Hotel Characteristics and the Adoption of Demand Oriented Hotel Green Practices in Zimbabwe: A Regression

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Abstract

This paper determines the adoption levels of demand oriented green practices by hotels in Zimbabwe and then regresses these adoption levels with hotel characteristics. The study was prompted by the need to balance off the supply led skew in the country's endeavours to project and promote itself as a green tourism destination and also to raise awareness of the need to accentuate the guest dimension in the greening of hotel operations as called for by various authors at a global scale. 50 out of the 124 registered hotels in the country constituted the study units. A quantitative research design was adopted for the research and the data was gathered through direct observation using an observation checklist. In terms of the first hypothesis, this study concluded that the adoption levels of demand oriented green practices by hotels in the country, was only 16% of those identified in existing literature. For the second hypothesis, the research rejects the alternate hypothesis and thus concludes that there is no significant relationship between hotel characteristics in the country and their adoption of demand oriented green practices. This conclusion is unexpected, surprising and a cause for concern for the country as one would expect higher quality hotels to be more sensitive to global trends on green issues. The study therefore suggests several ways by which hotels in the country edify the guest dimension in their greening efforts. Further research could be carried out to determine guest perceptions and attitudes towards these demand oriented green hotel practices.

Key words: Demand oriented green practices, green destination, hotel guest, green initiatives, and Hotel characteristics

Introduction and background

Issues relating to climate change and global warming are increasingly taking centre-stage in every aspect of our lives today. Therefore, all economic activities worldwide, including the hotel industry are taking strides to green their operations in a bid to cope and mitigate the impacts of climate change and global warming. However, to date, most of these strides have been supply driven, but of late, these have increasingly assumed a demand dimension especially in the more economically advanced countries (Barber 2014). In addition, various studies including those undertaken by Lee, Hsu, Hanc and Kim (2010) have concluded that the engagement of demand oriented green practices or green practices with a high customer involvement and the resultant projection of a green hotel image to guests was increasingly becoming a powerful tool in attracting and retaining guests. These studies have also confirmed that hotel guests are increasingly becoming sensitive to climate change issues and environmentally friendly behaviour to the extent of influencing the hotels they visit by requesting for local food or even asking for linen change cards to advise housekeepers when to change their linen (Dodds, 2010, Mintzt 2011 and Baker, 2014). Following these revelations and observations, there is therefore a need for today's hotels,

to increasingly involve and co-opt guests into their hotel greening efforts in a bid to build and project green hotel images in them and hence positively influence their choices. The hotels can achieve this by adopting green practices with a high customer involvement but in doing so, they should establish whether these practices do not negatively affect guest experiences and that appropriate tools are developed to measure the effectiveness of these efforts.

At a more local scale and for Zimbabwe in particular, current and previous efforts by the country to promote green operations in the hotel industry have also been heavily skewed towards the supply side. This obtaining situation could be the mantra of going green in many other developing countries worldwide. The country has therefore, to a very large extent not, and is still not, giving due attention to the demand side of going green both practically and academically. The country needs to be conscientised through such researches and presentations, and that efforts to green hotel operations and contribute to the promotion and projection of Zimbabwe as a green tourist destination, need to be both demand and supply led, and that these efforts should not be acted upon in a discrete manner but rather wholly and in tandem. This research is philosophically guided by the belief that, while supply intervention strategies are being put in place to green hotel operations, demand oriented efforts should also be embarked on for a more holistic approach. The central argument here is that, hotel businesses consist of both demand (guests) and supply (hotels) and hence efforts to green the industry should ideally be both demand and supply driven. In fact, if the adage that "the customer is king" is anything to go by, more efforts should be directed towards turning hotel guests into greenies as it is always the businesses that should change to suit customer needs and not vice-versa. Following this need and calls by various authors to accentuate the guests dimension in the greening of hotel operations, the key objectives of this research were therefore, to determine the adoption levels of demand oriented green practices by hotels in Zimbabwe and also the extent of guest involvement in these practices. The whole idea is to suggest how best hotels in the country can more effectively incorporate the guest dimension into their greening efforts. As the research was quantitative, the following two major hypotheses guided the research:

(i) *The adoption levels of green oriented green practices by hotels in Zimbabwe is more than 50% of those practices identified in existing literature.*

(ii) *There is a significant relationship between hotel characteristics and the adoption of demand oriented green practices by hotels in Zimbabwe.*

