Critical success factors for the management of 4x4 ecotrails

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In South Africa, 4x4 ecotrails that fall into the adventure tourism category are increasing in popularity. The purpose of this study is to compile a profile of 4x4 trail users, identify their motives and then determine critical success factors (CSFs) for the management of 4x4 trails. The comprehension of the coherence between the travel motives that lead to a visit and the CSFs that determine whether visitors are satisfied and have gained a memorable experience (which should lead to repeat visits) is examined in this research. An online survey was conducted in South African National Parks and the focus was on ecotrails, which contribute to nature conservation and provide maximum sustainability. A total of 119 questionnaires were obtained. The results found seven motivations and CSFs, respectively, revealing two new motivational factors within this context (*lifestyle* and *spiritual well-being*) and three new CSFs that have not been identified before and put a clear focus on the trail itself (*interpretation*, *trail planning* and *challenging experience*). This information can be used by trail managers and marketers to reach this niche market and provide visitors with a memorable experience.

Introduction

Literature on 4x4 trails is scant and even less available on 4x4 ecotrails in South Africa. In order to get a better understanding of how these trails have to be managed to guarantee visitor satisfaction, offer an extraordinary experience and be sustainable at the same time, this article will focus on determining the CSFs for the management of such trails. According to Engelbrecht, Kruger and Saayman (2014), critical success factors (CSFs) refer to all areas that are fundamental for the successful accomplishment of the purpose or goals of an organisation or product.

The growing popularity of off-road vehicles derives from the new technological advances that enable even beginners to use 4x4 vehicles to access remote areas of a country (Switalzki & Jones, 2012). Therefore, "[m]anagement of outdoor recreation [,] including off-road vehicles [’] […] use [,] is becoming increasingly challenging […]" (Switalzki & Jones, 2012:13). The 4x4 industry in South Africa has seen an increase in inland trails after the beach ban in the early 2000s (which aims to protect the sensitive coastline areas). Every year, new trails emerge and the number of 4x4 vehicles that are sold in South Africa increases. In 2003, there were approximately 1 000 000 4x4 vehicles on the country’s roads. As the beach ban adumbrates, there is a shift towards more eco-friendly, managed trails, also referred to as ecotrails (Goodway & Van der Reis, n.d.).

In order to provide maximum benefit, an ecotrail has to be developed ecologically and sustainably, and should also follow ecotourism principles (Hugo, 2010:138). Therefore, an ecotrail is located in a wilderness area and strives to be a financially viable, educationally enlightening, psychologically satisfying and environmentally sustainable tourist product (Hugo, 2010). Improperly managed activities and infrastructure can result in negative environmental impacts (Dixit & Narula, 2010:111). The effective maintenance of trails is therefore more important than cost-efficient operated trails (Crimmins, 2006), as it will continue to enhance the adventure experience over time (Unphress, 2011). Despite this, a study that was undertaken in South Carolina has found that the importance of trail management has not yet been recognised sufficiently (Oh & Hammitt, 2010).

As the use of 4x4 trails is becoming more popular, these trails require maintenance and monitoring. New trails have to be designed and developed to keep maintenance costs and the environmental impacts low. In this regard, one regularly experiences groups of stakeholders who are against 4x4 ecotrails, since they argue that the environmental impact of 4x4 trails is much greater than what is generally believed. Trail impacts include surface erosion and the widening of trails due to vegetation wear (Oh & Hammitt, 2010). Consequently, the trails should have as little impact on the environment as possible.

According to Oishi (2013), the management and maintenance of trails are not just important for their ecological conservation, but are also key management tools to provide a memorable visitor experience. Moreover, a memorable experience is more likely to result in a satisfied tourist, which will probably lead to repeat visits and positive word-of-mouth promotion (Van der Merwe & Saayman, 2014). Satisfaction is determined by achieving one’s goals or objectives. Therefore, if the reasons (motives) why people participate are met, it should lead to a satisfied tourist (Yoon & Uysal, 2005).

The purpose of this study is twofold: Firstly, to determine the general profile of 4x4 ecotrail tourists or enthusiasts, which includes their motives and how they differ from those of other visitors to National Parks in South Africa; and secondly, the CSFs for the management of 4x4 ecotrails in South African National Parks will be determined.

Literature review

Travel motivation

The above discussion emphasises the fact that travel motivation is an essential part of the decision-making process and influences the behaviour of tourists (Swarbrooke *et al.*, 2003:68). It reflects the individual inner needs of the tourists and makes them participate in a specific activity that will satisfy them (Swarbrooke *et al.*, 2003:66). Consequently, it is important for the development of tourism products, such as 4x4 ecotrails, to understand the travel motivations, "as it may assist in […] improved marketing strategies, enhanced service delivery approaches and the creation of a competitive advantage" (Van Vuuren & Slabbert, 2011:295).

