comprised 45% of all comments that were analysed.
- *Affirmation:* This was where a confirming or finalising comment was made (usually about a previous comment). For instance, "That's good" or "Thanks very much" would be typical comments. These comprised 23% of all comments. These comments were also made by users of the website, and considered to also be UGC.

One interesting occurrence is that there were a number of cases where discussion was commenced with a comment presented by the website operator/owner (perhaps even taken from a professional source, such as a travel guide) and then followed by a number of user-generated blogs – and often finished off with an affirmation.

When examining the comments in the blogs of Tourism Web 2.0 websites, we did notice that often there were blogs for specific purposes, such as to discuss specific destinations or accommodation. The breakdown of the comments we analysed reflected these differences and is shown in Figure 8.

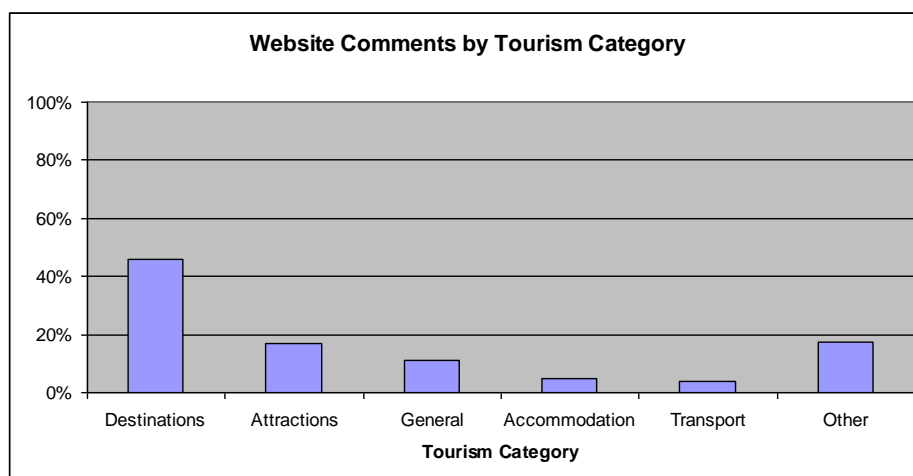


Figure 8: Website Comments breakdown by Tourism Category

Some two thirds of the comments we analysed were concerned with either tourism destinations or attractions. General comments occurred where the focus of the blog was on travel more generally rather than a particular aspect of tourism.

We decided to see if there were any identifiable trends if we examined the type of comment being made against the tourism category of the comment. This is shown in Figure 9.

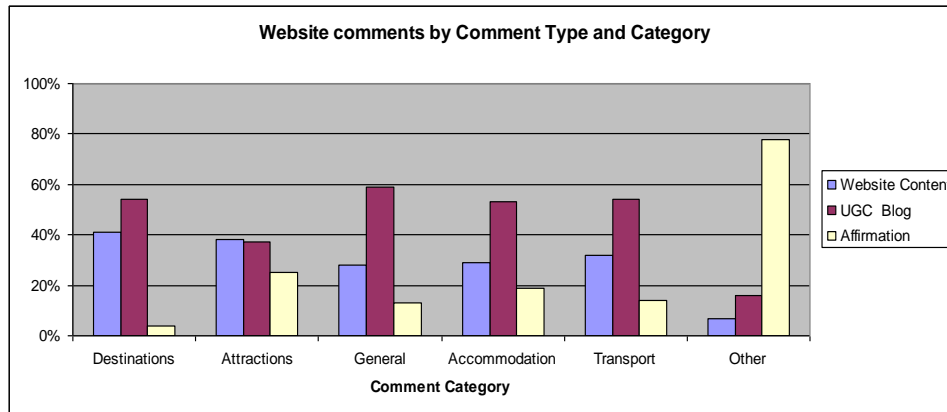


Figure 9: Website Comments by Comment Type and Comment Category

The proportions of the types of comments for each major comment category generally did not differ greatly from the overall split of comments, although there was a more even split of comments around attractions than with the other categories. This may be worth pursuing in further research projects.

Although, the classification in Figure 9 is useful in comparing the comments in different categories, but due to the lack of formal sampling techniques it is generally more useful to view the content classification from the point of view of each of the 14 individual blog websites, as shown in Table 2.

