



Attendees' attitudes towards supporting green practices at two Afrikaans arts festivals

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Abstract

The growth of arts festivals and the extensive number of attendees they attract have resulted in a greater environmental impact on these festival terrains and surrounding host communities. Festival organisers should implement practices that promote greener and more sustainable alternatives such as environmentally friendly transport systems and creative substitutes to reduce waste, water and energy. Implementing green practices is a process that requires a change in the mindsets and habits of both festival organisers and attendees. However, this is easier said than done. The involvement of festival attendees in the greening of festivals, or more specifically, their attitude towards supporting green practices, is crucial. It is therefore important to investigate the inclination of these festival attendees to support the implementation of green practices at South African Afrikaans arts festivals. Understanding which green practices these attendees are inclined to support will provide festival organisers with greater insight into which green initiatives should be implemented.

Surveys were conducted at the Clover Aardklop National Arts Festival during October 2015 and the Innibos Lowveld National Arts Festival during June/July 2016. Four hundred and forty-three (443) and four hundred (400) questionnaires respectively were completed and used for analyses. A confirmatory factor analysis was done on each of the festivals' datasets. The five factors for each dataset were labelled as Greener transport, Waste management, Water management, Energy management and Green commitment. *T*-test analyses revealed a significant difference between the two festivals with respect to waste management as a factor.

Keywords: Afrikaans arts festivals, festival attendees, green practices, green attitude and behaviour

Introduction

Festival attendees in South Africa have various arts festivals to choose from as a result of the rapid growth of arts festivals in recent years (Viviers & Slabbert, 2012:1109). Most of these arts festivals are Afrikaans arts festivals (Van Heerden, 2009:5). The aim of these arts festivals is to celebrate and showcase various art forms and activities within a limited period (Mair, 2011:10).



Arts festivals attract large numbers of attendees to a destination for a certain period of time. However, this often leads to negative impacts on the environment, and more specifically on the festival area/terrain and its host community. Examples of these negative environmental impacts of festivals include water pollution, soil degradation, air pollution, overcrowding, traffic congestion and noise pollution (Zhong, Buckley, Wardle & Wang, 2015:221; George, 2007:309–310). Globally it has become more important for festival managers to manage these negative impacts in order to make their festivals greener and ultimately more sustainable (Mair & Laing, 2012:683). This is confirmed by Getz (2009:70), who indicated that the implementation of green practices at festivals is part of the movement to reduce negative environmental impacts and therefore it is important to take the environment into consideration when planning and organising arts festivals (Getz, 2009:70). Festival organisers should therefore implement practices that promote greener and more sustainable alternatives such as environmentally friendly transport systems and creative substitutes to reduce waste, water and energy consumption (Costi, Minciardi, Robba, Rovatti & Sacile, 2004:277; Beirão & Cabral, 2007:478; Ahmad, Rashid, Razak, Yusof & Shah, 2013:332).

Implementing green practices is a process that requires a change in the mindsets and habits of both festival organisers and attendees. However, this is easier said than done (Griffin, 2009:43; Ahmad *et al.*, 2013:331). Although some festivals implement one or two green practices, many still fail to meet the basic green requirements of reducing overconsumption of water, electricity and reduce waste (Katzel, 2007:15). This problem can be more effectively addressed by identifying and better understanding the use of green practices at arts festivals, and the intention of festival visitors to support these practices. This will provide valuable insights that will assist arts festival organisers to address ignorant and irresponsible behaviour at these festivals, and to emphasise and promote greener alternatives and practices.

The question this research aims to address is: what is the inclination of festival attendees to support the implementation of specific green practices at South African Afrikaans arts festivals? Such endeavours have energy, cost and time implications, which could be wasted if festival attendees are not inclined to support these initiatives. Understanding which green practices these attendees are inclined to support will assist festival organisers in better allocating valuable resources to the green initiatives that are more likely to be supported.

Literature review

According to Dobson (2010:2), the concepts of sustainability and going green can be traced back to 1949 to the very first international gathering at the United Nations Scientific Conference on the Conservation and Utilization of Resources, where environmental issues were discussed. This conference was hosted with the main aim of addressing the increase in environmental degradation (Aull, Gabbard & Timmons, 1950:95). Later a number of conferences and summits such as the United Nations Conference on Environment and Development (AGENDA21) (1992), the Rio Summit (1992), the Green Economy Summit (2010), the Earth Summit (2012), to mention a few, were hosted with the aim to address environmental issues and identify ways in which the increase in the degradation of the environment can be minimised.

The term sustainability emerged in the 1970s/1980s and its meaning has evolved since then. The usage of the word sustainability is very significant and should be investigated to provide a better understanding of the term going green (Dobson, 2010:2). Although the words sustainability and going green are often used interchangeably, one should note that these two words do not mean the same thing (Garrett & Raisch, 2016:463). Sustainability is defined



widely by Laing and Frost (2010:262) as not only focusing on environmental issues, but also taking into account the economic and socio-cultural concerns (Dobson, 2010:4).

More applicable to this study is the concept of going green, which is described as raising awareness about environmental issues caused by individuals' everyday activities and implementing green practices as a means to reduce environmental damage (Dobson, 2010:4). In the context of festivals, Getz (2009:70) defines a green festival as a festival that adopts green practices into its management and operations. Dobson (2010:4) agrees with this and highlights that a green festival is a festival that is properly designed, organised, managed and staged as part of sustainability principles.

Viviers (2010) identified a number of studies on the social and economic impacts of South African arts festivals, with a few studies that have looked into the greening of arts festivals. Costi, Minciardi, Robba, Rovatti and Sacile (2004:277), and Ahamad *et al.* (2013:332) state that the implementation of green practices such as waste management, water management, energy management and the use of greener options of transportation results in benefits that can be enjoyed by the attendees. Green practices implemented at different festivals and events in South Africa and internationally that contribute to the greening of events are captured in Table 1.1.