Literature review

Just like any other businesses, the hotel business consists of both supply (the hotel) and demand (the guests). Therefore, it is only logical, that efforts to green the hotel industry be both supply and demand led. In fact, if the adage that 'the customer is king is invoked, more efforts should be directed towards turning hotel guests into greenies as it is always the businesses that should change to suit customer needs and not vice-versa. However, be that as it may, efforts to green hotel operations globally to date have mostly been supply led. Consequently, literature on these supply led initiatives is just ubiquitous. On the contrary, due to the insignificant demand led initiatives to green hotel operations, there is a dearth of literature on these initiatives especially in developing countries. Calls have therefore been made by various authors such as Micioni (2009), Jin-Soo, Li-Tzang, Heesup, & Yunhi, (2010), Rogerson (2012) and Mallorquí et.al. (2018) on a global scale, to accentuate the guest dimension in the greening of hotel operations through the adoption of demand oriented green practices. From existing literature, demand oriented green practices, are those green practices with a high guest involvement (physically and/or mentally)

and also a high possibility of negatively affecting guest experiences (Andereck, (2009) Baker, Davis & Weaver (2013) Baker, (2014) Susskind, (2014). In the researcher's opinion, such greening efforts could also be referred to as customer-centric hotel green practices. Those hotel green initiatives which do not attest to these qualities could equally be referred to as supply oriented hotel green practices. Existing literature is not clear on the criteria used to clearly distinguish between supply and demand oriented hotel greening practices and this problem is compounded by the use of the highly subjective terms such as 'high' in the definition of the demand oriented hotel green practices given above. To overcome this problem and from the demand oriented hotel green practices found in the literature, there are five criteria which could be effectively used to identify them. In this regard, demand oriented hotel green practices could be those green practices which in one way or the other;

(i) are meant to conscientise guests on the hotel's current greening efforts
(ii) are meant to conscientise guests on the need for them to also act in an environmentally friendly manner
(iii) are meant to physically make or encourage guests to participate in hotel greening efforts
(iv) are meant to cause some in-convenience or loss on the part of the guest and possibly negatively affect guest experiences or
(v) are a combinations of any of the criteria highlighted from (i) to (iv) above.

The key demand oriented green practices which attest to these criteria and were also gleaned from existing literature are the basis of the observation checklist in Appendix 1.

Adoption of demand oriented green practices by hotels worldwide

This section reviews and reveals the demand oriented hotel practices and their adoption levels worldwide. These standards will be used to benchmark the levels of adoption of similar practices in Zimbabwe on the understanding and assumption that hotels are fairly homogeneously graded worldwide

(i) Demand oriented water saving gadgets
According to Dziegielewski, Kiefer, Optiz, Porter, Lantz, DeOreo, Mayer & Nelson (2000) hotel guests are the largest end users of water in hotels. They account for about 30% of all the water used by hotels on a daily basis. Therefore, as evidenced from existing literature, hotels have introduced several customer facing process and product oriented ways of monitoring and reducing water usage levels by guests. These have included the use of low flow shower heads, aerated water faucets and the most recently discovered HydroSense device developed by Hawrylak, WII & Xiang in 2015. This is a "novel, low cost, accurate, small size, low power and wireless device for monitoring water use from hotel room showers (Hawrylak et. al. (2015:314)." The actual extent to which these devices have been adopted by hotels in the world today is not known as most of these products are fairly new. There is therefore need for an audit to this effect.

(ii) Demand oriented in-room house keeping practices

For these practices, the focus in terms of this research was on shampoo dispensation and consultation of guests on linen change. There is a paucity of academic research in this area with most of the information available from grey materials such as hotel websites, blogs and hotel green related magazines. These information sources reveal that, only upmarket (4-5 star) hotels in developed countries have mostly adopted the use of refillable shampoo dispensers in place of

individual small little bottles. Examples which quickly come to mind include the Marriot Hotel Group which announced in 2017 that it was going to adopt these refillable shampoo dispensers for all its 450 hotels in North American. The hotel's cost benefit analysis revealed that, moving to refillable wall dispensers would save US$1000 to US$2000 per hotel, and most importantly, would save the environment 23 000 miniature plastic bottles (McCartney, 2018). However, there is a raging debate on the substitution of individual small little shampoo bottles with refillable shampoo dispensers. Some guests on guest feedback platforms such as TripAdvisor argue that the refillable shampoo dispensers only save hotel costs but offer no premium experience for them as there will be no more take aways to remember guest stay. Other environmentally sensitive guests, opinion that plastic is destroying the planet and hence are in support of this development.

In relation to the consultation of guests on linen change, existing literature revealed that most hotels today, in both developed and developing countries, have introduced linen and towel reuse programs in their establishments. These programs offer guests the option to reuse their linens and towels more than once on the understanding that this will save hotels money in reduced water, energy, labour, detergent and sheet/towel replacement costs. Project Planet features as the hospitality industry's leader in environmental linen and towel reuse programs, and the most recognizable program among hotel guests worldwide. The latest development in this practice included the use of laminated linen replacement and towel re-use cards instead of consulting guests viva voce.

The towel re-use cards instruct the guests to drape their used towels over the shower rod or towel rack if they wish to re-use it. If they would like their towel replenished then they simply place the towel on the floor. For the linen re-use cards, the guests simply place this card on the bed when fresh linen is not necessary (Leff, 2018). Dziegielewski, et al. (2000) noted that instituting linen and towel reuse programs in guest rooms could help reduce laundry loads by about 17 percent.