It is furthermore important to determine whether the motives for 4x4 ecotrail participation differ from the motives of other visitors to national parks. In essence, it will highlight the differences, if any, which will have specific marketing implications. Yoon and Uysal (2005) have found that, in general, the main travel motives are *safety and fun, escape, knowledge and education,* and *achievement*. This has been confirmed by various research projects that have been undertaken in South African National Parks, which discovered that the main travel motive was to escape from the daily routine (Kruger & Saayman, 2010; Saayman & Saayman, 2009; Van der Merwe & Saayman, 2008). Additionally, Bothma (2009) has found that the motives differ from one national park to another. She found in three different national parks, *family relaxation, photography* and *attractions,* in addition to the motive of *escape,* were major motives to visit a park. Nature-based tourism motives are therefore similar to the travel motives in general. However, adventure-based motives differ, as the motives are specifically attached to the adventure activity that is carried out during the trip. As indicated previously, the adventure market can be regarded as a niche market.

Adventure tourists are attracted by wild and remote destination environments and appropriate natural resources for activities, in this case 4x4 roads with different levels of difficulty (Crimmins, 2006:12, Swarbrooke *et al.*, 2003:67). Crimmins (2006:12) found that 4x4 enthusiasts, just as other outdoor or nature lovers, are generally looking for *scenic views, wildlife experiences,* and *enjoyment of the outdoor environment with family and friends*. Additionally, the use of 4x4 vehicles allows enthusiasts to be adventurous. Swarbrooke *et al.* (2003:67) identified various motives for adventure travellers, including *the experience of a thrill; fear; challenge and success; risk taking; excitement;* and *personal development.* Nevertheless, the motive of *escape* was also detected and confirmed by a study that was carried out in South Africa at Magoebaskloof Adventures, in which *escape* and *relaxation* were determined as the main travel motives of adventure tourists (Terblanche, 2012).

Critical success factors

The concept of CSFs is significant for the effective implementation of sustainably maintained trails that are adapted to the users' needs in order to provide visitor satisfaction. This research will help ecotrail managers to achieve memorable experiences and satisfied tourists through the identification of CSFs (see Figure 1 below).

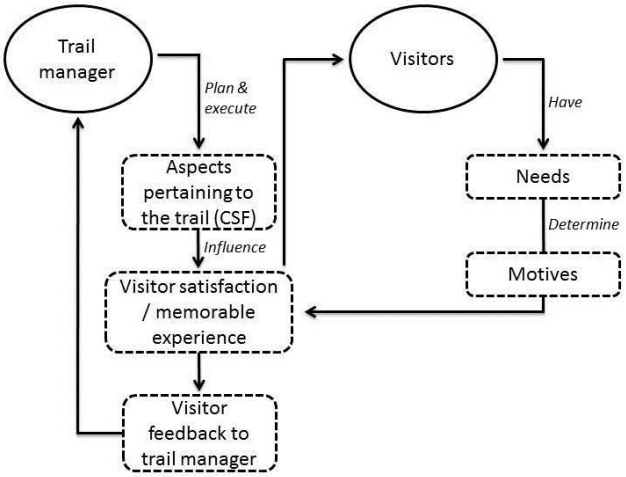

Figure 1: Relationship between motives and critical success factors for 4x4 ecotrail management

Source: Own figure adapted from Williams & Saayman, 2013 and Yoon & Uysal, 2005

Visitors' feedback will support the trail manager in managing the 4x4 ecotrail in an economically as well as ecologically sustainable way in accordance with the visitors' needs that are based on their motives to visit these trails.

Since the 1960s, the use of CSFs has spread widely across various fields of tourism (Zwikael & Globerson, 2005). Brotherton (2004) explains that the majority of efforts and resources have to be concentrated on CSFs to achieve a competitive advantage, as they are the most important factors leading to the company's goals. According to Brotherton and Shaw (1996), CSFs are achievement-oriented and require actions to be taken within the internal as well as the external environment of a company. However, they are "not business objectives or goals, but combinations of activities and processes designed to support the achievement of such desired outcomes specified by the company's objectives or goals" (Brotherton & Shaw, 1996:114). As this is still very broad and not specific, Slabbert and Saayman (2003:8) subsume CSFs as competencies and competitive abilities, resources and product attributes, as well as particular strategic elements and business outcomes that decide over success and failure, profit and loss. Rockart (1979:85) phrased CSFs even

more specifically as those factors that refer to a few unique key areas of the business in which positive results will ensure a "successful competitive performance for the organization". Consequently, CSFs are performance areas that need permanent, special attention from management (Rockart, 1979).

Table 1 provides an overview of the research that has been done on CSFs in the tourism field. The majority of the research has been undertaken in South Africa and is therefore comparable to this paper's analysis. Those CSFs that are also applicable in the area of 4x4 ecotrails are presented. This previous research that had been conducted on CSFs in tourism indicates that the managements of businesses that are involved in tourism will be more effective and successful in their operations and also increase sustainability when identifying and concentrating on CSFs. Additionally, the studies revealed that there are differences in CSFs according to the various operations in tourism, for example events, national parks and the hospitality sector (Manners, Kruger & Saayman, 2012). Although there are factors that are valid for various areas, the majority of them differ; this suggests that the type of tourism operation defines the particular CSFs that are necessary for successful management (Brotherton & Shaw, 1996; Manners *et al.*, 2012).