Table 1.1: Festivals and events that implement green practices

SOUTH AFRICA	GREEN PRACTICES	SOURCES
Rocking the Daisies	<ul style="list-style-type: none"> • Recycling bins (two-bin system) • Biodegradable packaging • Digital and e-marketing • Item-refundable system • Grey water system • Mobile/composting toilets • Carpooling • Bicycle rental services or walking • LED lights 	Stead (2012)
Klein Karoo National Arts Festival	<ul style="list-style-type: none"> • Trapsuutjies Tent, which enables attendees to determine the carbon dioxide attendees emitted while travelling 	Dobson and Snowball (2012)
2010 FIFA World Cup	<ul style="list-style-type: none"> • Recycling bins (two-bin system) • LED lights • Natural air ventilation • Rehabilitation programmes (removal of waste and fertilising the grass) 	Anon (2010)
The Hi-Tec Walking Festival	<ul style="list-style-type: none"> • Well-planned walking routes 	Anon (2016d)
Eco Mobility Festival	<ul style="list-style-type: none"> • Greener transportation • Walking • Carpooling • Metros (Gautrain) • Trams • Scooter 	Sandton Central Management District (2015)
Old Mutual Two Oceans Marathon	<ul style="list-style-type: none"> • Biodegradable cups 	Anon (2015a)



Innibos Lowveld National Arts Festival	<ul style="list-style-type: none"> • Green audit to reduce green washing • Recycling • Water-bottle filling stations 	Dobson and Snowball (2012)
My Coke Fest (Rock Music Festival)	<ul style="list-style-type: none"> • Recycling • Recycling bins (six-bin system: glass, paper, plastic, organic material and landfill waste) 	Van Hoorn (2008)
Renewable Energy Festival	<ul style="list-style-type: none"> • Raising awareness about climate change, environmental degradation and energy crises in South Africa 	Anon (2015b)
Home County Folk Festival	<ul style="list-style-type: none"> • Biodegradable products (reusable stainless steel plates) 	Anon (2016b)
London Rib-Fest and SunFest	<ul style="list-style-type: none"> • Biodegradable products or packaging (wooden or plastic spoons, water bottles) 	Benedict (2008)
The Ottawa Cisco Bluefest	<ul style="list-style-type: none"> • Biodegradable products or packaging (wooden or plastic spoons, water bottles) • Cycling 	Graci & Dodds (2008)
Winnipeg Folk Festival	<ul style="list-style-type: none"> • Composting beverage cups 	
Harvest Jazz and Blues Festival	<ul style="list-style-type: none"> • Recycling • Composting beverage cups • Digital and e-marketing • Shuttle services 	
The Dubrovnik Summer Festival	<ul style="list-style-type: none"> • Electronic ticketing system 	Majstorovic (s.a)
The Buddhafield Festival	<ul style="list-style-type: none"> • Recycling waste • Public transportation • Carpooling or lift sharing 	Triratna Buddhafield (2016)
The Reading and Leeds Festival	<ul style="list-style-type: none"> • Gel hand sanitiser • Recycling waste • Biodegradable food packaging • Use of biodiesel 	Julies's Bicycle (2016)
Britannia Park Festival	<ul style="list-style-type: none"> • Parking fines • Increased parking fees to encourage attendees to use bicycles 	Graci and Dodds (2008)
The Rania Festival	<ul style="list-style-type: none"> • Provided designated smoking areas to eliminate the chances of cigarettes causing fires 	Anon (2016c)

(Author's own compilation)

Based on the literature and the green practices identified in the studies and reports listed in Table 1.1 the following green categories were identified for arts festivals. The categories, their subsequent practice and associated benefits are discussed in the sections that follow.

Green practices at events

- **Energy management**

To reduce overconsumption of energy, arts festival organisers can implement the use of solar panels as an energy alternative, use LED lights (light emitting diode), which are known to use less energy on the festival terrain during productions, and use natural air ventilation instead of air conditioners by opening windows or doors at indoor areas at the festivals (Devabhaktuni, Alam, Depuru, Green & Near, 2013:556).



- **Waste management**

A three-bin recycling system, which involves the use of colour-coded bins for different types of wastes such as tins, bottles and paper, can be implemented at arts festivals. Only biodegradable packaging such as compostable cups, spoons and water bottles can be used. The use of digital and e-marketing such as Facebook, Twitter, YouTube, Blog, MySpace and websites can be implemented. An item-refundable system can be implemented, where attendees purchase a beverage, then after use return the cup/bottle/can to receive a certain amount of money. Another example is getting attendees to pick up waste and in return get a free beverage. The electronic ticketing system (purchasing of tickets with a barcode online) can be implemented. All the practices can assist to reduce waste (Karkanias, Perkoulidis, Grigoriadis, Stafylas, Dagilelis, Feleki & Moussiopoilos, 2014:288; Andrews, Gregoire, Rasmussen & Witowich, 2013:531; Hanani, Ross & Kerry, 2014:94, Scott, 2013:21).

- **Greener transport options**

Traffic congestion and noise and air pollution can be reduced by implementing greener transportation options. For instance, festivals can collaborate with other green organisations and use the Trapsuutjies Tent (at Aardklop) to determine the carbon dioxide emitted by attendees while they were travelling. Organisers can provide shuttle services for attendees to the festival and to use at the festivals, bicycle rental services can be offered to attendees to use to travel to festivals. Attendees can also be encouraged to use carpooling transport alternatives, walking and public transportation (taxis and buses) to travel to the festival instead of using personal cars (Hingmire, Pedneker, Naik & Gupta, 2016:29)

- **Green commitment**

Rehabilitation/restoration programmes can be implemented at the festivals as a means to restore the festival terrain, incorporating parking fines to charge attendees who park on protected or designated areas, capping the number of attendees (this means that festivals will only target and allow a limited number of attendees on the festival terrain), and providing more designated smoking areas. Well-planned walking routes can also be implemented at festivals. These green practices will assist in minimising soil compression, soil erosion and disruption of tranquillity, and reduce the risk of fire and environmental tobacco smoke (Wenneman, Roorda & Habib, 2014:1, Joossens & Raw, 2013:7).

- **Water management**

Overconsumption of water can be minimised by implementing the use of gel hand sanitiser, described as a hand cleaning technology that requires a gel and a dispenser product. Mobile/composting toilets that use less water per flush can be implemented. Grey water can also be used in shower facilities (Priest, McKenzie, Audas, Poore, Brnton & Reeves, 2012:2)

Benefits of implementing green practices at events/festivals

The following benefits can be derived from implementing green practices at arts festivals that aim to become greener:



- **Increased awareness**

Implementing green practices at festivals is a process that happens behind the scenes and people are keen to get information on what green initiatives will be implemented and executed. The media can assist at festivals in raising awareness about negative environmental impacts over the radio or on television and other social media platforms, and about green practices that will be implemented to reduce such impacts and how the community or attendees can be involved. This will result in getting attendees to support the initiative, and in the process educate and encourage them to be pro-environmentally active (City of Cape Town, 2010:28; Mair, 2015:103–107).