(iii) Demand oriented waste management practices

Focus in this case was on the separation of waste by guests. Extant literature reveals that some hotels such as Starwood Hotels and Resorts in the USA are already offering in-room separation and recycling through the use of divided waste baskets at its Element hotels and planned to introduce similar programs at all its other brands as way back as 2010. Others have embarked on placing such compartmentalized bins and separate bin liners in halls and public areas throughout the hotel (Stellin, 2009).

(iv) Energy saving demand oriented green practices

There is a plethora of literature which has been written on energy saving demand oriented green practices especially with regards to the shift to low energy emission (LED) bulbs. As observed by some authors such as Micion, (2009), Millar and Baloglu (2010) and Baker (2014), many hotels worldwide, irrespective of their sizes and status have adopted these gadgets mainly due to the cost savings involved and for some countries including Zimbabwe, it has been a result of statutory regulation. The use of guest key cards to control in-room energy gadgets has been widely adopted by many hotels today. In-room sensors have also been installed in some hotels to automatically turn off heating and cooling levels during unoccupied periods. The internet is also awash with case studies of hotels which have adopted these gadgets and have saved themselves millions of dollars.

(v) Other customer facing green initiatives

Inclusion of green initiatives in hotel mission statements

Existing studies focused on investigating hotel mission statements is quite limited and hence information on the extent to which these mission statements embrace green intentions is scarce. However, many hotels today have separate environmental mission statements which have mostly been compiled to gain green certification. Discussions on how to develop them, which hotels have them, their role and effectiveness and whether they are necessary still needs to be carried out especially in developing countries (Millar and Baloglu 2012).

Newspaper delivery method

In relation to guest newspaper delivery, four methods of delivery are evident from existing literature. These include routine delivery to every room occupied by the guest, delivery to rooms only on guest request, placing of newspapers only in guest public areas or availing newspapers only online. Of these methods and with the increased availability of Wi-Fi within hotel environs and DSTV in hotel rooms, daily delivery of hard copies of newspapers to rooms has been phased out by many hotels in the world today. As an example, and in a more recent development, in April 2018, Marriott International announced that it would no longer deliver newspapers to every guestroom in the morning. Guests would be requested to buy a newspaper or read one in the lobby. With this move, Marriot estimated that it would reduce newspaper distribution at its hotels by about 18 million newspapers annually.

Guest green education and marketing

Of the demand oriented green practices raised so far in this section, this is the green practice which has received most attention from researchers. In this regard, a lot of researches have been carried out on environmental advertising and its influence on guest choices. Existing literature concurs that the inculcation of green hotel images in guests is creating competitive advantage for some hotels in the world today. Hotels therefore need to develop green placement strategies to build such images in guests. For example, studies by Jin soo *et. al*. (2010) revealed that a green hotel image gave rise to favourable behavioural intentions by hotel guests. These studies concluded that, a green hotel image could therefore be a powerful operational tool in attracting and retaining guests. Peharps this is why Lee, Hsu, Hanc, & Kim, (2010) and Hu (2012) argued that a substatnive environmental claim could be a wise choice in hotel promotion. A deeper understanding of green hotel guests is therefore required for hotels to design effective green programs and initiatives (Han, Hsu, Lee & Sheu, 2011). Hotels in the country should therefore also develop effective guest education and marketing programs that can enable them to realise the benefits of such initiatives as witnessed elsewhere in the world.

Extra charge for greenness

Research on this practice is centred on whether consumers are willing to pay for greenness or not. Information on which hotels are already charging an extra fee for greenness is very limited. Very few hotels in the world today are charging a separate extra fee for greenness. Perhaps many of them are already incorporating this charge into their rates. However, be that as it may, many researches have and are still being conducted to determine whether guests are willing to pay an extra charge for greenness or not. The results of these studies have been controversial. As an

example, studies by CMI Green Traveller (2010), Manaktola (2007), Miller and Baloglu (2011), D'souza (2006), and many more, have all demonstrated that consumers are not willing to pay more for a green hotel. However, Dodds *et. al.* (2006) in his studies of tourists visiting island destinations in South East Asia revealed that 79-95% of the guests depending on the island, were willing to pay a fee to support environmentally friendly practices by host organisations. Schubert, Kandampully, Solnet & Kralj (2010) also noted that consumers were willing to pay more and hence a premium could be charged for hotel greening efforts. This controversy has left most hotels in limbo as to whether to institute this extra charge or not.