Table 1: Previous research on critical success factors in the tourism field

Identified critical success factors	**Authors and topic**
1) Market research 2) Complaint handling 3) Verbal feedback	Burger & Saayman, 2009 *Conference*
1) Engineering 2) Education 3) Enforcement 4) Evaluation	Crimmins, 2006 *Off-highway vehicle recreation*
1) Promotion of environmental awareness and ethical behaviour 2) Implementation of actions to reduce carbon footprint 3) Conservation 4) Feedback from customers 5) Implementation of practices to reduce pollution and litter 6) Empowerment of communities and economic benefits 7) Waste management 8) Use of natural building materials for facilities 9) Responsible use of resources (e.g. water and electricity) 10) No littering 11) Obeying of road signs and rules	De Witt, Van der Merwe & Saayman, 2014 *Ecotourism*
1) Effective bookings on the website for accommodation and/or other activities 2) Effective marketing of Wild Card benefits 3) Enough trees at the chalets and/or camping area 4) Maintenance of roads/gravel roads 5) Sufficient and safe lookout points in the park 6) Proper layout of the park 7) Proper layout of rest camps and routes 8) Well-trained and informed staff that can handle any queries concerning the rest camp or park 9) User-friendly park website 10) Availability of adequate information about the park 11) Availability of route maps 12) Accessibility of the park 13) Clear directions to rest camps and picnic areas 14) Information regarding services which are provided in camps	Engelbrecht, Kruger & Saayman, 2014 *Tourist experience at Kruger National Park*
1) Visible emergency services 2) Effective booking of tickets through the internet	Erasmus, 2012 *National Arts Festival*
1) Ensuring appropriate funding to sustain destination marketing organisations 2) Continuing coordination and cooperation between stakeholders 3) Implementation of appropriate benchmarking, monitoring and evaluation 4) Development of effective distribution and sales 5) Development of an effective positioning strategy 6) Effective recruitment, training and development of staff 7) Ensuring environmental and social impact assessments as a base for future tourism development 8) Promotion of the importance of responsible tourism practices 9) Safety and security management 10) Road signage and information networks	Jonker, Heath & Du Toit, 2004 *Tourism destination*
1) Public facilities 2) Affordable prices 3) Traffic congestion 4) Available route information 5) Well-organised route 6) Complete route map 7) Good introduction 8) Management of enquiries 9) Value for money 10) Security measures	Marais & Saayman, 2010 *Wine festival*
1) Focus groups: service; location; value for money; quality of product; quality of infrastructure 2) In-depth interview: marketing and networking affiliation; and branding and marketing	Melia, 2010 *Hospitality*
1) Trained staff who are informed to handle any queries 2) Good layout of terrain 3) User-friendly website	Saayman, Kruger & Erasmus, 2012 *National Arts Festival*
1) Facilities meeting the needs of guests 2) Development of a checklist as a control mechanism 3) Advertisement 4) Location in the right surroundings 5) The use of direct marketing to create immediate sale 6) The pointing out of aspects concerning the use and procedures of services 7) Establishment and upholding of a high standard of quality	Van der Westhuizen, 2003 *Guesthouse*
1) Adequate safety measures 2) Adequate information centres 3) Affordable day and weekend passes 4) Adequate information on website	Williams & Saayman, 2013 *Jazz festival*

Source: Own compilation from literature

As Table 1 clarifies, CSFs vary significantly, depending on the field of tourism, and are specific to its areas. This makes explicit research immensely important for each particular business, product or field. The analyses that have been undertaken in South African National Parks by Engelbrecht *et al.* (2014) and De Witt, Van der Merwe and Saayman (2014) concerning CSFs (see Table 1), and by Van der Merwe and Saayman (2008) focusing on travel motivation, are the research projects that come closest to 4x4 ecotrails and are therefore especially valuable for this paper. They imply that a 4x4 ecotrail has to be environmentally friendly, which includes proper waste management to conserve the area as well as actions to promote environmental awareness, both internally and externally. Additionally, the ecotrail has to be marketed well for the right target group, and needs professional staff as well as accurate maps of the available routes.

The same applies to the analysis of Crimmins (2006:12-19), whose study is the only one focusing on off-road vehicle recreation, including 4x4s. From the study, he has identified four CSFs: Firstly, the trail needs to be designed by addressing social as well as environmental issues; secondly, education of the users and staff is important to clarify expectations and to provide specific information about the area, rules and restrictions; thirdly, problems have to be identified and dealt with, which is critical for a successful, long-term management; and fourthly, managers have to evaluate and monitor the effects that are caused by the trail usage and have to make sure that the actions that are taken to accomplish the goals are achieved. Other factors applicable to 4x4 trails, deriving from research done by Engelbrecht *et al.* (2014), are that the layout of the trails has to be suitable, and adequate information about the trails has to be provided, including maps.

Common findings indicate that the CSFs differ according to the target group and their specific activities, respectively (Crimmins, 2006; Saayman *et al.*, 2012; Williams & Saayman, 2013). Nevertheless, the following table illustrates that there is a notable overlap between various research projects, irrespective of the area of tourism.