It is obvious here that there were different types of dialogue occurring on different websites. For instance, Epic Trip (only 29 comments), Gusto, STA Travel Blogs (only 19 comments), TravBuddy, Travel Blog and Virtual Tourist were predominantly (or completely) blogs generated by the user.

The comments in I go U go, Mapsack, the Lobby, Travel Rants and Travelistic were mainly generated by the website operators.

This Place I Know contained primarily *affirmation* comments.

Two websites had splits between two types of comments:

- Lonely Planet's Bluelist (*UGC blogs* and *affirmations*).
- Trips Log (*UGC blogs* and *affirmations*).

Table 2: Category of Website Comments by Individual Website

Site name	Website Category	Total number of comments	Comment Type		
			Website Content	UGC Blog	Affirmation
			32%	45%	23%
Epic Trip	Commercial – No rating	29	3%	69%	28%
Gusto	Commercial – No rating	100	9%	85%	6%
I go U go	Commercial – 5 star	92	90%	3%	7%
Lonely Planet's Bluelist	Commercial – 5 star	100	0%	41%	59%
Mapsack	Commercial – 5 star	100	68%	28%	4%
STA Travel Blogs	Commercial – 5 star	19	0%	100%	0%
The Lobby	Commercial – No rating	100	99%	0%	1%
This Place I Know	Non-Commercial	100	0%	20%	80%
TravBuddy	Commercial – 5 star	100	0%	90%	10%
Travel Blog	Non-Commercial	100	0%	100%	0%
Travel Rants	Non-Commercial	100	70%	0%	30%
Travelistic	Commercial – No rating	100	70%	0%	30%
Trips Log	Non-Commercial	100	1%	52%	47%
Virtual Tourist	Commercial – 5 star	100	0%	100%	0%

Eight out of nine commercial websites had predominantly *only one type of comment*, either generated by users or by operators of the website. Non-commercial websites were split across these two categories, as well as a website with primarily *affirmation* comments and one with a split between *UGC blog* and *affirmation* comments.

We think that the key point to make here is that although our summarised results (Figure 9) show a reasonably uniform spread of the different types of comments across the different comment categories, the individual websites showed some quite significant differences. We need to be wary when considering the summarised results.

Type and Category of Review Comments

The sample of 227 review comments were taken from the four commercial - 5 star websites that *did not* allow for general blog comments (these sites were Travelocity [which has links to IgoUgo], Trip Advisor, Expedia and Yahoo travel).

Unlike the general blog comments, by far the most common form of content across these sites was aimed at assessing accommodation. To a lesser extent, comments about particular attractions, destinations, transport options (particularly cruises) and other travel options were present. The breakdown of the analysed comments is in Figure 10.

The review comments can all be categorised as ‘UGC blog’ comments as they are generated by website users and provided ‘added value’ (in relation to *reviews* of the particular travel product being assessed).

3.6. Updating the Classification Scheme for Website Comments

We can now update our classification scheme to include some preliminary classification of the comments added to Tourism Web 2.0 websites. These relate to whether the comment is part of a general blog or a review of a travel product, what form the comment takes and the category of the comment (see Table 3).