Display of eco-labels and green certification

Quite a lot has been written on this green practice including the attitudes of guests towards them and their impact on environmental ratings and also on hotel financial performance. Green certification organizations such as Green Seal, EcologoM, Energy Star and many more, have for long been encouraging certification of hospitality establishments worldwide. Today, so many eco-rating schemes have emerged, including; the Green Leaf program, Green Globe 21, the ISO 14000 series and more recently, the Leadership in Energy and Environmental Design (LEED) program in the USA. However, despite the proliferation of these generic programs individual countries need to develop their own homegrown eco-rating tools. The current eco-rating tool being used by the ZTA in the country therefore needs to be reviewed to check the extent to which it incorporates guests into its certification.

Methodology

A quantitative research design was adopted for this research. The study population consisted of all the 124 hotels registered by the Zimbabwe Tourism Authority as of 2017. To select the actual hotel units for the study, a multi-stage and stratified random sampling technique was adopted. In this case, the country was first divided into its 10 provinces and the hotels in each province were identified and stratified by their star rating. At least 1/3 of each of the stratified hotels in each province was then selected to constitute the study units. A purely random sample was used to select the actual study units in each stratum using a random number table. In this case, the hotels in each stratum for each province were numbered and then picked at random until the relevant 1/3 was reached. All this was done to enhance the validity and reliability of the research findings. A total of 50 hotels were taken as the study units. Table 1 shows the distribution of the sampled hotel study units by province.

Province No.	Province	1 star or less Sample	2 Star Sample	3 Star Sample	4 Star Sample	5 Star Sample	Totals	Percentage %
1	Harare	3	2	3	2	1	11	22
2	Bulawayo	2	2	2	0	0	6	12
3	Masvingo	1	1	1	0	0	3	6
4	Mat. North	1	1	1	2	1	6	12
5	Mat South	1	1	1	0	0	3	6
6	Mash. Central	1	1	0	0	0	2	4
7	Mash. East	1	1	0	0	0	2	4
8	Manicaland	2	2	2	2	0	8	16
9	Midlands	2	1	1	0	0	4	8
10	Mash. West	1	2	2	0	0	5	10
Totals		15	14	13	6	2	50	100

Table 1. The distribution of hotel study units by province

Direct observation using the observation checklist in appendix 1 was mainly used to collect the data. The check list focused on display of mission statements and ecolabels, the existence of occupancy sensors, energy saving light bulbs, notices to save water in bathrooms among other things. Cameras were used to take photographs where need arose. Investigative research and questioning were also undertaken especially with regards to hotel mission statements and the absence or presence of some demand oriented hotel green gadgets. The hotel mission statements were therefore the only significant secondary form of data used for the research. The first step in the data collection process was to get an updated list of all the registered hotels in the country from the Zimbabwe Tourism Authority (ZTA). This list had physical addresses and contact details for each hotel. From this list, the randomly selected hotels for the study were identified and located.

Permission and ethical clearance was then sought from hotel General Managers and at head offices of hotel chains in the country. Three hotels which out-rightly refused to be part of the study were replaced through further random selection within the province or outside the province. All the targeted hotels allowed the researcher access to their properties after explaining the purpose of the study which included coming up with strategies to raise the hotels' green bar levels and hence increase their competitiveness at local, regional and international levels. The hotels were also informed and in some instances reminded that the Zimbabwe Tourism Authority (ZTA) was in the process of green certifying hotels. This study would therefore make them aware of some of the areas that needed attention ahead of the ZTA green certification program. The data collected for this research was quantitative and was therefore analysed statistically through measures of central tendency and dispersion such as the mean, mode and standard deviation. Further statistical analysis was achieved through Chi-square tests of independence and correlation analysis using The Statistical Package for Social Sciences (SPSS) version 23.

Discussion of Findings and Conclusions

Adoption levels of demand oriented green practices by hotels in Zimbabwe

(i) Use of low flow shower heads
In the bathrooms, this study revealed that the adoption of low flow shower heads by the hotels under study was still very low (46%) and there was no significant difference ($p = 0.572$) between hotels that had and those that had not installed such shower heads. However, even with this low level of adoption, further investigations revealed that this adoption was mainly by default or mere coincidence as 93% of the 15 hotel maintenance personnel and buyers interviewed professed ignorance of the existence of these two types of shower heads. The buyers had no green related buying specifications for these low flow shower heads and it was by mere coincidence that they had bought them. Table 2 shows the adoption levels of high and low flow showerheads by hotel grade for the sampled hotels.

Hotel star rating	1	2	3	4	5	Total	%
No. with low flow showerheads	5	6	7	3	2	23	46
No. without low flow showerheads	10	8	6	3	0	27	54
Totals	**15**	**14**	**13**	**6**	**2**	**50**	**100**

Table 2. Adoption of low flow shower heads for the sampled hotels

As shown in table 2, there was also no significant relationship between the adoption of low flow shower heads and hotel star grading (p = 0.751). However, what could be very worrying is the high number of 4 star hotels which still had not adopted such water saving techniques. Regression analysis produced the year of establishment (p = 0.024) and province (p = 0.005) as the only variables that significantly affected the adoption of low flow shower heads. In this case, the hotels were in Matabeleland North had the highest levels of adoption. However, the impact of hotel type was inconclusive (p = 0.088).