- **Cost-saving opportunities**

There are cost-saving opportunities that arise from implementing green practices at festivals, for example waste management, water management, energy management and the use of greener transportation, which have a role in reducing the cost of purchasing energy, water and fuel for the festival operations or production. These opportunities also save on recycling waste (Graci & Dodds, 2008:258).

- **Economic benefits**

Greening arts festivals by implementing green practices can be a great opportunity economically, not only for festival organisers but for the host region as well. The community members can receive benefits, including job opportunities such as cleaning the festival terrain (waste removal) and cleaning toilet facilities. Partnerships with local recycling projects, local farms or suppliers and eco-friendly accommodation establishments can also be formed. This can create future investments for local businesses (Stettler, 2011:11; City of Cape Town, 2010:18; Katzel, 2007:9).

- **Social benefits**

The process of implementing green practices at arts festivals not only results in protecting the natural environment and conserving natural resources, but can have a few benefits for the host region too. Hosting festivals that implement green practices can provide opportunities for the community to take part in greening/implementing of green practices, where the host community can be educated on how green practices will be implemented. This will instil change in people's attitude and behaviour in the process (City of Cape Town, 2010:18; Mair, 2014:89; Ahmad *et al.*, 2013:333).

- **Environmental benefits**

Environmental opportunities such as implementing waste management, energy management, water management, biodiversity conservation and making use of greener transport options alternatives can assist in reducing negative environmental impacts such as land, water, air and noise pollution. As a result, indigenous plants and endangered species where the festivals are hosted will be conserved and protected (Fam, Mosley, Lopes, Mathieson, Morison & Connellan, 2008:11).



- **Competitive advantage**

Arts festivals implementing basic green practices such as water management, energy management and waste management, which assist in reducing negative environmental impacts, have a competitive advantage over festivals that do not implement green practices. Green practices can result in a cost-saving competitive advantage that requires attracting stakeholders who behave in a sustainable manner to reduce waste and reduce the cost of recycling. This can further result in a differentiated competitive advantage that requires festivals to offer green products or implement green practices that competitors do not implement. Examples of green practices are selling biodegradable or recyclable products at the festivals, which can be of value to attendees who are aware of environmental issues (Henderson, 2011:13; Koukkanen, 2013:98–103).

- **Influencing decision-makers**

Arts festival stakeholders include festival organisers, sponsors, co-workers, the community and attendees. When deciding to host a green festival, some of these stakeholders may not agree with or support the idea at first and may cause conflicts. However, providing information about the benefits that will arise from implementing green practices or greening festivals, providing detailed research that supports ideas, and forming good partnerships with stakeholders with the same shared aims and vision will assist in reducing conflict, encouraging and promoting effective communication and building a long-term relationship (Laing & Frost, 2010:265).

- **Positive reputation**

The process of implementing green practices at festivals creates a platform to increase a positive image or reputation for festivals, which results from the reduction of costs, the increased competitive image, the social and economic benefits provided for the local or host communities and the new opportunities to attract new markets (Peng, & Lin, 2008:202).

Problem statement

A festival attendee is described as a visitor who visits a specific destination for longer than 24 hours or less, and these attendees can either be tourists who spend more than 24 hours at a destination, or the host community or other communities from other regions (George, 2007:5; Roodt, 2008:8). The large number of attendees at arts festivals has negative environmental impacts that are seen during and after arts festivals. Examples are the increase in traffic congestion, littering, overconsumption of water, overuse of energy, noise pollution, air pollution and loss of biodiversity (Graci & Dodds, 2012:3; Getz, 2009:70; Fontes, Pereira, Fernandes & Coelho, 2015:296). This leads to an increasing number of arts festivals implementing green practices as a means to reduce such impacts.

However, for arts festivals to become green, entails the involvement of various role players, including the festival attendees, who have a crucial role to play in the successful implementation of green practices at arts festivals (Van Zyl, 2013:32). Actively involving attendees who have a sense of environmental responsibility and satisfaction with respect to



the implementation of green practices at arts festivals sets a platform to determine whether green practices should be implemented at festivals or not (Chen & Chai, 2010:30).

As it is costly to implement green practices at arts festivals, organisers usually find it appropriate to increase the ticket fees (where green fees are included in the ticket purchase in order to have funds to manage the implementation of green practices in the future (Cummings, 2016:177; Dobson, 2010:7). This might lead to a slight variation in the number of attendees and in attendees supporting the festival's green initiatives as a result of a lack of awareness about the sudden change with festivals implementing green practices and going green (Mair, 2015).

Therefore, it is important to establish if attendees will support the implementation of green practices at arts festivals by determining if attendees agree and are ready for the tremendous change of arts festivals going green in the future (Chen & Chai, 2010:30). Receiving attendees' support for implementing green practices at arts festivals will show that attendees have a positive attitude towards the implementation of green practices, and that attendees seek the opportunity to take part in the green-related activities and programmes such as making use of greener transport options, reducing waste and reducing the consumption of water. In return, festivals implementing green practices are perceived by attendees to be socially responsible and to contribute to environmental sustainability. Hence involving attendees will lead to the successful implementation of green practices at arts festivals (Wong, Wan & Qi, 2015:297–298).

Failing to reduce the impacts caused by arts festivals can result in damaging the environment and increasing the depletion of natural resources. This means that sustainability principles will not be successfully implemented in the future (Smith, 2014:5). Reducing such impacts requires the adoption of sustainability principles, including the main one of minimising negative environmental impacts (Getz, 2009:71). The findings of this research will indicate which green practices attendees will be more inclined to support and provide insight into further assisting arts festival organisers to be greener in the future, and alternatively to be more sustainable.

Research methodology

Festival attendees were surveyed at Aardklop on 6 to 10 October 2015, and at Innibos on 29 June to 3 July 2016. The research method that was followed is discussed under the following sections: development of the questionnaire, research design and method of collecting data, sampling method and the statistical analysis.

Development of the questionnaire

The questionnaire consisted of three sections. Section A consisted of the 22 aspects/green practices identified in the literature, measuring the extent to which respondents implemented these green practices at home. The measurement was done by means of a five-point Likert scale, where 1 = *Never*; 2 = *Rarely*; 3 = *Sometimes*; 4 = *Often*; 5 = *Always* (this section was predominantly used for Article 2).