Table 2: Common findings of previous research on critical success factors in the tourism field

Common findings	Different authors
1) Services must meet the needs of guests. 2) Unique products that distinguish the product from competitors must be offered. 3) A target market that has been analysed before must be selected. 4) Accessibility by means of clear road signs must be facilitated.	De Witt, 2006 – *Special events: Wedding tourism*; Van der Westhuizen, 2003 – *Jazz festival*
1) Staff must be friendly and helpful.	Engelbrecht *et al*., 2014; Erasmus, 2012; Saayman, *et al.*, 2012; Williams & Saayman, 2013 (for topics, see Table 1)
1) Marketing must be effective and adequate. 2) Information must be adequate. 3) Website must be user friendly and accessible. 4) Signage and directions in city must be effective. 5) Correct information must be given through marketing.	Erasmus, 2012; Manners *et al*., 2012 – *Concert*; Marais & Saayman, 2011; Saayman *et al.*, 2012; Williams & Saayman, 2013 (for topics, see Table 1)
1) Ablution facilities must be adequate. 2) Ablution facilities must be clean and hygienic.	Erasmus, 2012; Manners *et al*., 2012; Williams & Saayman, 2013 (for topics, see Table 1)

Source: Own compilation

One of the most essential factors that have been identified by almost every analysis is the importance of qualified, friendly and helpful staff. Adequate marketing and proper information, as well as effective signage and directions (which have been identified correspondently by five different researchers) are more applicable factors for the focus of this paper. Despite similarities that are found across various fields of tourism research concerning CSFs, it has also become evident that there is a clear lack of research in the area of 4x4 ecotrails; this paper therefore seeks to address this gap.

Crimmins (2006:12) suggests that quality signage, adequate information (including maps), and picnic and restroom facilities enhance the overall visitor experience. Based on the motivations of 4x4 enthusiasts, the preferred activities, as well as the state and settings of trails, are important. However, the ability of the driver and the level of difficulty of the trail should also be considered as CSFs.

Methodology

A quantitative questionnaire was designed to gain information from tourists who had completed the ecotrails in National Parks in South Africa. It was developed in Microsoft® Excel and transferred to the online survey system, Adobe FormsCentral (2014), where it was online for a timeframe of one month, specifically from 15 July 2014 to 18 August 2014. The questionnaire comprised the following three sections: Section A captured the socio-demographic details such as gender, age, home language, etc. Section B was concerned with the 4x4 ecotrails, gathering information about the number of overnight trails that has been completed over the past five years, the frequency of 4x4 ecotrail use, the number of SANParks trails that has been completed, etc. Section C measured 26 motivation items on a Likert scale of importance with *1 = not at all important, 2 = slightly important, 3 = important, 4 = very important and 5 = extremely important*. The items were taken from research conducted by Saayman and Viljoen (2014), Terblanche (2012), Crimmins (2006) Swarbrooke *et al*. (2003) and

Bothma (2009). Section C also measured 24 items concerning reasons for participating in adventure activities on a rating scale with *1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree and 5 = strongly agree.* These items were taken from research listed in Table 1 and work by Terblanche (2012); Saayman and Viljoen (2014); Crimmins (2006) and Swarbrooke *et al.* (2003).

Sampling method and survey

A database of 4x4 ecotrail users, along with information about the trails, was provided by SANParks. The trails that were evaluated and included in this survey were the Malopeni Managa Eco Trails in the Kruger National Park, the Kgalagadi Trail in the Kgalagadi Transfrontier Park, the Marakele Eco Trail in the Marakele National Park and the Karoo 4x4 Eco Trail in the Karoo National Park. The database consisted of 522 email addresses of 4x4 ecotrail users. Those users were sent an email with the Adobe® FormsCentral questionnaire link, enabling them to complete the questionnaire online. In the end, a total of 119 completed questionnaires were obtained from the survey, which is a return rate of 38%.

Statistical analysis

Microsoft® Excel was used to capture the data of the online questionnaires and SAS (2014), statistical analysis software, was used to analyse it. The data analysis of this research consisted of the following two stages: Firstly, a general profile of the respondents of the online survey was compiled using descriptive statistics in the form of frequency tables; and secondly, two principal axis factor analyses were performed on the 26 motivational items and 24 4x4 activity items by using an Oblimin rotation with Kaiser Normalisation.

A factor analysis group variates according to internal relationships in order to simplify statements and arrange them more clearly (Child, 1970:1; Lawley & Maxwell, 1971). The Cronbach alpha is a reliability coefficient that measures the internal consistency of the factors. All factors with a reliability coefficient > 0.4 were considered acceptable in this study.

Results

The results concerning the sociodemographic profile revealed that the majority of respondents who use 4x4 ecotrails are Afrikaans-speaking males between 50 and 64 years of age. They travel mainly in groups of two, originate from Gauteng in South Africa and are well educated.

Seven motivational factors, as well as seven CSFs, were identified by the rotated pattern matrix, using an Oblimin rotation with Kaiser Normalisation. These motives were labelled according to similar characteristics and are presented in Tables 3 and 4. They accounted for 68% and 67% of the total variance, respectively. As the reliability coefficient of the last factor for each analysis only reached 0.05 and 0.10, respectively, they were considered insignificant and this led to their exclusion from the study.