Existing literature ascertains that the old high flow showers heads have discharges of 5-8 gallons per minute whereas the more recent standard low flow shower heads have discharges of 2.5 gallons per minute (gpm) or less. To 'guestimate' how much water can be saved by low flow shower heads, consider the hypothetical details and calculations shown in table 3 for two hypothetical hotels. The calculations are based on the assumption that the hotels both have 100 rooms, have 60% average daily occupancy and that each guest takes only a morning shower.

Criteria	Hotel A: High flow shower head	Hotel B: Low flow shower head
Discharge	8 gallons per minute or 40 litres per minute	2.5 gallons per minute or 12.5 litres per minute
Average amount of water discharged in 1 minute	40 litres	12.5 litres
Average cost of municipality water per kiloliter	$1	$1

Table 3. Water saved by a hotel with a low flow showerhead compared to one with a high flow shower head

Table 3 illustrates that the hotel with a low flow shower head will save $1 003.75 per annum than the one with a high flow shower head.

(ii) Other water saving techniques
90% of the hotels under study did not have motion sensor taps, implying that only 10% had installed them. In addition, 62% of the hotels did not have aerated water sense faucets for taps while 38% had installed them (3-star = 16%, 4-star = 10%, 2 star 4% and 1-star = 8%). Existing literature attests that these faucets have maximum discharges of 1.5 gallons per minute and were invented to reduce water flow by about 30% without compromising performance (Hawrylak et.al. 2015).

All bath tab taps for the hotels under study did not have aerated water faucets. The hoteliers argued that these were not necessary as clients needed to quickly fill up bath tabs to bath. No stickers reminding guests to save water were found in the hotel rooms and public convenience rooms in any of the hotels. The overall utilization levels of the various water saving techniques for the sampled hotels are summarized in table 4.

	Water Saving Method			
	Low flow shower heads	Motion sensor taps	Aerated water faucets	Bath stickers reminding guests to save water
Level of adoption	46%	10%	20%	0%

Table 4: Utilisation levels of water saving techniques by hotels in Zimbabwe

As shown in table 4, this research revealed that the installation of low flow shower heads was the most widely adopted demand oriented water saving technique adopted by the hotels in Zimbabwe. Other demand oriented water saving techniques such as motion sensor taps, aerated water faucets and stickers reminding guests to save water had adoption levels which were either non-existent or far too low (0-20%). The fact that there was no significant relationship between year of establishment and the adoption of these water saving practices is a cause for concern for the country as this implies that even the most recently constructed hotels in the country were not even considering and incorporating these practices into their construction and operational plans.

Demand oriented housekeeping practices

(i) Towel re-use and linen change policy

The linen change and reuse policy for the hotels in the country was quite contrary to contemporary trends in the industry. Guests were largely not being consulted and involved in linen change as currently being practiced by many hotels today. In fact, more than 3, 400 hotels in the USA alone today offer towel and linen use programs to guests (http//:www.greenbi.com). This means that hotels in the country could be wasting a lot of resources and overburdening the housekeeping section by not giving guests linen change options. Notable examples from existing literature include reports by the InterContinental Hotels Group properties that saved more than 52.6 million gallons of water and 350,797 gallons of detergent in 2004 through its 'Conserving for Tomorrow' towels and linen programme in the USA. (http//:www.greenbi.com). However, for the hotels under study, interviewed housekeepers professed ignorance of the existence of these laundry cards and pre-printed towel re-use hangers. Regression analysis revealed that there was a strong relationship (p = 0.04) between hotel star grading and linen change with mostly 1-2 star hotels consulting guests on linen change. Further investigations revealed that the 3-5 star hotels were reluctant to institute such policies as they were not compatible with the 'luxury' experience that guests expected at their hotels.

(ii) Shampoo dispensation method

None of the hotels under study in the country were using refillable shampoo dispensers for their guests. Again, all the interviewed housekeepers professed ignorance of the existence of such equipment. However, existing literature reveals that this is a fairly new gadget in hotel greening efforts and mostly major hotel groups in developed countries such as Marriot and Inter-continental hotels have adopted the technology. As an example, Marriot Group of hotels in the USA, by moving to refillable wall dispensers for its 450 hotels estimates to save $1000 to $2000 per hotel and approximately 23,000 miniature plastic bottles per year. This however, does not factor in the extra cleaning and maintenance costs of the dispensers (GET.com). However, as already highlighted in the literature review section, there is raging debate on the substitution of individual small little shampoo bottles with refillable shampoo dispensers. Some guests on guest feedback platforms argue that the refillable shampoo dispensers only save hotel costs but offer no premium experience for them as there will be no more take aways to remember guest stay. Other environmentally sensitive guests' opinions are that plastic is destroying the planet and hence are in support of these green technological innovations.