Section B measured 30 aspects/green practices, also identified in the literature, that measured the extent to which respondents will be inclined to support the implementation of these green



practices at arts festivals. The measurement was also done by means of a five-point Likert scale, where 1 = *Not at all*; 2 = *Less likely*; 3 = *Maybe*; 4 = *Most probably*, and 5 = *Definitely*.

Section C firstly captured demographic aspects such as gender, age, home language, province of origin, level of education, and secondly behavioural aspects, including the number of times the respondents had previously attended the festivals, length of stay at the festival, number of tickets bought for productions at the festival, type of accommodation respondents stayed at during the festival, how green respondents considered the festival to be, and how green respondents considered themselves to be. Section B and Section C were predominantly used for the purpose of this article.

Research design and method of collecting data

This quantitative study made use of a self-administered questionnaire to collect the data (Burns & Bush, 2016:149). The data was collected at two different Afrikaans arts festivals in South Africa. The first data was collected over a period of five days during the first week (6 to 10) of October 2015 at the Clover Aardklop National Arts Festival, held annually in Potchefstroom, North West. The second set of data was collected at the Innibos Lowveld National Arts Festival over the period of four days during the last week of June (29 June to 3 July) 2016 in Mbombela, Mpumalanga.

Three fieldworkers were selected to collect data at Aardklop and 5 five fieldworkers were selected to collect the data at Innibos. All the fieldworkers were trained and informed about the purpose of the survey in order to briefly explain the purpose of the research to respondents. Stratified sampling was used to conduct the survey at both Aardklop and at Innibos (Fowler, 2013:37). This was done by dividing the entire population into separate areas or strata on the two festival terrains (e.g. food stall areas, arts and craft stall areas; and venues where different shows/theatre productions were hosted).

Sampling

The data for this article consists of primary data collected at Aardklop in 2015 and at Innibos in 2016. Four hundred and fifty questionnaires were distributed at each of the festivals. A total of 443 and 400 fully completed and usable questionnaires were collected at Aardklop and Innibos respectively. These questionnaires were used in the analyses. According to Israel (2006:6), from the population of 50 000 (N), 397 respondents (n) would result in a 95% level of confidence with $\pm 5\%$ sampling error. Therefore, in the population of 150 000 (N) attendees at Aardklop in 2015 and 100 000 (N) attendees at Innibos in 2016, the number of questionnaires collected (n = 443 for Aardklop and n = 400 for Innibos) were adequate for the analyses.

Statistical analysis

Microsoft Excel™ was used to capture the collected data and SPSS® (Statistical Package for Social Sciences) was later used to analyse the data. For the purpose of this study three stages analyses were performed. Firstly, a descriptive analysis (frequency tables) was used to compile the attendees' demographic and behavioural profiles. Secondly, two separate confirmatory factor analyses were performed on the 30 green practice items for both Aardklop and Innibos. This was done in order to verify the number of factors and the inter-factor relationship using a path diagram and the CFA goodness-of-fit index. A reliability coefficient



was further computed to provide the Cronbach's Alpha coefficient, inter-item correlation, the mean values and the corrected item-total correlation for each factor. Lastly a *t*-test analysis was done to explore the possible significant difference between attendees' inclination to support the implementation of green practices at Aardklop and Innibos.

Results

The results are discussed in three sections. Firstly, the profile of attendees to Aardklop and Innibos is presented. Secondly, the results from the two confirmatory factor analyses are reported. Lastly the results from the *t*-test analyses are provided

Profile of attendees' at Aardklop and Innibos

The first objective of this research was to determine the profile of the attendees at Aardklop and Innibos in order to establish their demographic characteristics and their festival behaviour.

- **Profile of Aardklop attendees**

The results displayed in Table 1.2 indicate that most of the attendees at Aardklop were females, 32 years old, who predominantly spoke Afrikaans. Attendees who attended Aardklop originated from North West and Gauteng and were well educated, with a matric certificate and a postgraduate/professional qualification. Attendees attended the festivals between two and four times, on average for 2.6 days, and stayed at their own homes and with family and friends. Attendees at Aardklop considered the festival to be somewhat green and also considered themselves to be somewhat green.

- **Profile of Innibos attendees**

Innibos attendees were females, 38 years old, and predominantly spoke Afrikaans. Attendees who attended Innibos mostly came from Gauteng and Mpumalanga. The majority of the attendees were well educated, with a matric certificate and a postgraduate/professional qualification. Attendees attended Innibos between two and four times, on average for 2.9 days, and stayed at a guesthouse or bed and breakfast. A few stayed with family and friends. Attendees at Innibos considered the festival to be somewhat green and also considered themselves as somewhat green.

Table 1.2: Demographic profile and festival behaviour of festival attendees (combined set)

DEMOGRAPHIC CHARACTERISTICS	CATEGORY	AARDKLOP	INNIBOS
Gender	Male	40%	34%
	Female	60%	66%
Age	Average age	32 years	38 years
Language	Afrikaans	92%	95%
	English	8%	4%
	Other	1%	1%
Province	North West	43%	39%
	Gauteng	30%	42%
	Free State	10%	3%
	Limpopo	5%	-



	Mpumalanga	3%	1%
	KwaZulu-Natal	2%	2%
	Northern Cape	1%	3%
	Eastern Cape	1%	5%
	Western Cape	3%	3%
	Outside RSA borders	2%	2%
Level of education	Matric	29%	36%
	Diploma, degree	36%	38%
	Postgraduate/professional	35%	26%
Number of times attended	1st time	21%	33%
	2–4 times	42%	38%
	5–9 times	25%	17%
	10+	12%	12%
Length of stay	Average number of days	2.6 days	2.9 days
Number of tickets bought	Average number of tickets bought	3.4 tickets	4.9 tickets
Type of accommodation	Own home	55%	31%
	Staying with family and friends	22%	19%
	Guesthouse or B&B	12%	25%
	Hotel or lodge	4%	18%
	Camping	3%	6%
	Other	5%	-
How green do you consider Aardklop and Innibos to be?	Green	25%	17%
	Somewhat green	65%	75%
	Not green at all	10%	8%
How green do you consider yourself to be?	Very green	15%	16%
	Somewhat green	67%	75%
	Not green at all	18%	9%

(Author's own compilation)

Results from the confirmatory factor analyses (CFA)

