

Activity-based market segmentation of visitors to thermal spring resorts in the Western Cape Province, South Africa: Assessing the potential for health tourism development

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Abstract

There are eight thermal spring resorts in the Western Cape. Only one of these resorts has a focus on health and wellness, with the others functioning primarily as family leisure resorts. Considering apparent domestic and international preferences, it would seem that a potentially valuable natural resource, that is, mineral-rich thermal spring water, is not being optimally utilized as a tourist attraction in the Western Cape. This research set out to assess the potential for health tourism development of thermal springs in the Western Cape. A questionnaire-based survey was undertaken, involving 383 respondents at six resorts, and activity-based market segmentation was carried out using k-means cluster analysis. A four-segment typology of current visitors, based on activity preferences, was compiled. It was found that the main divisions between visitors are, firstly, between 'active' visitors who generally desire and make use of facilities and organised entertainment, and 'passive' visitors, who make little to no use of facilities and organised entertainment; and secondly, between visitors who choose activities mainly for themselves, and those who choose activities for both themselves and their children. One of the four segments appears to show particular interest in both medical and wellness health tourism activities. However, most visitors, through their choice of activities, are able to gain considerable health benefits from their stays at thermal spring resorts, but they do so in different ways, and this is reflected in various combinations of active and passive activities.

Keywords: Health tourism, wellness tourism, thermal springs, activity-based market segmentation, cluster analysis.

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Introduction

A new kind of health spa travel has emerged worldwide in recent years (Erfurt-Cooper & Cooper, 2009), where the curative properties of mineral waters are successfully combined with wellness treatments and therapies, as well as with enjoyable holidays; in effect a combination of medical, wellness and recreational

tourism. The challenge for modern thermal spring resorts is thus to incorporate older water-based healing traditions into the satisfaction of current demand for wellness in a leisure environment (Boekstein & Spencer, 2013). There are eight thermal spring resorts in the Western Cape Province of South Africa. The mineral-rich water at these resorts has, in the past, been utilised for medicinal purposes (Booyens, 1981), but today all of these resorts function primarily as family leisure resorts, catering almost exclusively to the domestic market, while only one of them, the Caledon Spa, offers a comprehensive range of fitness and wellness treatments (Boekstein & Spencer, 2013; Boekstein, 1998).

While health tourism activities are far less popular among both domestic and international tourists to the Western Cape than, for instance, nature attractions, beaches, scenic drives and walking or hiking in natural areas (Cape Town Routes Unlimited, 2009a; Cape Town Routes Unlimited, 2009b), it has nevertheless been found that domestic leisure visitors to thermal spring resorts in the province have an intrinsic belief in the apparent healing powers of the waters, and report considerable health benefits from their visits (Boekstein, 2001). Considering apparent domestic and international preferences, outlined above, it would seem that a potentially valuable natural resource, that is, mineral-rich thermal spring water, is not being optimally utilized as a tourist attraction in the Western Cape.

A considerable product development and marketing effort would be needed for thermal spring tourism, and more particularly thermal spring health tourism, to be raised to the level of popularity of other tourism types in the Western Cape. There may also be some potential for creating, packaging and marketing thermal spring health tourism products in combination with some of the more popular tourism activities. Researching and assessing the health tourism development potential of thermal springs in the Western Cape would undoubtedly assist in the creation of a thermal spring tourism product that would, firstly, better satisfy the needs of domestic leisure tourists who have an inherent belief in the healing qualities of the water, and secondly, attract the growing international health (medical and wellness) tourism market.

It is generally accepted that it is easier and cheaper to create new products for existing markets than for new markets, and the viability of developing new thermal spring health tourism products would thus depend to a large degree on the extent to which new products would be welcomed by current visitors. It was therefore necessary to undertake a demand-side analysis of current visitors to thermal springs in the Western Cape; the main purpose of the survey being to gather data on the activity preferences of visitors to these resorts, and using activity-based market segmentation, to ascertain whether and to what extent they would be interested in health tourism products.