Energy saving practices

All the hotels under study in the country were using low energy emission bulbs and fluorescent lamps. The main types of energy efficient bulbs being used were Phillips, Eurolux, Power Master

and many more. All the hotels were also now using the T5 and T8 fluorescent lamps instead of the banned T10 and T12.

None of hotels under study had in room sensors or occupancy based control and management systems in place and yet in other countries such as Europe, these are common gadgets. These systems have been developed to specifically address the need to save energy in hotel rooms. Energy Management Systems (EMS) vendors have reported that occupancy-based controls can provide 20-45% energy savings in a guestroom by automatically turning the high velocity air conditioning (HIVAC), lighting and other devices down or off in the absence of the guest, and also adjusting settings in unsold rooms which would be vacant by default (DePinto, 2017). Therefore, the absence of in-room sensors for all hotels in the country could be creating room for guests to leave lights, fans and other gadgets on when they leave the room for other activities.

In addition, 2% of the hotels under study were using energy sensitive guest key cards. As typical with many European hotels and other hotels elsewhere in the world today, the guest's keycard usually is stuck into a receptacle to turn lighting and other in-room energy related gadgets on. In practice, once the guest leaves the room and the door is shut, the key card will be off and this will also turn off the energy devices.

Room reminder cards for guests to turn of lights when leaving the room were absent in 98% of the all the hotels under study. The overall distribution of demand oriented energy saving techniques adopted by the hotels in the study are summarized in Table 5.

	Demand oriented energy saving method			
	Energy savers	In-room sensors	Energy sensitive guest key cards	Room reminder cards for guests to save energy
Level of adoption	100%	0%	0%	2%

Table 5: Overall distribution of demand oriented energy saving techniques adopted by the hotels in the study

Investigations into the 100% adoption of energy savers revealed that all the hotels and other sectors of the economy and even all households in the country were forced to adopt these bulbs and fluorescent lamps after the government invoked and enforced Statutory Instrument 208 of 2018. This instrument banned the use of inefficient lighting products and labels. Deterrent fines ranging from US$100 to US$500 were attached to violations of this instrument.

In general, many hotels in the world today have installed in-room energy monitoring and management systems in a bid to be eco-efficient. The manufacturers of these sensors guarantee that the savings in energy costs provide return on investment within 1 year after installation. A survey carried out by Smith Travel Research, way back in 2008 revealed that the adoption levels of such in-room energy management systems was 38% and yet Zimbabwe, at the time of this study in 2017 had 0%.

Waste management

All the sampled hotels did not have in-room waste separation as there was only a small bin in each room. Interviews with some housekeepers revealed that the hotels did not have in room

separation facilities because there was insignificant litter coming from the rooms and thus the exercise could be a waste of resources. For all the sampled hotels, waste separation was departmentalized. This means that kitchen waste was generated and discarded separately from housekeeping waste through having different bin liners. 44% of the hotels separated waste at their backyards. However, upon refuse collection, the city councils and rural district councils in the country did not bother to separate the waste to the effect that any waste separation by the hotels and in-room separation by guests was, and could be, a futile effort. Many hotels in the world today have moved away from this behaviour. In fact extant literature reveals that some hotels such as Starwood Hotels and Resorts in the USA and as far back as 2010 were already offering in-room separation and recycling through the use of divided waste baskets at its Element hotels and was planning to introduce similar programs at all its other brands by the end of the year 2010. Others have embarked on placing recycle bins in halls and public areas throughout the hotel (Stellin, 2009). Hotels in Zimbabwe need to also adjust accordingly.

Other customer facing green initiatives

(i) Display and inclusion of green initiatives in hotel mission statements
Only 16% of the hotels' mission statements were displayed in areas readily accessible to guests such as the front desk. For the remaining hotels, the mission statements had to be retrieved from brochures or other printed documents on request by the researcher. An analysis of the mission statements revealed that they were all silent on green issues. Although 70% of the sampled hotels included some aspects of corporate social responsibility in their mission statements, these were not specific to green attributes. The analysis of variance between various hotels revealed inconclusive results ($p = 0.062$) implying that the mean values did not clarify if there was a difference amongst hotels. The relationship between hotel type, province, year of establishment, number of rooms and inclusion of green initiative in mission statements was insignificant as given by 0.606, 0.299, 0.662 and 0.206 respectively. The impact of hotel type (5-star, 4-star, etc) had no relationship with the inclusion of green initiatives in mission statements ($p = 0.10$).