• Aardklop CFA results

The second objective of this article was to determine if attendees at Aardklop and Innibos were inclined to support the implementation of green practices at arts festivals. A survey was conducted and attendees were asked to indicate on a five-point Likert scale to what extent they would be inclined to support the identified green practices at the festival (where 1 = *Not at all* and 5 = *Definitely*). The confirmatory factor analysis using the path diagram identified five factors that were labelled according to the categories identified in the literature (Table 4.3). All five factors had a high Cronbach's Alpha coefficient ranging from 0.813 to 0.889, which is highly reliable (Namdeo & Rout, 2016:1374)

The corrected inter-item correlation coefficient ranged from 0,488 to 0,727, which indicated the consistency of the five factors. Table 1.3 presented the following green factors with which attendees at Aardklop indicated the strongest agreement/support: (1) Green transport, (2) Waste management, (3) Water management, (4) Energy management and (5) Green commitment. Energy management (Factor 4) at Aardklop obtained the highest mean value of 3.69, a Cronbach's Alpha coefficient of 0.889 and an inter-item correlation of 0,727. Waste



management (Factor 2) at Aardklop had the second highest mean value of 3.65, a Cronbach's Alpha coefficient of 0.885 and an inter-item correlation of 0,463, followed by Green commitment (Factor 5) at Aardklop, with a mean value of 3.53, a Cronbach's Alpha coefficient of 0.878 and an inter-item correlation of 0.478. Water management (Factor 3) at Aardklop received a mean value of 3.32, a Cronbach's Alpha coefficient of 0.813 and an inter-item correlation 0.466. Lastly, Greener transport options (Factor 1) at Aardklop received the lowest mean value of 3.07, a Cronbach's Alpha coefficient of 0.828 and an inter-item correlation of 0.488. From the results, it was evident that the attendees to Aardklop were more inclined to support the implementation of the following green practices: Energy management, Water management and Green commitment practices.

• **Innibos CFA results**

Table 1.3 further reveals the results of the confirmatory factor analysis. The path diagram identified five factors from the data collected at the Innibos Lowveld National Arts Festival. The identified factors had a Cronbach's Alpha coefficient ranging from 0.882 to 0.652, which is statistically reliable (Namdeo & Rout, 2016:1374). The corrected inter-item correlation coefficient ranged from 0.351 to 0.711, which indicates the consistency of the five factors.

The following are the green factors that were revealed in the analysis: (1) Green commitment (Factor 5) at Innibos, with the highest mean value of 3.89, a Cronbach's Alpha coefficient of 0.887 and an inter-item correlation of 0.508. This was followed by (2) Waste management (Factor 2) at Innibos, which received the second mean value of 3.50, a Cronbach's Alpha coefficient of 0,882 and an inter-item correlation of 0.459. (3) Water management (Factor 3) at Innibos obtained a mean value of 3.49, a Cronbach's Alpha coefficient of 0.825 and inter-item correlation of 0.491. (4) Energy management (Factor 4) at Innibos received a mean value of 3.43, a Cronbach's Alpha coefficient of 0.880 and inter-item correlation of 0.711. Lastly, (5) Greener transport options (Factor 5) at Innibos received the lowest mean value of 2.25, a Cronbach's alpha coefficient of 0.652 and an inter-item correlation of 0.351. This indicates that attendees at Innibos were more inclined to support the implementation of the following green practices: Green commitment, Waste management, Water management and Energy management greening practices.

Table 1.3: Confirmatory factor analyses for Aardklop and Innibos

GREEN FACTORS		CORRECTED ITEM-TOTAL CORRELATION	
FACTOR 1: GREENER TRANSPORT OPTIONS		AARDKLOP	INNIBOS
1	I will use a bicycle rental service offered by the festival during the festival period	0.486	0.454
2	I will use a shuttle service offered by the festival to travel to the festival	0.760	0.355
3	I will use a shuttle service offered by the festival at the festival	0.775	0.552
4	I will make use of well-planned walking routes with clear signage to get to various show venues at the festival instead of using my car	0.626	0.476
5	I will support the idea that larger groups travelling in one vehicle pay less for parking	0.494	0.471
CRONBACH'S ALPHA CORRELATION		0.828	0.652
INTER-ITEM CORRELATION		0.488	0.351
MEAN		3.07	2.25



6	I will use a recycling-bin system at the festival to reduce littering	0.637	0.652
7	I support the use of only biodegradable packaging by all stall owners at the festival	0.538	0.621
8	I will support a refundable cup/bottle system for drinking beverages at the festival	0.709	0.683
9	I will support the exclusive use of electronic festival programmes downloaded on personal electronic devices to reduce paper usage	0.694	0.689
10	I insist that the festival make use of digital marketing rather than printed posters to reduce littering	0.621	0.599
11	I will pay a R5 levy at the entrance for services rendered by the community members to pick up litter on the festival terrain	0.491	0.534
12	I insist that the festival organisers not allow junk mail via flyers on car windows to reduce littering	0.599	0.607
13	I insist that the festival use e-marketing as opposed to promotional flyers to reduce littering	0.659	0.661
14	I insist that the festival arrange for regular waste removal on the festival terrain for bad odours and hygienic purposes	0.672	0.643
CRONBACH'S ALPHA CORRELATION		0.885	0.882
INTER-ITEM CORRELATION		0.463	0.459
MEAN		3.65	3.50
FACTOR 3: WATER MANAGEMENT			
15	I am happy to pay R5 for toilet facilities that use less water	0.581	0.584
16	I am happy to pay a green fee included in the entrance fee to show my support towards the festival's green initiatives	0.665	0.676
17	I insist that the festival organisers promote only accommodation partners who implement water-saving practices at their establishments	0.691	0.669
18	I will support the use of gel hand sanitiser instead of water and soap at the festival	0.513	0.518
19	I insist that the festival initiate a water-saving campaign to raise awareness	0.566	0.674
CRONBACH'S ALPHA CORRELATION		0.813	0.825
INTER-ITEM CORRELATION		0.466	0.491
MEAN		3.32	3.49
20	I insist that the festival raise awareness about ways to save energy	0.704	0.674
21	I insist that the festival implement the use of only LED and CFL light bulbs during productions to reduce energy usage	0.844	0.678
22	I insist that the festival implement the use of only LED and CFL light bulbs on the festival terrain	0.804	0.862
CRONBACH'S ALPHA CORRELATION		0.889	0.880
INTER-ITEM CORRELATION		0.727	0.711
MEAN		3.69	3.43
FACTOR 5: GREEN COMMITMENT			
23	I support the concept that from midnight disturbance of the peace and quiet is not permitted (e.g. loud music)	0.558	0.553
24	I support the concept that penalties/fines are issued for parking in undesignated areas to reduce the impact on the natural environment	0.587	0.623
25	I insist the festival resort to the use of natural light and ventilation at venues as far as possible	0.652	0.737
26	I insist that the festival regulate the number of attendees per day on the festival terrain to reduce soil compression	0.586	0.606