Rationale for activity-based market segmentation

Market segmentation, in its broadest sense, is defined by Fitzgibbon (1987:490) as “a method of analysis that involves disaggregation of data, followed by reassembly and synthesis”. Essentially market segmentation is the classification of heterogeneous customers with different needs, characteristics and behaviour patterns, into homogeneous groups, or segments. Many variables have been suggested as bases for segmenting tourists, including choice of destinations, demographic characteristics, purpose of the trip, benefits sought in a product and benefits realized from a destination (Ahmed, Barber & D’Astous, 1998). There has been considerable debate over which bases should be used to segment tourism markets (Moscardo, Morrison, Pearce, Lang & O’Leary, 2001). According to Mill and Morrison (1998), forward, or *a priori*, segmentation methods have traditionally been the most frequently used in tourism, primarily because they are easy to use. With *a priori* segmentation, the analyst selects the segmentation base for defining segments, e.g. purpose of trip, mode of transport, distance travelled and type of accommodation used, geographic variables or demographic variables. In recent years, backward, or *a posteriori*, data-driven methods of segmentation have increasingly been used by tourism researchers, where a set of variables is used as the segmentation base, and a mathematical algorithm is then used to determine groups of respondents who have responded similarly to these variables (Dolcinar & Grün, 2011). The most commonly-used data-driven methods of market segmentation include factor analysis and cluster analysis, although the two are also often combined as factor-cluster segmentation (Smith, 1989). Resultant segments can then be profiled according to socio-economic, demographic and behavioural variables.

A growing number of researchers are using ‘activities’ as a segmentation base for single-step factor analysis (e.g. Sung, Morrison & O’Leary, 2000), cluster analysis (e.g. Beritelli & Boksberger, 2005; Morrison, Hsieh & O’Leary, 1996), factor-cluster analysis (e.g. Mehmetoglu, 2007; Moscardo *et al.*, 1996), and cross-tabulation (e.g. McKercher, Ho, Du Cros & So-Ming, 2002). In activity-based market segmentation, groups of tourists are defined according to their behaviour or visitation patterns as manifested in their activity preferences. Moscardo *et al.* (1996) maintain that the critical link between motivations and destinations may be found in the understanding of activities, and add that the work of various researchers in the area of destination choice modelling suggests that activities are critical attributes of destinations, which are evaluated by travellers according to their ability to satisfy needs. Tourist activities at the destination can be used to explain a part of latent travel motivations, and vice versa (Beritelli & Boksberger, 2005). Vacation activities thus seem to offer considerable potential as a behavioural segmentation variable, and according to Morrison *et al.* (1996), tourists who pursue certain ‘activity sets’ tend to have distinct demographic, socio-economic and psychographic characteristics, and

analysing tourism markets according to holiday activity participation and preference represents a potentially powerful means of providing a more in-depth understanding of travel behaviour.

Methodology

A questionnaire was compiled, which included a section comprising 32 common activities undertaken at thermal spring resorts. Questionnaires were distributed at six resorts in the Western Cape, namely Goudini Spa, Avalon Springs (Montagu), Warmwaterberg Spa (Barrydale), Calitzdorp Spa, Caledon Spa and The Baths (Citrusdal), between December 2011 and July 2012, so as to include the summer, Easter and winter school holiday periods, as well as to capture the opinions of weekend and mid-week visitors. The researchers visited each of the resorts on three occasions during this time to administer the completion of questionnaires, while questionnaires were also handed to visitors by resort check-in staff.

It was not possible to calculate the population size accurately, since the survey took place over a period of six months, at six locations spaced far apart, with the number of visitors constantly changing, and therefore a maximum population size (40 000) was assumed. A sample size of 381 was targeted, to give a confidence level of 95% and a confidence interval of 5%. Some 390 questionnaires were completed, but seven were discarded due to being incomplete, leaving 383 useable questionnaires, thus meeting the set target number. No target number was set for any specific resort, due to the constantly changing populations; the only criteria being that all respondents were visitors to thermal spring resorts in the Western Cape, and that only one questionnaire was completed per couple, family or accommodation unit. Where applicable, it was emphasized in the questionnaire that the answers were to be for the group as a whole, and not for the individual completing the questionnaire. Thus the 383 useable questionnaires, in actual fact, represent a far greater number of visitors.