As Table 3 shows, seven motivational factors were identified and then grouped and labelled according to similar characteristics; Factor 1 was labelled *Skills and challenge* and obtained the lowest mean value of 2.17. This factor is not the determining factor concerning the motivation to go on a 4x4 ecotrail; however, it does prove that 4x4 enthusiasts want to test their driving skills and are looking for a challenge. Factor 2 was labelled *Nature experience* and this factor had the highest mean value (3.86), which implies that for participants of 4x4 ecotrails, the most important motive is to be close to nature, because it is seen as the best way of experiencing it. In addition, it is an adventurous, rare and unique experience. The factor also reveals that tourists want to explore a new trail, area or destination and go on the trail for the scenic beauty of it.

Factor 3 was labelled *Quality information* and implies that properly marked trails and user-friendly maps motivated participants to partake in ecotrails. This factor had a mean value of 3.07; it therefore shows that when people see in the media or hear from friends and family, it does influence their decision to participate. *Spiritual experience and well-being* was the label given to factor 4 and combines the motives of a spiritual experience and going on a trail for personal well-being; it had a mean value of 3.12, which is the fourth most important motive.

Factor 5 was labelled *Escape* and has a mean value of 3.49. This is therefore the second most important motive to go on a 4x4 ecotrail. It consists of items such as getting away from the routine, relaxing and spending time with friends. The sixth (6) factor is *Photography*, because respondents would go on the trail for photographic reasons as well as bird-watching opportunities. The relatively high mean value compared with the other factors of 3.40 reveals that it is the third most important motive to go on a 4x4 ecotrail. The last factor, *Lifestyle*, had low internal consistencies, and consequently a mean value could not be determined, due to the Cronbach alpha barely attaining 0.05, making this factor insignificant for the study.

Table 3: Results of factor analysis of motives for using 4x4 ecotrails

	1	2	3	4	5	6	7
Factor 1: Skills and challenge							
To learn new skills	0.855						
To test my 4x4 driving skills	0.823						
To overcome risks associated with 4x4 driving	0.820						
For personal achievements or rewards	0.745						
To overcome fear	0.716						
To challenge myself	0.701						
Primarily for increasing knowledge of 4x4 driving	0.655						
To experience a thrill	0.649						
Factor 2: Nature experience							
Best way to experience nature		0.869					
To be close to nature		0.740					
It is an adventurous experience		0.608					
Because few people get this opportunity		0.533					
It is a rare and unique experience		0.485					
For the scenic beauty of the trail		0.455					
To explore a new trail, area or destination		0.404					
Factor 3: Quality information							
Because trails are properly marked			0.923				
User-friendly maps are provided (where applicable)			0.922				
Factor 4: Spiritual experience and well-being							
It is a spiritual experience				0.772			
For my well-being				0.685			
Factor 5: Escape							
To get away from my routine					0.794		
To spend time with friends					0.657		
To relax					0.621		
Factor 6: Photography							
For photographic reasons						0.763	
For the bird-watching opportunities						0.654	
Factor 7: Lifestyle							
It is part of my lifestyle							0.680
Driving in a Big 5 area does not make a difference							0.634
Cumulative eigenvalue (variance explained)	68%						
Cronbach alpha	0.90	0.75	0.87	0.61	0.51	0.48	0.05
Mean values	**2.17**	**3.86**	**3.07**	**3.12**	**3.49**	**3.40**	**n/a**

CSFs for 4x4 ecotrails

With regard to the CSFs of a 4x4 ecotrail, seven factors were identified (see Table 4):

Factor 1 was labelled *Facilities and accommodation,* and as this factor has the lowest mean value (2.04), it can be noted that the kind of facilities and accommodations compared to the other factors is not as important for these tourists, since most of them provide their own tents or campers. Factor 2, namely, *Interpretation*, has the highest mean value (4.45) and can therefore be seen as the most important factor for a successful 4x4 ecotrail. This factor includes the knowledge that a guide should have of the environment, as well as the guide's professional and friendly appearance, and effective and confident interaction with the visitors.

Trail planning is the third factor and also the factor with the third highest mean value (4.20), which makes it a very important CSF. As can be seen from Table 2, this factor deals with critical aspects when one develops an ecotrail. The fourth factor was labelled *Accessibility* and it has a mean value of 4.15, which makes it the fourth most important CSF.

Challenging experience, Factor 5, measured a mean value of 3.82. It relates to results indicated in the discussion of the results concerning the motives, and one can draw a conclusion that, compared to the other factors, a challenging experience is not one of the main CSFs for a 4x4 ecotrail and therefore supports the result that is indicated in Table 4 (which reveals the motives). A mean value of 4.25 was measured for Factor 6, *Nature and wildlife,* which makes it the second most important CSF for a memorable experience of a 4x4 ecotrail and this result also supports the motives to participate in an ecotrail. Factor 7 was labelled *Value and quality*. The internal consistency did not reach > 0.5 and therefore the mean value could not be determined.