27	I insist that the festival initiate a rehabilitation programme of the natural surroundings after the festival	0.721	0.755
28	I insist that the festival make use of ways to reduce soil compression on the festival terrain (e.g. scattering of wood shavings)	0.674	0.716
29	I insist that the festival designate only certain areas on the festival terrain for smoking to reduce fire risks	0.670	0.663
30	I insist that the festival management ensure the use of only environmentally friendly/safe cleaning products	0.688	0.673
CRONBACH'S ALPHA CORRELATION		0.878	0.887
INTER-ITEM CORRELATION		0.478	0.508
MEAN		3.53	3.89

(Author's own compilation)

Result of the t-test analysis

The third objective of the article was to determine if there was a difference between the inclination to support green practices at Aardklop and Innibos in order to point out which attendees between Aardklop and Innibos were more inclined to support the implementation of green practices at these arts festivals. The *t*-test analysis revealed that there was a significant difference that existed only between waste management at Aardklop and Innibos (see Table 1.4). This means that the attendees at Innibos were more inclined to support the implementation of waste management green practices than attendees at Aardklop.

Table 1.4: *t*-test for comparison of green practices that attendees will be inclined to support at Aardklop and Innibos

VARIABLE						
FACTORS	AARDKLOP		INNIBOS		SIG. (2-TAILED) (P-VALUE)	EFFECT SIZE
Greener transport	3.07	1.06	3.31	1.19	0.002	0.20
Waste management	3.65	0.84	3.94	0.84	0.000	0.31
Water management	3.32	0.98	3.54	1.01	0.002	0.21
Energy management	3.69	1.08	3.85	1.10	0.041	0.14
Green commitment	3.53	0.93	3.61	1.01	0.216	0.08

(Author's own compilation)

Continues...

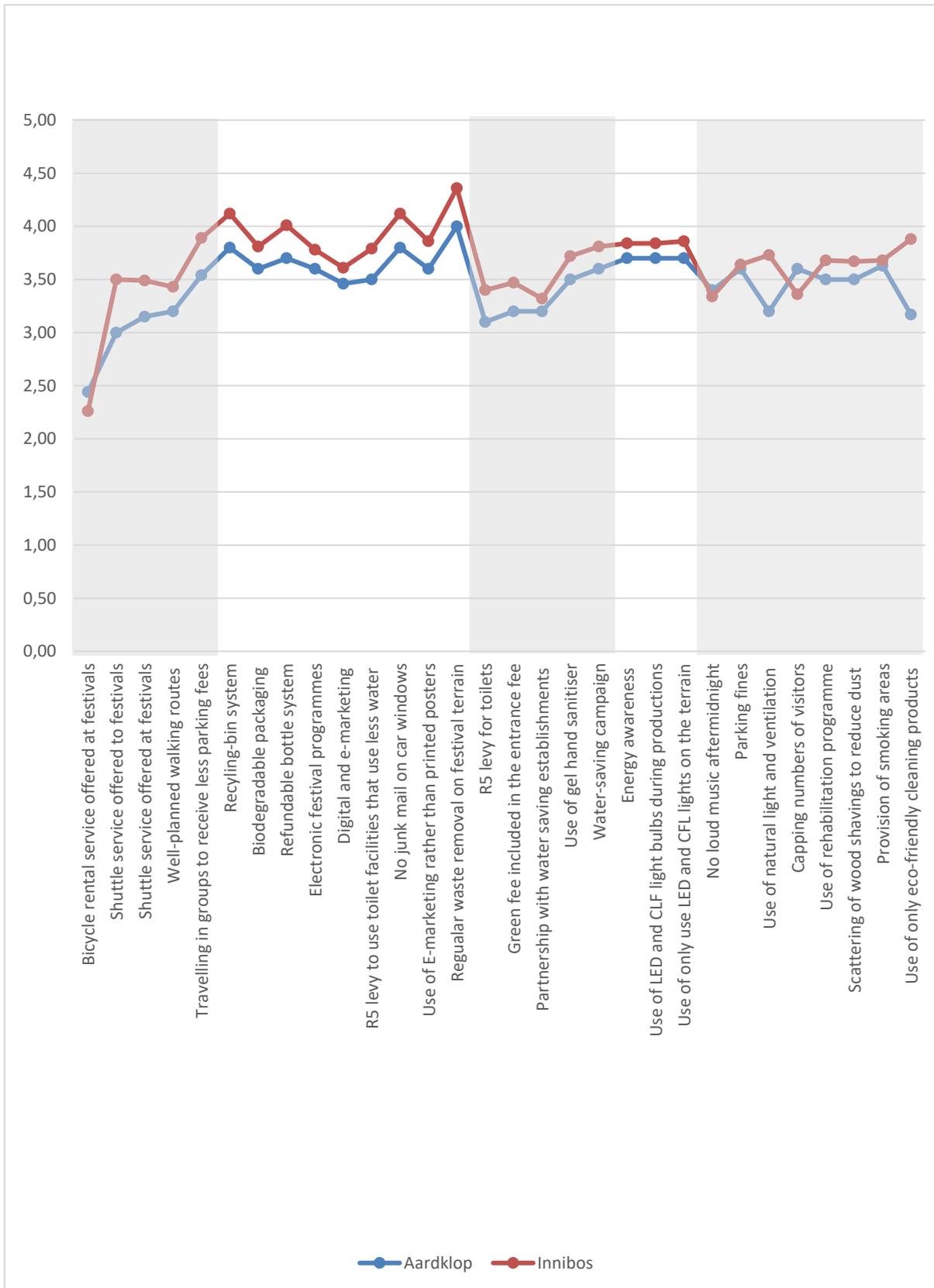


Figure 3.1: Different green individual aspects attendees are inclined to support at Aardklop and Innibos (Source: Author's own compilation)



Results from the t-test analysis

The last objective was to determine if there was a practical difference that existed between different individual green aspects that attendees would be inclined to support at Aardklop and Innibos. The *t*-test analyses revealed that there were no practical significant differences that existed between the individual green aspects that attendees were inclined to support at both festivals. This means that the market at both festivals was homogeneous towards supporting the implementation of green practices at the festivals. Attendees at Aardklop were inclined to support waste removal (4.39), no junk mail (4.12), recycling bins (4.12), and the refundable bottle system (4.01). The item that they be were less inclined to support was the use of bicycle rental services at the festivals (2.26) (Figure 3.1).