All the sampled hotels did not have documented green policies for their establishments. Some interviewed employees cited this as one of the major reasons why their green practices were inconsistent and invisible. Contrary to this observation, many hotels today have separate environmental mission statements which have mostly been compiled to gain green certification. Discussions on how to develop them, which hotels have them, their role and effectiveness and whether they are necessary still needs to be carried out especially in developing countries (Millar and Baloglu 2011)

(ii) Daily newspaper delivery methods
On newspaper delivery methods, the availability of Wi-Fi within the hotel environs and DSTV in hotel rooms had drastically reduced the demand for hard copies of daily newspapers. None of the hotels were buying and delivering newspapers to their guests for free anymore although this was the norm a few years ago. However, further investigations revealed that the hotels were no longer affording to provide this service due to the negative prevailing economic situation in the country and not necessarily because they were now more environmentally conscious. For the few customers who requested hard copies, these were informed that these were available in the hotel's public areas or they would be provided at the guest's expense. Overally, all the hotels provided for this service online, in common rooms and on request by the guests. Only one 4 star hotel indicated that it provided newspapers daily only to guests booked for 2 or more days. This behaviour displayed by hotels in the country is in sync with recent developments in the Industry. As already demonstrated in the brief literature review, in April 2018, Marriott International

announced that it would no longer deliver newspapers to every guestroom in the morning; guests can request a paper or pick one up in the lobby. Through this move Marriott estimated it would reduce newspaper distribution at its hotels by about 18 million papers annually (Green hotelier Newsletter, 2009).

(iii) Hotel guest green education and marketing

None of the hotels under study offered eco-friendly tips to guests upon arrival. Literature has it that these tips could be in the form of key card holders with green tips, paper leaflets, and many more. Only one 4 star hotel marketed its green initiatives to guests before and on guest arrival. Existing literature concurs that the inculcation of green hotel images in guests is creating competitive advantage for some hotels in the world today. Hotels therefore need to develop green placement strategies to build such images in guest. For example, studies by Jin soo *et. al.* (2010) revealed that a green hotel image gave rise to favourable behavioural intentions by hotel guests. These studies concluded that, a green hotel image could therefore be a powerful operational tool in attracting and retaining guests. Peharps this is why Lee et al. 2010 and Hu (2012) argued that a substatnive environmental claim could be a wise choice in hotel promotion. A deeper understanding of green hotel guests is therefore required for hotels to design effective green programs and initiatives (Han et al. 2011). Hotels in the country should therefore also develop effective guest education and marketing programs that can enable them to realise the benefits of such initiatives as witnessed elsewhere worldwide today.

(iv) Extra charge for greenness

All the hotels under study were not charging an extra fee for their green efforts. Most hotel operations managers indicated that they were not even contemplating doing so in the near future since they were already being viewed as an expensive destination. Some argued that they could not also charge an extra fee as they had not invested significantly in the greening of their operations to warrant a separate charge. Only one 4 star hotel indicated that the extra charge was embedded in their overall room rates. Very few hotels in the world today are charging an extra fee for greenness. As already alluded to in the literature, many researches have and are still being conducted to determine whether guests are willing to pay an extra charge for greenness or not. The results of these studies have been controversial. As an example, studies by CMI Green Traveller (2010), Manaktola (2007), Miller and Baloglu (2011), D'souza (2006), Cummings (2008) and many more, have all demonstrated that consumers are not willing to pay more for a green hotel. However, Dodds, Graci & Holmes (2006) in his studies of tourists visiting island destinations in South East Asia revealed that 79-95% of the guests depending on the island, were willing to pay a fee to support environmentally friendly practices by host organisations. Schubert et al. (2010) also noted that consumers were willing to pay more and hence a premium could be charged for hotel greening efforts. This controversy has left most hotels in limbo as to whether to institute this extra charge or not.

(v) Eco-rating certification and eco-labels

Only 3 out of the 50 sampled hotels had internationally recognised hotel specific green certificates and eco-labels. All three hotels were located in Matebeleland North and were all certified by the ZTA in partnership with Green Tourism UK in 2016. Green Tourism UK is one of the world's largest sustainable certification programmes of its kind which has been in operation for over 20 years with over 2500 members in UK, Scotland, Canada, Ireland, Europe, and more recently in Zimbabwe. The hotel units which were certified are presented in the Certified Green Tourism Operators booklet in appendix 7. However, an analysis of the Green Tourism Assessment tool used to certify the hotels revealed that most of the criteria used was mostly supply oriented (see appendix 6). Green certification organizations such as Green Seal, EcologoM, Energy Star and many more, have for long been encouraging certification of hospitality establishments worldwide.

Today, so many eco-rating schemes have emerged, including; the Green Leaf program, Green Globe 21, the ISO 14000 series and more recently, the Leadership in Energy and Environmental Design (LEED) program in the USA. However, despite the proliferation of these generic green certification programs, individual countries need to develop their own homegrown eco-rating tools. The current eco-rating tool being used by the ZTA in the country therefore needs to be reviewed to make more applicable to the country.