Table 4: CSFs for a memorable 4x4 ecotrail experience

	1	2	3	4	5	6	7
Factor 1: Facilities and accommodation							
Facilities must be luxurious (hot water, flush toilets).	0.796						
Warm water must be available.	0.741						
The 4x4 overnight camp must be located in a wilderness (rustic) environment.	0.577						
Only basic facilities are needed, no luxuries (no shower, cold water, composting toilet (long drop)).	0.783						
Factor 2: Interpretation							
The guide should be professional and friendly.		0.957					
The guide must interact effectively and with confidence.		0.929					
The guide must have sufficient knowledge of the environment.		0.897					
Factor 3: Trail planning							
The trail section should not be too long/far per day.			0.842				
The duration of the drive should allow time to relax.			0.791				
The distance covered and pace of the drive should be comfortable for everyone and must provide sufficient time to enjoy nature.			0.719				
The trail should capture my attention immediately and keep it.			0.540				
Factor 4: Accessibility							
The directions must be clear (GPS coordinated and available route maps).				0.788			
There should be escape routes on the trail.				0.730			
The trail and 4x4 base camp should make use of natural resources.				0.463			
The trail should be supportive of the environment and should not damage it.				0.459			
Factor 5: Challenging experience							
The route must challenge my abilities.					0.783		
The 4x4 trail must be economically and financially viable.					0.582		
The environment must provide enjoyable experiences.					0.445		
Factor 6: Nature and wildlife							
The 4x4 overnight camp must be located near attractive wildlife resources.						0.828	
A good variety of animals must be found in the area.						0.507	
The trails should have beautiful scenery						0.476	
The 4x4 overnight camp must be remote.						0.421	
Factor 7: Value and quality							
The trail must be value for money.							0.686
The facilities and accommodation must be clean and comfortable.							-0.594
Cumulative eigenvalue (variance explained)	67%						
Cronbach alpha	0.75	0.94	0.76	0.62	0.59	0.63	0.10
Mean values	**2.04**	**4.45**	**4.20**	**4.15**	**3.82**	**4.25**	**n/a**

Findings and implications

Compared to the literature on adventure and nature-based tourism research, the first finding of this research reveals new, as well as similar, motives to go on an ecotrail. The motives that are confirmed by this research are *nature experience*, *escape* and *photography*, although *nature experience* has the highest mean value in this study when compared to research that had been conducted on visitors to national parks who found *escape* to be the most important. Additionally, various motives in the literature on travel to national parks were found that are not supported by this research, including *activities*, *attractions*, *nostalgia*, *novelty*, *knowledge seeking*, *park attributes*, *family togetherness* and *adventure* (Bothma, 2009; Kruger & Saayman, 2010; Saayman & Saayman, 2009; Van der Merwe & Saayman, 2008). Research on the motives of adventure tourists in South Africa by Terblanche (2012) had similar results, with the exception of *prestige and status* that could not be confirmed by this study, as well as *family and socialisation* that is mentioned by Crimmins (2006) as an important motive. This research found four factors that have not been identified in the literature concerning ecotrails, namely *skills and challenge*, *quality information*, *spiritual experience and well-being* and *lifestyle*, which can be seen as ecotrail specific. Swarbrooke *et al.* (2003), however, point out the importance of *skills and challenge* as a motive for adventure tourists in general, which is then confirmed by this research. These findings imply that 4x4 ecotrail enthusiasts can be distinguished from other visitors to national parks, based on their motives, which imply different needs. Therefore, the research confirms that this is a niche market in which the

focus is very much on a nature experience; it implies that marketing campaigns should focus on offering a nature and spiritual experience, where people can escape from their daily routines, as well as, an experience that contributes to their wellbeing. The research also confirms the importance of photographic opportunities and in this case park managers and marketers could also host photographic events and competitions, which could attract a larger 4x4 market, but in addition, create an outlet for amateur and professional photographers who are 4x4 enthusiasts. This research also confirms that motives differ from one tourism product to the next (Bothma, 2009).

The second finding is that the CSFs for 4x4 ecotrails differ significantly from those of studies that have been conducted in other fields of tourism (Williams & Saayman, 2013; Engelbrecht *et al.*, 2014). *Facilities and accommodation* has been confirmed as an important CSF by research that was undertaken in 2014 by Engelbrecht *et al.* and in 2012 by Manners *et al.;* various authors have also identified *accessibility* (Erasmus, 2012; Manners *et al.*, 2012; Marais & Saayman, 2011; Saayman *et al.*, 2012) and *value and quality* (Saayman *et al.*, 2012; Williams & Saayman, 2013). Engelbrecht *et al.* (2014) were the only authors who also identified *nature and wildlife* as a CSF. As there has been no research done on this specific topic, the combination of factors that has been found in this study is unique. Even though some factors are similar to ones that have been determined in previous research, this research provides support by contributing three factors not previously found in this type of research, namely *interpretation*, *trail planning* and *challenging experience*. This information is explicitly valuable for ecotrail managers, as they are given specific characteristics that are essential for the management and development of a successful trail. Those three factors are tailored to the 4x4 ecotrail itself and stress its importance. Therefore, *nature and wildlife* come second compared to the characteristics of the trail and support the results on the reasons (motives) for going on a 4x4 ecotrail. In addition, it also supports the notion that an ecotrail has to be developed in a wilderness setting and that it is all about a nature experience and good interpretation, based on skilled and knowledgeable guides. The latter therefore supports the fact that properly trained staff (especially guides) is very important, which implies that park managers need to employ guides who are knowledgeable and experienced. It also advocates that the experience that 4x4 enthusiasts will have depends largely on how information on the route is managed.