Respondents were requested to indicate how important each activity was to themselves/their families during their visit/s to a hot spring resort, to be answered on a Likert scale of 1 to 5, ranging from 'Not at all important', to 'Slightly important', 'Fairly important', 'Important', and 'Very important'. The set of activities included, firstly, activities currently available at one or more of the respective resorts, and secondly, activities that may not be available at any of these resorts, but which form part of the offerings of successful thermal spring resorts in other parts of South Africa and internationally. The list of activities included health and wellness activities that, for the most part, are not available at thermal spring resorts in the Western Cape. The results of visitor responses to the activity questions were used as input data for cluster analysis, and visitors were segmented into groups with similar activity preferences (market segmentation),

after which a typology of current thermal spring visitors was compiled. The resulting segments were then cross-tabulated with the activity variables to illustrate the level of support that each variable received in each segment.

Table 1: Activities grouped into categories

Activities	No interest (%)	Some interest (%)	Strong interest (%)
Water-based leisure activities			78
To swim in a warm/hot water swimming pool	1	8	91
To swim in a cold water swimming pool	8	27	65
Wellness activities			55
To have a quiet hot pool available (just relaxing in the water, no jumping or splashing)	3	20	77
To swim in mineral water	4	23	72
To cook and/or eat healthy food	4	26	60
To sit in a jacuzzi/sauna/steam room	13	35	53
To have wellness treatments and activities available (massage, aromatherapy, yoga, etc)	19	42	39
To have beauty treatments available (skin care, manicure, pedicure, etc)	35	37	28
Conservation activities			52
To live a more 'green' lifestyle at the resort (recycling, saving electricity, etc)	8	28	65
To look at wildlife/go bird-watching	8	40	52
To be able to learn about the flora and fauna (plants and animals) of the area	13	46	40
Passive activities			47
To be able to socialise with old friends	9	28	63
To do very little/sit around/read a book	7	32	61
To eat in a restaurant at the resort	11	39	50
To watch sport and/or family entertainment on TV	22	35	33
To sit in a bar/lounge serving alcoholic drinks	40	33	26
General leisure activities (not water-based)			47
To have organized entertainment for children available	17	26	57
To take part in outdoor leisure activities (mini-golf, horse riding, etc)	15	40	45
To take part in indoor leisure activities (snooker, table tennis, etc)	17	44	39
Tourism activities			45
To visit nearby tourist attractions and places of interest, go sightseeing	8	47	45
Medical treatment activities			43
To have water-based medical treatments available (rheumatism, arthritis, psoriasis, etc)	20	37	43
Sport/exercise activities			35
To go for easy walks in the area (1-2 hours)	3	32	65
To go hiking along a marked hiking trail (up to 1 day)	18	41	41
To take part in adventure/adrenaline activities (mountain biking, rock climbing, etc)	25	39	36
To go jogging/cycling in the area	18	38	34
To take part in sporting activities (tennis, squash, etc)	24	43	33
To take part in water-based exercise, like aquarobics	36	45	19
To be able to exercise in a gym, do aerobics	51	30	19
On-site shopping activities			33
To buy locally produced foodstuffs (jam, pickles, dried fruit, etc)	12	49	39
To buy souvenirs, such as locally-produced arts and crafts, to take home	25	49	26
Cultural activities			24
To attend organized cultural activities, like music and dancing	35	37	24
Creative activities			17
To take part in artistically creative activities (painting, pottery, etc)	40	43	17

Results and Discussion

The ratings given by respondents were quite varied for the 32 activities, ranging from 1, the lowest (Not at all important) to 5, the highest (Very important), with standard deviations that indicate a broad range of interests. The means of even the lowest ranked activities appear to be high enough to indicate at least some support for these activities. In Table 1, the 32 activities are categorized into 10 groups to simplify analysis, although they were not grouped as such in the questionnaire. The percentage of respondents regarding these activities as ‘Important’ or ‘Very important’ is indicated under the heading ‘Strong interest’, the percentage regarding them as ‘Fairly important’ or ‘Slightly important’ under the heading ‘Some interest’, and the percentage regarding them as ‘Not at all important’ under the heading ‘No interest’. In addition the average ‘Strong interest’ for each category of activities is given. This table illustrates the relative importance of specific activities within the respective categories, as well as the relative importance of the categories in relation to each other.

From Table 1 it is clear that there is at least some interest in all of the listed activities, with strong interest ranging from 91% for ‘Water-based leisure activities’ reducing to 17% for ‘Creative activities’. While those indicating strong interest for a particular activity could be considered a definite market for that activity, those showing some interest could be considered a potential market. Interest in health-related activities is somewhat varied. There would seem to be considerable interest in non-treatment based wellness activities, but there is considerably less interest in medical treatment activities and sporting/exercise activities, except for going on short easy walks.