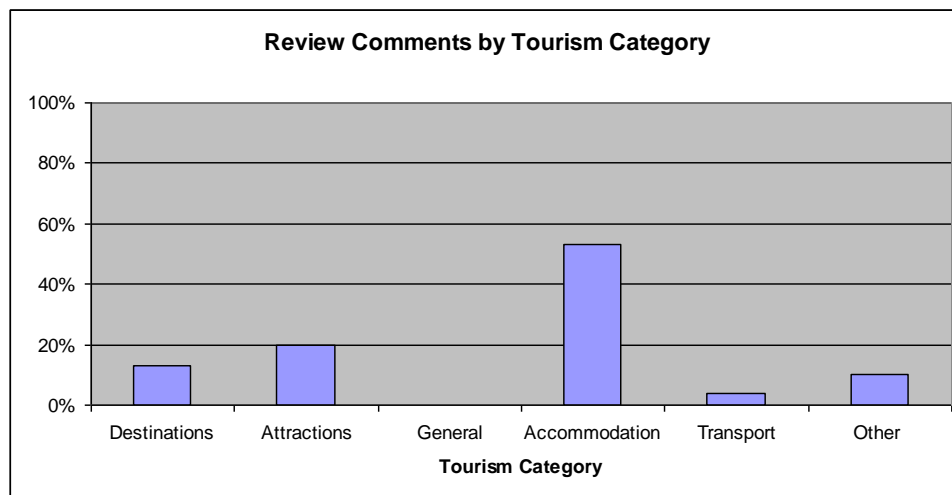


Figure 10: Review comments: breakdown by Tourism Category

Table 3: Web 2.0 Tourism website comments classification scheme

Classification	Potential values	Classification Criteria
Category of discussion	General blog	Comments are part of a general blog that allows for messages on any topic (usually travel related) by website users and sometimes website operators
	Review comment	Comments are all reviews of a particular travel experience or product
Type of Comment	Website Content	This is a comment in a blog that is added by the website operator
	UGC blog	This is a comment in a blog or review by a website user that contains some content that ‘adds value’ to the discussion
	Affirmation	This a comment in a blog by a user that is a confirmation or finagling comment – such as “That’s good” or “Thanks”.
Comment tourism category	Destinations; Attractions; General; Accommodation; Transport; Other (non tourist)	Refers to the topic of the comment – such as a destination, and attraction, and so forth.

In the next section we take the analysis of comments further to examine the nature of the comments being made.

3.7. Analysis of the Nature of Comments

It is possible to analyse comments further than just the type and category of comment. As mentioned earlier, it is possible to map who makes comments to each other, to develop network diagrams of groups that communicate and to identify key communicators in the group (social networking analysis). However, the authors decided to take a different approach to try to determine the *nature* of comments being made on the websites.

Shang et al [2007] discuss various reasons as to why and how people use a blog. They cite Nardi et al [2004], who suggested that blogging is a form of social communication in which the creators and readers of content are intimately related. They suggest that people create blogs in order to:

- Update others on activities. These would be actual events or activities that have occurred or are about to occur. These are *facts*.
- Express opinions to influence others. The difference between this and ‘updating others’ is that these are *opinions*, not necessarily facts.
- Seek others’ opinions and feedback.
- Think by writing.
- Release emotional tension.

These criteria were considered to be a useful set of guidelines to follow to *analyse and classify* the blog website comments. In addition, as the key focus was on travel activities, another classification related to comments stating that travel plans had been changed as a result of comments was also added at this stage of the analysis.

On a number of occasions UGC general comments were classified under more than one classification (refer Table 4). For instance, it was possible for a comment to *update others* (for instance, in relation to notifying others of a changing train schedule) and also *offer an opinion* (for instance, what the creator thought of the changed schedule).

Table 4: ‘Category of UGC general comment’: by Content Classification

Comment Category	Content Classification					
	Changed plans	Expresses opinion	Seeks opinion	Updates others	Thinks by writing	Release Emotional tension
Overall	0.5%	84%	7%	60%	15%	10%
Destinations	1%	85%	5%	64%	17%	11%
Attractions	0%	82%	2%	71%	13%	8%
General	0%	84%	12%	61%	19%	15%
Accommodation	2%	85%	2%	76%	7%	2%
Transport	0%	92%	10%	62%	16%	14%
Other	0%	81%	15%	33%	8%	9%

Table 4 shows the breakdown of comments split into the different content categories, and also provides a split according to the classification of the comments. The first thing to note is that there were only a few instances (0.5%) where contributors actually suggested that their travel plans had changed as a result of viewing the website or the comments. Most of the comments (84%) involved expressing an opinion, or were aimed at updating others (60%). The proportion of comments across the various classifications remained fairly consistent for each comment category. The main exceptions were:

- Comments related to accommodation, where more comments ‘updated others’ than in other categories (and less devoted to ‘thinking by writing’ and ‘releasing emotional tension’).
- ‘Other’ comments – where a much smaller proportion of comments ‘updated others’. These were mainly *affirmations*.

As noted earlier, there is only so much interpretation that can be placed upon cumulative tables such as those in Table 4. Table 5, therefore, shows a split of the comments by their classification for each individual website. An extra column has been added to this table, *Comment type website*. This is a single letter representing the predominant type of comment on the website as outlined in Table 5 and the subsequent discussion.