The *trail planning* factor provides managers insight into the preferred length, nature and condition of 4x4 ecotrails, and how these trails should challenge the drivers in national parks. Results confirm that in planning the ecotrail, the emphasis should be on a nature experience and that the difficulty levels are less important. The authors suspect that if research were conducted at other types of 4x4 trails, it would result in the difficulty levels getting a higher rating compared to ecotrails. Therefore, this research shows that more studies in this field are required. Aspects such as their environmental awareness and their willingness to pay in order to minimise the environmental impact caused by 4x4 vehicles are also required. Regardless of the fact that much more work is required in this field of research, this study still provides marketers and planners with insight into what is important and what should be focused on. The focus for managers is to ensure that the seven factors found in this research get the necessary attention. In addition, marketers know that this is a niche market with a strong need for wilderness experiences.

Conclusion

The aim of this research was twofold, namely (1) to identify the motives of 4x4 ecotrail users; and (2) to determine critical success factors for the management of 4x4 ecotrails. As far as the authors could ascertain, it was the first time that this type of research with this specific scope was conducted in national parks in South Africa.

The findings revealed that the travel motives, as well as the CSFs, vary according to the different tourism markets. Additionally, similar, contradictory and new factors and motives have been identified for both aspects of this study. Based on the results of this research, it becomes clear that there is a difference in motives between nature-based and adventure-based tourism, which is specifically manifested in the particular activities that are carried out. Among the seven critical success factors that have been identified in this study are three that are unique to 4x4 ecotrails and have not been found by other studies before, namely *interpretation*, *trail planning* and *challenging experience*. The other CSFs that have been identified are *facilities and accommodation*, *accessibility*, *nature and wildlife* and *value and quality*. Due to these specific factors for 4x4 ecotrails, managers of such trails and marketers can adjust their strategies and resources by focusing on these factors. Moreover, one of the main contributions that have been made by this research is to add new findings to the currently barely existing literature on 4x4 ecotrails. Lastly, the research also confirms that for tourists on 4x4 ecotrails, it is all about nature and less about testing their driving abilities or skills.

References

Adobe ® FormsCentral® 2014. Online questionnaire and survey software. Adobe Systems Incorporated, San Jose: CA.

Bothma, L. 2009. *Travel motivations to selected national parks in South Africa: Karoo-, Tsitsikamma- and Kgalagadi Transfrontier National Parks*. Potchefstroom: NWU. (Dissertation – MA).

Brotherton, B. 2004. 'Critical success factors in UK Corporate hotels', *The Service Industries Journal*, **24**(3): 19-42.

Brotherton, B. & Shaw, J. 1996. 'Towards an identification and classification of critical success factors in UK hotels Plc', *International Journal of Hospitality Management*, **15**(2): 113-135.

Burger, E. & Saayman, M. 2009. 'Key success factors in managing a conference centre in South Africa', *South African Journal for Research in Sport, Physical Education and Recreation*, **31**(2): 15-28.

Child, D. 1970. *The essentials of factor analysis*. London, New York, Sydney, Toronto: Holt, Rinehart and Winston.

Crimmins, T.M. 2006. *Management guidelines for off-highway vehicle recreation: A resource guide to assist in the planning, development, operation, and maintenance of environmentally sustainable and quality OHV trails, trail systems, and areas*. [online] URL: http://atfiles.org/files/pdf/crimminsNOHVCC.pdf

De Witt, L. 2006. *Key success factors for managing special events: The case of wedding tourism*. Potchefstroom: NWU. (Dissertation – MA).

De Witt, L., Van der Merwe, P. & Saayman, M. 2014. 'Critical ecotourism factors applicable to National Parks: A visitor perspective', *Tourism Review International*, **17**(3): 179-194.

Dixit, S.K. & Narula, V.K. 2010. 'Ecotourism in Madhav National Park: Visitor's perspectives on environmental impacts', *South Asian Journal of Tourism and Heritage*, **3**(2): 109-115.

Engelbrecht, W.H., Kruger, M. & Saayman, M. 2014. 'An analysis of critical success factors in managing the tourist experience at Kruger National Park', *Tourism Review International*, **17**(4): 237-251.

Erasmus, L.J.J. 2012. *Key success factors in managing the visitors' experience at the Klein Karoo National Arts Festival*. Potchefstroom: NWU. (Dissertation – MA).