A very similar picture was found at Innibos, where attendees were mostly inclined to support waste removal (4), no junk mail (3.8) recycling-bin system (3.8) and the refundable bottle system (3.7). They were not really supportive of bicycle rental services (3.5) (Figure 3.1).

Correlations between “how green do you consider yourself to be” and green factors

Table 1.5: How green do you consider yourself to be?

FESTIVALS	1. NOT GREEN AT ALL	2. SOMEWHAT GREEN	3. VERY GREEN
Aardklop	18%	67%	15%
Innibos	9%	75%	16%

(Author’s own compilation)

The fifth objective of this article was to ask attendees to rate how green they considered themselves to be, with 1 = *Not green at all*, 2 = *Somewhat green* and 3 = *Very green*. The results in Table 1.5 reveal that at Aardklop 18% of the attendees considered themselves to be not green at all, 67% considered themselves to be somewhat green and 15% considered themselves to be very green. On the other hand, 9% of the attendees at Innibos considered themselves to be not green at all, 75% considered themselves to be somewhat green and 16% considered themselves to be very green.

A Spearman rank order correlation was employed on the combined data set to reveal the significant correlations that exist between how green attendees considered themselves and the green practices attendees were inclined to support (factors) at Aardklop and Innibos. The results presented in Table 1.6 indicate that there is a medium correlation between the attendees’ green consideration of themselves and greener transport options ($r_s = (797) = 0.97^{**}$, $p = 0,006$), waste management ($r_s = (795) = 0.149^{**}$, $p = 0,000$), water management ($r_s = (794) = 0.213^{**}$, $p = 0.000$), energy management ($r_s = (790) = 0.129^{**}$, $p = 0.000$) and green commitment ($r_s = (7 950) = 0.153^{**}$, $p = 0.000$) practices at Aardklop and Innibos. This indicates that the greener attendees consider themselves to be, the more inclined they were to support the implementation of green practices at festivals, and vice versa.

**Table 1.6: Spearman rank order correlation for how green the attendees considered themselves to be and the green support factors (combined dataset of Aardklop and Innibos)**

GREEN FACTORS		HOW GREEN DO YOU CONSIDER YOURSELF?
GREEN PRACTICES AT ARTS FESTIVALS		
Greener transport options	Correlation coefficient	0.097**
	Sig. (2-tailed)	0.006
	N	797
Waste management	Correlation coefficient	0.149**
	Sig. (2-tailed)	0.000
	N	795
Water management	Correlation coefficient	0.213**
	Sig. (2-tailed)	0.000
	N	794
Energy management	Correlation coefficient	0.129**
	Sig. (2-tailed)	0.000
	N	790
Green commitment	Correlation coefficient	0.153**
	Sig. (2-tailed)	0.000
	N	795

(Author's own compilation)

Findings

This study investigated whether attendees would be inclined to support the implementation of certain green practices at Afrikaans arts festivals. The results from the confirmatory factor analysis revealed the green practices attendees would be most inclined to support and would be least inclined to support. The *t*-test analyses that were done determined the differences between green practices that attendees would be inclined to support at Aardklop and Innibos. The findings were as follows:

- Firstly, the results from the survey done at Aardklop revealed that all five factors' mean values were above 3.00, which meant that the festival attendees most probably were inclined to support the implementation of the majority of green practices at the festival according to the five-point Likert scale. The factors that were revealed (in order of support from the highest mean) included Energy management (Factor 4), Waste management (Factor 2), Green commitment (Factor 5), Water management (Factor 3) and transportation options (Factor 1). The findings support those of the study done by Wong, Wan and Qi (2015:301–303) that attendees are more inclined to support the implementation of green practices because of the benefits that green practices offer. Moreover, the finding supports those of the study done by Jin, Zhang, Ma and Connaughton (2011:292) that attendees have a strong positive attitude towards the implementation of green practices at festivals/events.
- Secondly, the results from the survey conducted at Innibos revealed that four factors' mean values were above 3.00, with one factor with a mean value of 2.25. These four factors (in order of support from the highest mean) included Green commitment (Factor 5), Waste management (Factor 2), Water management (Factor 3), and Energy



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management (Factor 4). The factor that was below 3 was Greener transport options (Factor 1). This indicates that attendees were inclined to support the implementation of

green practices at the festival, but were less likely to support the implementation of the use of greener transport options at the festival according to the five-point Likert scale. The findings supported those of studies done by Laing and Frost (2010:263), where the majority of the attendees at the Sidmouth Folk Festival used their own cars to travel to the festival. Attendees at the All Points West Music and Arts Festival supported the recycling initiative by exchanging plastic bottles and cans for incentives.

- Thirdly, on the basis of the results from the confirmatory factor analysis, Aardklop and Innibos attendees indicated they were less inclined to support the use of greener transportation options at the festivals. This supports the studies done by Barber, Kim and Barth (2014:613) and Corazza, Guida, Musso and Tozzi (2016:26-27), who reported that attendees do not consider the use of public transportation to and at festivals and that although individuals have knowledge about the use of green transports options, there are individuals who are not environmentally conscious and aware of the importance of using green transport options. This indicates the need for more green awareness.
- Fourthly, on the basis of the results from the *t*-test analysis there was a significant difference that existed between waste management green practices at Aardklop and Innibos. The results indicated that attendees at both festivals were inclined to support the implementation of waste management green practices. This finding supports those of the study done by Laing and Frost (2010:263) that revealed that at the All Points West Music and Arts Festival attendees supported the implementation of waste management practices at the festival because the festival offered incentives for recycling, with attendees being allowed to exchange their plastic bottles and cans for a free t-shirt.
- Fifthly, the results from the *t*-test analyses revealed that there was no practically significant difference between the 30 individual green aspects attendees were inclined to support at Aardklop and Innibos. This supports the findings by Laing and Frost (2010:262) that attendees' green attitude towards the implementation of green practices at festivals were homogeneous.
- Lastly, the results from the Spearman rank order correlation revealed that significant correlations existed between how green attendees considered themselves to be and their inclination to support green practices at Aardklop and Innibos. This finding supports the findings of Song, Lee, Kang and Boo (2012:1419), who found that attendees who were more environmentally conscious were more likely to support the implementation of green practices. Moreover, the study done by Kil, Holland and Stein (2014:17) also confirmed that individuals with strong environmental attitudes were more likely to support the implementation of green practices.