Performing activity-based cluster analysis will enable the respondents to be divided into groups, or segments, with similar combinations of activity interests. The object of cluster analysis (Frochot & Morrison, 2000:33) is “to identify homogeneous groups of respondents, known as clusters, or segments, that are different from all other groups”. A good cluster should exhibit high within-cluster homogeneity and high between-cluster heterogeneity. Cluster analysis will also reveal if there are groups of visitors who are specifically interested in health tourism products, and will thus give an indication of the size and geographic distribution of the potential market for thermal spring health tourism.

Table 2: A typology of visitors to thermal spring resorts in the Western Cape

	Passive Active	
Make less use of facilities and services	Cluster 2 (23%): Passive relaxers	Cluster 3 (22%): Active outdoors
Make more use of facilities and services	Cluster 1 (28%): Passive families	Cluster 4 (27%): Active families

The 383 respondents were thus divided into four activity-based clusters, or segments, similar to each other in size, using k-means clustering (Table 2). The clusters were then named for the types of variables that dominate each cluster, namely Passive Families (Cluster 1: 28% of respondents), Passive Relaxers (Cluster 2: 23% of respondents), Active Outdoors (Cluster 3: 22% of respondents), and Active Families (Cluster 4: 27% of respondents). There are two main divisions between visitors, firstly, between 'active' visitors who generally desire and make use of facilities and organised entertainment (Clusters 1 and 4), and 'passive' visitors, who make little to no use of facilities and organised entertainment (Clusters 2 and 3), and secondly, between visitors who choose activities mainly for themselves (Clusters 2 and 3), and those who choose activities for both themselves and their children (Clusters 1 and 4). Only Cluster 4 appears to show particular interest in both medical and wellness health tourism activities. The clusters are described below:

Cluster 1 (28% of respondents): Passive Families

This group is family-oriented, and would make some use of facilities and organized entertainment, more specifically for their children. They live a healthy lifestyle and are mainly interested in the hot and cold swimming pools, having a quiet pool in which to relax, bathing/swimming in mineral water, sitting in a jacuzzi, sauna or steam room, outdoor leisure activities, cooking/eating healthy food, and socialising with old friends.

Cluster 2 (23% of respondents): Passive Relaxers

Passive Relaxers are not family-oriented, and make minimal use of facilities and organized entertainment. Their main interest is simply relaxation. A hot water pool is very important to them, as is a quiet hot pool in which to relax, and being able to swim in mineral water. They would be quite happy doing very little, perhaps just sitting around reading a book.

Cluster 3 (22% of respondents): Active Outdoors

The Active Outdoors group is interested in exercising, keeping fit and living a healthy lifestyle, but tend to make use of nature and the outdoors instead of facilities and organized entertainment. These visitors are not family-oriented, are particularly interested in having hot and cold pools available, as well as a quiet pool in which to relax, and to swim in mineral water. While they would be happy doing very little, they are also interested in socializing, hiking (easy walks as well as longer hikes), jogging or cycling in the area, looking at wildlife or birdwatching and learning about the flora and fauna around the resort, as well as cooking or eating healthy food and living a more green lifestyle. Their activities

are centred on nature and the outdoors, and they require very little in the way of facilities or organized entertainment.

Table 3: The four clusters, with percentages of respondents showing a strong interest