(vi) % local food content

All hotels had at least 70% of their menus composed of local ingredients. 20% of these hotels had more than 90% local content materials and ingredients in their food offerings. This was quite commendable. The chefs in the concerned hotels affirmed this finding by highlighting that they received very few requests of foreign dishes from local guests. Regression model against hotel characteristics produced a relationship of 0.888 which is very strong and positive. The type of menu was being affected by year of establishment ($p = 0.002$) and name of province ($p = 0.065$). On the composition of menu, the number of hotels for each group did not differ significantly from the mean. (In this case, the expected mean is given by 16.7).

Overall levels of adoption of demand oriented hotel green practice by hotels in Zimbabwe

This study revealed that the overall adoption levels for the various types of demand oriented hotel green practices were very low. Table 6 presents a summary of the adoption levels.

DEMAND ORIENTED GREEN PRACTICES	Adoption level of green practice	Overall score. (<50%=0 & less >50%=1)
Demand oriented water saving techniques		
1. Low-flow shower heads	46%	0
2. Motion sensor taps	10%	0
3. Aerated water faucets for taps	38%	0
4. Stickers in bathrooms advising guests to save water	0%	0
House keeping		
5. Use of shampoo dispensers	0%	0
6. Linen change policy	16%	0
Energy saving		
7. Energy savers	100%	1
8. In room energy sensors	0%	
9. Room reminder notices for guests to turn off lights when leaving the room	2%	0
10. In-room key cards to automatically turn on and off energy gadgets	0%	0
Waste separation		
11. In room separation of waste	0%	0
12. Backyard separation of waste	44%	0
Others		
13. Mission statement display	16%	0
14. Green policy display	0%	0
15. Newspaper delivery	100%	1
16. Green tips to guests	0%	0
17. Charge extra fee for greenness	1%	0
18. Eco-certification and eco-label display	6%	0
19. Local food content (%)	100%	1
20. Marketing of green initiatives to guests	1%	0

Table 6: Summary of adoption levels of demand oriented green practices by hotels in Zimbabwe

Therefore, as shown in table 6 column 3, only 4 out the 20 possible demand oriented green practices that can be adopted by hotels in the country, only 3 have been meaningfully adopted to date. Therefore the overall adoption level of demand oriented green practices by hotels in Zimbabwe is only 15.3%. This also implies that the level of consumer involvement in the greening of hotel operations in Zimbabwe is still insignificant. The hotels under study did not meaningfully engage guests in linen change and reuse, in in-room separation of waste, guest education on green behaviour and marketing their green initiatives to guests.

In terms of the second hypothesis, the analysis of variance (MANOVA) using the main effects; number of rooms, year of establishment, province and hotel status revealed that these main effects did not contribute much to the adoption of green practices in hotels. This was indicated by insignificant values of Wilks' Lambda (p>5%), Pillai's Trace (p>5%), Hotelling's Trace (p>5%) and Roy's Largest Root (p>5%). This research therefore rejects the alternate hypothesis and thus concludes that there is no significant relationship between hotel characteristics in the country and their adoption of demand oriented green practices. This conclusion is unexpected, surprising and a cause for concern for the country as one would expect higher quality hotels (3-5 star hotels) to be more sensitive to global trends on green issues. One would also expect newly constructed and boutique hotels to have higher levels of adoption of demand oriented green gadgets such as low-flow shower heads, mounted wall dispensers, laundry cards and towel re-use hangers. As of now, most governments, especially in developing countries are not enforcing these requirements as they are still optional.

Recommendations

Based on the findings presented in this paper, this research makes the following recommendations:

Firstly, the awareness levels of hoteliers and their employees in the country on demand oriented green tourism techniques and gadgets needs to be seriously raised through robust training and consciousness programs. Green policies and green teams need to be set up in these hotels to deal with these green issues.

Secondly, while the study applauds efforts by the Zimbabwe Tourism Authority (ZTA) to green certify hotels in the country in collaboration with the Green Tourism UK company, the instrument being used is too supply skewed. The country therefore needs to develop its own home grown instrument which incorporates the demand oriented green initiatives discussed in this paper. The ZTA could consider this certification as a pre-requisite to the licensing of hotel operations in the country. This instrument should have a hospitality wide perspective spanning from hotel construction to operation. Other African countries such as Kenya and South Africa have developed theirs but the extent of their skewness towards demand or supply is not known.

Thirdly, most governments in different parts of the world today are playing a pivotal role in the greening of their hotel operations. In some instances, governments are charging additional levies for hotels failing to adopt green behaviour. Others are offering tax incentives to those engaging green initiatives. Still others are offering tenders to only those hotels that are green certified to encourage others to follow suit. The government of Zimbabwe could also adopt any of these measures to effect green behaviour in the industry.

Last but not least, several waste recycling companies need to be set up in the country. This will encourage a lot of organisations including the country's City and Rural District Councils to separate and recycle waste. These authorities will then force compliance to waste separation by

hotels. This research suggests that further research be undertaken to determine hotel guest perceptions towards these demand oriented hotel green practices and then use such information to craft more effective strategies to engage and incorporate guests into hotel greening efforts.

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