Goodway, A. & Van der Reis, G. n.d. *The South African 4x4 industry – A contentious issue.* [online] URL: http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=5&cad=rja&uact=8&ved=0CDwQFjAE&url=http%3A%2F%2Fwww.4x4community.co.za%2Fforum%2Fattachment.php%3Fattachmentid%3D232692%26d%3D1377173804&ei=kVzWU5e5IOKI7AbYs4DAAQ&usg=AFQjCNGPRTkR4tHG5YKheOl7n-mhE0eHXg&bvm=bv.71778758,d.ZWU

Hugo, M.L. 2010. 'A comprehensive approach towards the planning, grading and auditing of hiking trails as ecotourism products', *Current Issues in Tourism,* **2:**(2-3): 138-173

Jonker, J.A., Heath, E.T. & Du Toit, C.M. 2004. 'The identification of management-process critical success factors that will achieve competitiveness and sustainable growth for South Africa as a tourism destination', *Southern African Business Review*, **8**(2): 1-15.

Kruger, M. & Saayman, M. 2010. 'Travel motivations of tourists to Kruger and Tsitsikamma National Parks: a comparative study', *South African Journal of Wildlife Research*, **40**(1): 93-102.

Lawley, D.N. & Maxwell, A.E. 1971. *Factor analysis as a statistical method*. 2nd Edition. London: Butterworth.

Manners, B., Kruger, M. & Saayman, M. 2012. 'Managing the beautiful noise: evidence from the Neil Diamond show!', *Journal of Convention & Event Tourism*, **13**(2): 100-120.

Marais, M. & Saayman, M. 2011. 'Key success factors of managing the Robertson Wine Festival', *Acta Academica*, **43**(1): 146-166.

Melia, D. 2010. *Critical success factors and performance management and measurement: A hospitality context*. [online] URL: http://arrow.dit.ie/cgi/viewcontent.cgi?article=1050&context=tfschmtcon

Oishi, Y. 2013. 'Towards the Improvement of Trail Classification in National Parks Using the Recreation Opportunity Spectrum Approach', *Environmental Management*, **51**: 1126-1136.

Rockart, J.F. 1979. 'Chief executives define their own data needs', *Harvard Business Review*, **57(2)**: 81-93.

Saayman, M. & Saayman, A. 2009. 'Why travel motivation and socio-demographics matter in managing a national park', *African Protected Area Conservation and Science*, **51**(1):49-57.

Saayman, M., Kruger, M & Erasmus, J. 2012. 'Finding the key to success: A visitors' perspective at a national arts festival', *Acta Commercii*, **12**(1): 150-172.

Saayman, M. & Viljoen, A. 2014. 'Who is wild enough to hike a wilderness trail? A motivational cluster analysis', *Journal of Outdoor Recreation and Tourism* (Pending review)

Slabbert, E. & Saayman, M. 2003. Guesthouse management in South Africa. 2nd Edition. Potchefstroom: Institute for Tourism and Leisure Studies.

South African National Parks. 2014. *Parks (A-Z).* [online] URL: http://www.sanparks.org/parks/

SouthAfrica.info. 2012. *South Africa's tourism industry*. [online] URL: http://www.southafrica.info/business/economy/sectors/tourism-overview.htm#adventure

Swarbrooke, J., Beard, C., Leckie, S. & Pomfret, G. 2003. *Adventure tourism: the new frontier*. 1st Edition. Boston: Butterworth-Heinemann.

Switalzki, A. & Jones, A. 2012. 'Off-road vehicle best management practices for forestlands: A review of scientific literature and guidance for managers', *Journal of Conservation Planning*, **8**: 12-24.

Terblanche, H. 2012. *Travel motives of adventure tourists: A case study of Magoebaskloof Adventures*. Potchefstroom: NWU. (Dissertation – MA).

Unphress, K. 2011. Sustainable trails: more than maintenance. [online] URL: http://www.americantrails.org/resources/opinion/Sustainabile-trails-more-than-maintenance.html

Van der Merwe, P. & Saayman, M. 2008. 'Travel motivations of tourists visiting Kruger National Park', *African Protected Area Conservation and Science*, **50**(1):154-159.

Van der Merwe, P. & Saayman, M. 2014. 'Factors influencing a memorable game viewing experience', *African Journal of Hospitality, Tourism and Leisure*, **3**(2): 1-17.

Van der Westhuizen, T. 2003. *Key success factors for developing and managing a guesthouse*. Potchefstroom: NWU. (Dissertation – MA.).

Van Vuuren, C. & Slabbert, E. 2011. Travel motivations and behaviour of tourists to a South African resort. *Book of Proceedings 1 – International Conference on Tourism & Management Studies – Algarve 2011.* [online] URL: http://tmstudies.net/index.php/ectms/article/viewFile/196/252

Williams, K. & Saayman, M. 2013. 'Relationship between travel motives and key success factors of visitors at a jazz festival', *South*

African Journal for Research in Sport, Physical Education and Recreation, **35**(1): 183-202.

Yoon, Y. & Uysal, M. 2005. 'An examination of the effects of motivation and satisfaction on destination loyalty: a structural model', *Tourism Management*, **26**(1): 45-56

Zwikael, O. & Globerson, S. 2005. 'From critical success factors to critical success processes', *International Journal of Production Research*, **44**(17**)**: 3433-3449.

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