The classification of website comments does differ in some aspects from website to website, although in all of the websites comments that ‘express an opinion’ and ‘update others’ are prominent. Some observations:

Table 5: Individual UGC Site General comments: by Content Classification

Site name	Website Category	Comment type website*	Content Classification					
			Changed plans	Expresses opinion	Seeks opinion	Updates others	Thinks by writing	Release Emotional tension
Overall			0.5%	84%	7%	60%	15%	10%
Epic Trip	Commercial – No rating	U	0%	90%	7%	52%	28%	14%
Gusto	Commercial – No rating	U	2%	87%	18%	38%	36%	16%
I go U go	Commercial – 5 star	W	0%	78%	10%	80%	1%	0%
Lonely Planet's Bluelist	Commercial – 5 star	S	2%	89%	7%	69%	1%	0%
Mapsack	Commercial – 5 star	W	0%	65%	2%	59%	4%	2%
STA Travel Blogs	Commercial – 5 star	U	0%	84%	0%	84%	42%	11%
The Lobby	Commercial – No rating	W	0%	87%	0%	100%	0%	0%
This Place I Know	Non-Commercial	A	0%	89%	1%	44%	15%	15%
TravBuddy	Commercial – 5 star	U	0%	76%	2%	55%	18%	12%
Travel Blog	Non-Commercial	U	0%	97%	1%	89%	24%	17%
Travel Rants	Non-Commercial	W	2%	85%	21%	21%	23%	19%
Travelistic	Commercial – No rating	W	0%	73%	9%	31%	14%	19%
Trips Log	Non-Commercial	S	0%	95%	14%	42%	18%	13%
Virtual Tourist	Commercial – 5 star	U	0%	80%	0%	93%	11%	9%

* U – Comments that are predominantly *UGC Blog*

W - Comments that are predominantly *Website comments*

A – Comments that are predominantly *Affirmations*

S – Comments that are predominantly split between *UGC blog* and *Affirmations*

- It might be reasonable to expect that sites where the majority of comments are *website comments* (generated by a website operator) would have *fewer comments* that express an opinion and perhaps less comments where emotional tension is released:
 - The two websites with the lowest percentage of comments that ‘express an opinion’ were both websites that had predominantly *website comments*. The six websites with the highest percentage of comments that ‘express an opinion’ were all websites that have predominantly user-generated comments (either *UGC blogs* or *affirmations*).
 - Out of the four websites that have less than or equal to only 2% of comments that release emotional tension, three of the sites had predominantly *website comments*. However, the two websites with the highest percentage of comments that ‘express an opinion’ were also sites that had predominantly *website comments*. When examined further, both of these websites also had 30% of comments that were *affirmations*. In these two sites, the comments that ‘released emotional tension’ were split between *website comments* and *affirmations*. Therefore, it appears that some website operators **do generate** comments that release emotional tension on their own websites.
- It might equally be expected that the types of websites that had a higher proportion of comments where contributors ‘think by writing’ would be sites that have predominantly user generated comments. This is in fact the case, with the websites with the four highest proportions of ‘think by writing’ comments all being predominantly *UGC Blog* websites. The websites with the four lowest proportions of ‘think by writing’ comments were predominantly *Website comment* websites.

The proportion of comments that ‘update others’ varied from 21% of comments (on Travel Rants) to all comments (on The Lobby), with a range of percentages in between. There did not seem to be any major trend in relation to the comment type, or whether the website was commercial (31%-100%) or non-commercial (21%-89%). There might be some significance in the ‘commercial - 5 star’ rating websites, where the range was 55%-93% and three out of the six websites had 80% or more comments that ‘update others’.

Reviews Table 6 shows the classification of review comments. Note that the **vast majority** of the comments were made up of a statement of fact to ‘update others’ about the travel feature (such as “the room had two twin beds” or “the museum had two separate entry areas”), followed usually by an opinion (‘expresses opinion’ comment). These usually followed on from some static description of the travel product (such as description of a hotel) that was just entered as regular website content (not as part of UGC). On a few occasions it was judged that the comments spilled into the area of ‘releasing emotional tension’ when the traveller seemed exceptionally pleased or upset by the particular travel experience.