Implications

From the results and the findings this study identified and presented, a number of implications were identified:



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- The findings for both festivals revealed four green practices (factors) that attendees were inclined to support, with mean values above 3,00 and one green practice below 3,00. This implies that there is still room for improvement with regard to getting more

support from attendees with the implementation of green commitment practices at arts festivals. The attendees' attitude towards the implementation of the factor of green commitment at both festivals was positive and the majority of attendees were inclined to support the implementation of green commitment practices at Aardklop and Innibos. Festival organisers can do more to gain more support from attendees and can implement the following elements within this green commitment factor.

- Firstly, the findings revealed that attendees at both festivals were inclined to support the implementation of user-friendly products such as toilet seat gel sanitiser and ozone-friendly air freshener in toilet facilities. Secondly, attendees supported the idea that festival organisers can cap or reduce the number of the attendees to help reduce soil compression by selling only a certain number of tickets. Thirdly, attendees supported the practice of making use of natural air ventilation by opening windows at art show venues or restaurants at the festival instead of using air conditioners. Fourthly, attendees' further supported the green practice of having wooden shavings scattered on the festival grounds for dust control. Fifthly, organisers could place signs at parking areas that anyone who parked in undesignated areas would be fined a certain amount. Lastly, attendees supported the implementation of rehabilitation programmes by organisers after the festival as a means to preserve the natural environment.
- The results showed that the organisers of Aardklop and Innibos can create and innovate water-saving and energy-saving initiatives/campaigns at the festivals. This can be done by effectively displaying posters at toilet facilities to create awareness about the amount of water that is saved per flush in mobile/composting toilets, how grey water can be used as an alternative, and the overall importance of saving water. Furthermore, the big screens on the stage at Innibos where the information about the sponsors, big artists performing and information about the history of the festival is presented can also be used to raise awareness about the energy-saving green practices the festival is implementing to reduce the overconsumption of energy.
- Considering the five green practices that attendees were inclined to support, attendees at both festivals were less likely support the implementation of greener transport options. They need to develop strategies to gain support from attendees with regard to the implementation of transport options. This can be done by firstly forming a partnership with the public transportation system and having a team that will develop a campaign to raise awareness about the benefits of using green transport options. Secondly, public transport such as taxis, buses and shuttle services can have the festival's theme and colours on removable stickers to make the transportation more appealing. Thirdly, well-known Afrikaans music can be played inside the vehicles to increase the vibe. Fourthly, organised buses can design a small photo booth where attendees can take free pictures to enhance the experience of using public transport. Fifthly, public transport should be user friendly for disabled people, clean and safe. Sixthly, organisers can develop a lucky ride concept, whereby attendees who make use of the cycling rental service and other public transport can win festival food vouchers, free festival t-shirts or free show tickets. Lastly, a competition can be launched by having attendees who use a carpool take a picture or video and upload it on Facebook or Instagram using a specific hash tag, or send the picture or video to



the festival's competition number. The top three winners (per carpool) can win festival food vouchers or tickets for shows.

- Since results further indicated that Innibos attendees were more inclined to support the implementation of waste-management practices, the organisers at Aardklop need to develop a strategy to make the waste-management green practices visible and gain more support from the attendees. This can be done by making waste-management green practices visible on the festival grounds or show venues by placing recycling bins with clear labels indicating whether they are for paper, plastic, bottles or cans at every point at the festival to educate attendees about different waste produced at the festivals. Signs can be displayed on each food stall that makes use of biodegradable food packaging, indicating that a certain amount of the attendee's purchase is contributed to community green projects (e.g. recycling projects). Organisers can involve the attendees in picking up waste and in return they receive a beverage. Attendees can return empty beverage bottles and in return receive a certain amount back. Moreover, organisers can advertise on the festival's website and on other social media platforms (e.g. Facebook) that festival programmes and posters will not be printed to help reduce paper usage – only electronic festival programmes will be available and digital technologies (digital billboards) will be used to communicate with attendees. One or two festival crew members can also have a small stall at the entrance and ask attendees to donate any amount to support the service rendered by the community to pick up litter at the festival.
- In this research, it is important to note that attendees were more inclined to support the implementation of water management, waste management, energy management and green commitment practices and less inclined to support the implementation of greener transport options at Aardklop and Innibos. This implies that organisers at both festivals can form a partnership to develop an in-depth greening plan that consists of strategies that can be used to gain support from attendees with regard to the implementation of green practices at the festivals. The partnership will assist to save costs, time and resources.
- The results finally revealed that attendees at Aardklop and Innibos considered themselves somewhat green. This implies that the organisers from both festivals can educate and raise more awareness about green practices on the festival's website or Facebook page among attendees who considered themselves to be not green at all. This is necessary to make them aware of the significant role their support towards the implementation of water management, energy management, waste management, green commitment and greener transport options plays in the greening process of arts festivals. This means that the more educated attendees are about green practices, the greener they will be at the arts festivals.

Conclusion

This research significantly contributes to the literature on the greening of events, especially in the South African arts festival context. The findings revealed which green practices arts festivals attendees were more or less inclined to support. These findings provide festival organisers with insight and recommendations on which green practices can be incorporated in the greener festival management initiatives and operations in order to host greener arts festivals in the future.



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The purpose of this chapter (Article 1) was to determine the festival attendees' inclination to support the implementation of green practices at two arts festivals in South Africa. This was the first type of research to be conducted at Aardklop and Innibos and the research provides

a long-term development and improvement view, and contributes to the sustainability and greening of arts festivals. It is recommended that further research be done at different arts festivals to determine attendees' overall experience and motivations with respect to festivals that implement green practices. As less research has been done on attendees' green attitude and behaviour regarding greening of arts festivals, it is recommended that correlations between attendees' inclination to support green practices and behaviour towards implementing green practices at home should be determined. This will create a platform and provide insight for festival organisers into which green practices attendees implement at home and whether attendees' attitude and behaviour at home will influence their inclination to support the implementation of green practices at arts festivals.

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