Activities	1. Passive families (%)	2. Passive relaxers (%)	3. Active outdoors (%)	4. Active families (%)
Water-based leisure activities				
To swim in a warm/hot water swimming pool	79	89	98	97
To swim in a cold water swimming pool	64	43	80	76
Wellness activities				
To have a quiet hot pool available (just relaxing in the water, no jumping or splashing)	66	80	88	80
To swim in mineral water	57	64	93	79
To cook and/or eat healthy food	59	49	83	91
To sit in a jacuzzi/sauna/steam room	56	30	46	76
To have wellness treatments and activities available (massage, aromatherapy, yoga, etc)	46	9	14	77
To have beauty treatments available (skin care, manicure, pedicure, etc)	31	6	5	64
Conservation activities				
To live a more 'green' lifestyle at the resort (recycling, saving electricity, etc)	47	49	80	85
To look at wildlife/go bird-watching	34	23	76	77
To be able to learn about the flora and fauna (plants and animals) of the area	20	16	60	66
Passive activities				
To be able to socialise with old friends	63	31	74	82
To do very little/sit around/read a book	55	68	82	44
To eat in a restaurant at the resort	53	24	51	68
To watch sport and/or family entertainment on TV	40	12	20	55
To sit in a bar/lounge serving alcoholic drinks	34	6	23	39
General leisure activities (not water-based)				
To have organized entertainment for children available	75	17	41	86
To take part in outdoor leisure activities (mini-golf, horse riding, etc)	53	7	32	82
To take part in indoor leisure activities (snooker, table tennis, etc)	43	3	32	68
Tourism activities				
To visit nearby tourist attractions and places of interest, go sightseeing	45	21	45	67
Medical treatment activities				
To have water-based medical treatments available (rheumatism, arthritis, psoriasis, etc)	32	13	45	78
Sport/exercise activities				
To go for easy walks in the area (1-2 hours)	51	45	87	78
To go hiking along a marked hiking trail (up to 1 day)	27	18	57	61
To take part in adventure/adrenaline activities (mountain biking, rock climbing, etc)	35	0	37	67
To go jogging/cycling in the area	34	10	62	69
To take part in sporting activities (tennis, squash, etc)	31	7	23	68
To take part in water-based exercise, like aquarobics	8	0	4	56
To be able to exercise in a gym, do aerobics	18	2	5	47
On-site shopping activities				
To buy locally produced foodstuffs (jam, pickles, dried fruit, etc)	29	16	43	67
To buy souvenirs, such as locally-produced arts and crafts, to take home	21	8	23	52
Cultural activities				
To attend organized cultural activities, like music and dancing	38	3	5	42
Creative activities				
To take part in artistically creative activities (painting, pottery, etc)	12	2	7	43

Cluster 4 (27% of respondents): Active Families

Active families make maximum use of facilities and organized entertainment. This group consists of mainly younger family visitors. They are very enthusiastic, and there are seemingly few activities that they would not support. They are mainly interested in the hot and cold water pools, all the wellness activities, as well as water-based medical treatments, all the conservation activities, some of the passive activities (socializing, eating in a restaurant, watching television), all the general leisure activities, visiting nearby attractions and places of interest, buying locally produced foodstuffs, and most sport/exercise activities (easy walks as well as longer hikes, adrenaline activities, jogging/cycling, sporting activities like tennis or squash).

In Table 3 the four clusters are cross-tabulated against the 32 activity variables, to ascertain the relative interest that exists for each variable within each cluster, and to give a visual representation of the combinations of activity interests that exist within the clusters. It is apparent that there is a small core-set of activities that visitors belonging to all four clusters are interested in, such as a hot water pool, a quiet hot pool in which to relax, and swimming in mineral water. There is also a set of activities for which there is little interest across all four clusters, including exercising in a gym, cultural activities like music and dancing, sitting in a bar that serves alcoholic drinks, and artistically creative activities like painting and pottery. All the other activities are important to at least one, two or three clusters.

Conclusion

Market segmentation of visitors to thermal spring resorts in the Western Cape provides insights into smaller sub-groups that exist, with specific health (medical and/or wellness) tourism interests that were not apparent in the earlier stages of data analysis. Cluster 4, consisting of some 27% of the respondents, exhibits a strong interest in all the wellness activities, as well as water-based medical treatments, and most of the sporting/exercise activities. The other clusters, while still striving to keep fit and maintain a healthy lifestyle, as well as to gain health benefits from their visits, exhibit far less dependence on organized health activities or facilities. Cluster 1 would make limited use of health services, other than a quiet pool in which to relax, and possibly a jacuzzi/sauna/steam room. Cluster 2 would also appreciate a quiet pool in which to relax, but would make almost no use of health facilities. Cluster 3, while appreciating a quiet hot pool in which to relax, prefers to base its activities on nature and the outdoors, and also requires little in the way of facilities. However, most visitors, through their choice of activities, are able to gain considerable health benefits from their stays at thermal spring resorts, but they do so in different ways, and this is reflected in various combinations of active and passive activities.

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