Table 6: ‘Category of review comment’ by Content Classification

Comment Category	Content Classification					
	Changed plans	Expresses opinion	Seeks opinion	Updates others	Thinks by writing	Release Emotional tension
Overall – review	0%	88%	0%	91%	0%	7%
<i>Comparison with general UGC blog comments</i>	0.5%	84%	7%	60%	15%	10%
Destinations	0%	90%	0%	90%	0%	0%
Attractions	0%	90%	0%	80%	0%	3%
General	0%	0%	0%	0%	0%	0%
Accommodation	0%	88%	0%	92%	0%	6%
Transport	0%	83%	0%	83%	0%	0%
Other	0%	87%	0%	87%	0%	7%

As the table shows, there were **no instances** of comments related to seeking opinions and thinking by writing, which were evident in some of the UGC general blog comments. Arguably this type of feature on websites potentially allows users to review *specific travel experiences* and indeed removes the amount of general discussion that occurs in a blog. Note also how consistent the percentages are across the different categories of comments – the same patterns were typically evident for destinations, attraction, accommodation and other reviews.

In total 1240 general comments and 227 review comments from different websites were analysed. The aim was to analyse at least 100 comments on each website, but some websites did not have this many comments. Where a website had a number of different blogs, an attempt was made to allocate the comments for analysis evenly between them.

As expected, the majority of comments were travel related. Nearly half of the comments related to particular destinations. Overall, around two in three comments were generated by users (as *UGC blogs* or *affirmations*), with the remainder being *website comments* generated by website operators. In a number of instances, such a comment (website operator generated) was then followed by one or more comments that were contributed by website users. The analysis of comments by individual websites showed that there were distinct differences in the types of comments of these websites. This is something that would be worth pursuing in a future study.

Comments were also classified according to their content. Most of the comments involved expressing an opinion and updating others on events or activities. Again, there were some differences in the content classification from website-to-website. Websites with predominantly more user-generated comments were more likely to have comments that 'express an opinion' and 'thought by writing', whereas websites with predominantly *website comments* (especially 'commercial - 5 star' rating websites) had more comments to 'update others'.

Website comments tended to be information placed in the blog or comments by the website operator and typically about the destination or attraction of interest. Thus, it could probably be assumed that this type of comment is meant to reside on the site for some time. Therefore, an interesting future study might be to examine sites that are predominantly made up by these types of comments. Our thoughts are that these websites would possibly not show as much variation as those websites that are predominantly *UGC Blogs* or those sites where the comments are split between *UGC Blogs* and *affirmations*.

A number of commercial websites, predominantly commercial – 5 star websites, allow website users to enter UGC in the form of *reviews* of specific travel experiences. The majority of these reviews were for accommodation, but there were reviews for attractions, destinations and other travel related services. Most of the review comments fell into the categories of 'updating others' and 'expressing opinions' as with general UGC blog comments. However, they differed from general blog comments in that none of the reviews sought to seek further opinions from others or indulged in 'thinking by writing', as happened in the UGC general blog comments.

4. The Final Classification Scheme

With the addition of the classification of the content of comments on Web 2.0 tourism websites we able to further update the classification scheme. The complete classification scheme is shown in Table 7. As indicated earlier in this article, it is divided into two sections. The first section addresses general demographics that examines:

- Whether the website is commercial and if it has a user rating feature;
- If the website incorporates community features and
- What type of website navigation features are used.

The section of the classification related to the analysis of specific website comments that examines:

- The nature of the discussion the comments are made in,
- The type of comment,
- The tourism category in which the comment is made and
- A classification of the content of the comment.

5. Future Studies

As mentioned at the start of the article, this has been an unusual research project. It has not only produced a series of results of an analysis of tourism Web 2.0 websites, it has also developed a scheme which the authors feel these websites can be examined in future research projects. Clearly this research has added to the limited, but growing body of knowledge that is associated with Web 2.0 sites and the UGC phenomenon. The proposed classification scheme allows websites to be categorised according to demographic information (commercial/ non-commercial; rating scheme/ no rating scheme; community features/ no community features; and website navigation features) which emerged from the analysis of existing tourism Web 2.0 sites. In addition, the scheme allows for an analysis for the type of discussion that occurs in text weblogs according to the nature of comments; type of comment; tourism category of the comment; and a classification of the comment. This level of classification has not been suggested for the tourism area or any other type of Web 2.0 websites previously.

Although the classification scheme is tailored for tourism Web 2.0 websites, there is the potential for the scheme to be adopted or modified for other types of Web 2.0 websites. Although it has proved useful for the purposes of the authors, it would be interesting to see how useful others find the classification scheme in their research. Also, it should be noted that in this study the authors have concentrated specifically upon text comments in the classification scheme. Future research that examines other forms of UGC on Web 2.0 content, such as video, images and sounds, could allow the scheme to be extended to include these media types. Finally, it will be interesting to see how others solve the problem of analysing the enormous number of comments on these types of websites. It was tackled here by selecting and analysing a group of sequential comments at a point in time. Others may wish to apply some other sampling technique to identify a sample of comments to analyse.

Table 7: Web 2.0 Tourism website demographic classification scheme

Classification	Potential values	Classification Criteria
Demographics		
Commercial Category/ Rating	Commercial - 5 star	Websites are categorised as being ‘commercial’ when able to readily identify a company or business name on the website; it is also ‘5 star’ if it allows users to rate accommodation or destinations on a rating systems (that is usually 1-5).
	Commercial - no rating	These are websites categorised as commercial however, they do not allow the user to rate accommodation or destinations
	Non commercial	These are websites categorised as being non-commercial (at the moment there is no sub-classification for user ratings – but this can be added if these websites emerge)
Community Feature	Set up friends or group	Where a website allows users to set up a group of friends via the website.
	Other	Where the website allows other community features to be set up (eg a private blog)
Navigation feature	Keyword - user generated tags	This is where users can create tags attached to website content.
	Keyword - controlled tags	This is where tags to website content are generated by the website operators and cannot be altered by users.
	Hierarchy	This is where a traditional search hierarchy is provided on the website. Users can select from a number of topics on the home page and ‘drill down’.
	Location map	This is where maps can be clicked on by users to gain access to a website’s services for a particular destination.
	Other	Any other means of website navigation
Website comments		
Category of discussion	General blog	Comments are part of a general blog that allows for messages on any topic (usually travel related) by website users and sometimes website operators
	Review comment	Comments are all reviews of a particular travel experience or product
Type of Comment	Website Content	Relates to comment s associated with a blog that is added by the website operator
	UGC blog	This is a comment in a blog or review that is added by a website user and contains content that ‘adds value’ to the discussion
	Affirmation	This is a comment in a blog that is a confirmation or finagling comment – such as “That’s good” or “Thanks”.

Comment tourism category	Destinations; Attractions; General; Accommodation; Transport; Other (non tourism)	Refers to the topic of the comment – such as a destination, and attraction, and so forth.
Comment content classification	Changed plans; Expresses opinion; Seeks opinion; Updates others; Thinks by writing; Release Emotional tension	Classifies comments according to their content – comments may fit more than one category.

6. Conclusion

In this project the authors attempted to identify a means to effectively examine the content of tourism Web 2.0 websites as part of a particular research project. What was discovered was that it was possible to classify the websites according to whether they were commercial or non-commercial and within the commercial domain, whether they offered '5 star' rating features or not. The differences between websites that offered the opportunity for users to enter unrestricted 'blog' comments, as against those that only offered the chance to comment on specific travel products, such as hotels. General UGC was classified into three categories – website comment (where the website operator submitted the comment), UGC blogs (typical user contributions) and affirmations (usually a simple signoff message). At this point it was noticed that individual websites tended to have different patterns in relation to the types of categories comments that they were comprised of. The content of UGC comments was examined and classified them according to Shang et al's [2007] categories. Again, it was determined that most comments 'expressed an opinion' and/or 'updated others', and the differences in individual websites occurred where some websites also had comments that 'released emotional tension' or allowed the contributor to 'think by writing'.

Overall, the authors believe that the classification scheme that has been developed can be used as a basis for further analysis of Web 2.0 websites across different industry areas or genre, not just tourism websites.

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