

**Sustainability awareness, management practices and organisational culture in hotels:
Evidence from developing countries**

Abstract

The subject of sustainability and its management in the hotel context is somewhat volatile with varied evidence in support of different viewpoints. This study, adopting Situated Cognition (SC), explores the role of organisational culture in sustainability practice and awareness among hotel practitioners. The findings from this study reveal that management practice of sustainability has strong relationship with both organisational culture and employees' sustainability awareness. However, organisational culture only mediates the relationship between sustainability awareness and management on country to country basis. The study recommends that owner-managers need to realise the importance of building up a robust organisational culture particularly in support of their sustainability management and empowerment of their staff.

Key words: Sustainability, CSR, hotel industry, management practices, organisational culture, developing countries

1. Introduction

Numerous studies of sustainability have been carried out in the hospitality examining areas as diverse as industry practices (Mensah, 2006; Rahman, Reynolds & Svaren, 2012; Hsieh, 2012; Prud'homme & Raymond, 2016); financial performance (Molina-Azorin et al 2009; Inoue & Lee, 2011; Alzboun et al., 2016); sustainability and organisation behaviour (Dodds

& Kuehnel, 2010; Dief & Font, 2010; Chan, Hon & Okumus, 2017) and sustainability and consumer behaviour (Berezan et al., 2013; Barber & Deale, 2014). However, some authors (Visser, 2008; Graham & Wood, 2006; Frynas, 2006 and Wood, 2010) noted that most theoretical and empirical research in this area comes from the Western developed countries. However, the idea of theoretical and empirical research from a Western perspective should not be viewed negatively as it forms a useful foundation upon which to develop an African understanding of sustainability. There are issues within the sustainability context that are applicable to both African and Western countries. For instance, Holcomb, Upchurch and Okumus (2007) expounded that environmental and economic sustainability are strategically imperative to the hospitality business. The hospitality sector in the two case countries could not survive economically without a sustainable environment. In addition, social sustainability has become increasingly important and has been synonymously described as Corporate Social Responsibility (CSR) in many instances. Corporate Social Responsibility, according to (European Commission, 2002), is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. Adherence to social responsibilities is important in West African societies because there is a cultural expectation that those with more resources should take steps to assist those considered less privileged within the society (Kuada and Hinson 2012). Irrespective of the research effort, there is a dearth of literature as to how managers/practitioners in developing countries engage in sustainability practice. Gugler and Shi (2009); Muthuri and Gilbert (2011); Ragodoo (2009) and Gokulsing (2011) are among the limited research addressing sustainability in developing countries.

The concept of sustainability continues to gain attention from businesses including those in the hospitality sector. Although the definition of the concept is highly contested, as a multi-

faced concept, it has continued to flourish. The accepted definition of this concept depends on the perspective of the author. Sustainability concept and practice is ambiguous and means different things to different people. In spite of the fact that the concept has gained increasing prominence, there are those who are not as easily persuaded about the expediency of the idea. For people in the developing world, they may be apprehensive that sustainable development might be a philosophy imposed by the wealthy industrialised nations to enforce firmer conditions and rules on aid to developing countries (Mitcham 1995). They have concern over the costs associated with achieving sustainable development may increase the gap between developed and underdeveloped countries. Recent analysis emphasize that effective learning and appropriate knowledge acquisition are crucial in understanding and dealing with sustainability issues particularly in developing country context because it has been noted that managers lack the necessary knowledge and interest to meet the basic objectives of social and environmental responsibility (Mensah, 2006; Erdogan & Baris, 2007).

Sustainability may be defined from different perspectives, Farrington and Kuhlman (2010) emphasised that the term is more than a slogan or expression but demonstrate an injunction to preserve and reproduce productivity capacity for the indefinite future. Hamsson (2010) offered a definition, which is adopted in this study, as managing the well-being of the environment, people, economy and/or society over a long period or indefinite period. To this end, it is plausible to argue that sustainability initiatives can play a significant role in mitigating problems, such as use of child labour, environmental pollution, and poverty, faced by many countries in the developing world. And, in the context of this study as argued by Jones et al. (2016) sustainability can enhance business efficiency and the search for competitive advantage. However, there have been challenges in developing countries due to limited financial and human resources, deficient entrepreneurial culture, lack of sustainability

awareness and ethical business environment (Lepoutre & Heene, 2006; Mandl & Dorr, 2007). This is particularly relevant to this study because as the analysis below would demonstrate, the hospitality industry in Ghana and Nigeria is dominated by SMEs, although the data clearly highlights the fact that most of the respondents demonstrated some understanding of sustainability related issues.

In spite of the various challenges in developing a definitive explanation, there seems to be a common thread within the definitions articulated by various authors and international institutions. The United Nations has articulated 17 goals (six of these goals focus on the environment) under its sustainable development goals agenda. The United Nations Sustainable Goals define sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (UN Sustainable Development Goals). From a business perspective, Deloitte defines sustainability as a comprehensive approach which is focused on creating and maximising long-term economic, social and environmental value (Deloitte 2018).

The common theme within these definitions is the idea of organisations and individuals taking some responsibility for their actions on their surroundings. Consequently, for the purpose of this study, sustainability is simply conceptualised as the implementation of holistic policies and measures aimed at ameliorating the negative impacts on the physical, social and economic surroundings. By acknowledging impacts on the economic, social and environment, the study engages with all relevant stakeholders and is able to address the identified concerns.

This study, like Kim *et al.*'s (2019) study integrates the analysis of organizational and individual variables in exploring the involvement of employees in their organisations' pro-sustainability efforts. Whilst Kim *et al.*'s (2019) study concludes that the social identity perspective has strong implications for employees' sustainability behaviour, yet the basis for identity – culture was not explicitly considered. From Situated Cognition (SC) (see section 2.5 for details) perspective learning is related with the context of social interactions and it is culturally constructed (Brown, Collins & Duguid, 1989). This places culture within the organisation at a centre point for sustainability awareness to take shape. More importantly, culture becomes imperative because the power relations within an organisation shapes not only values and beliefs (Schein 1985) but could play a crucial role in its strategic success. This study aims to achieve three objectives. Firstly, the study seeks to examine the level of awareness of sustainability amongst hotel practitioners. Secondly, the study explores the relationship between sustainability awareness, management practice and organisational culture, including the mediating role of organisational culture in the developing country context. Thirdly, the study examines differences across countries, Nigeria and Ghana in this regard.

2. Literature Review

2.1 Sustainability

Despite in-depth academic research, there is a lack of a clear definition of sustainability. Smith and Sharicz (2011) stated that the existing definition might create implications and confusion for organisations. While some companies may concentrate on a green practice business model, others may consider sustainability as the ability of business to survive the next ten year. Mowforth and Munt (2003:18) explained that sustainability is recognised as a

challenging concept which is “socially and politically constructed and reflects the interest and values of those involved”.

The term sustainability emerged before the 1987 United Nations’ sponsored World Commission on Environment and Development (WCED) report, ‘Our common future’. The most fundamental definition of sustainability was developed in Brundtland Commission report, which states that “sustainable development is a development that meets the need of the present without compromising the ability of future generations to meet their own needs (WCED 1987:43; Robinson 2004). There have been several attempts to clarify the concept of sustainability. Institutional Framework for Sustainable Development (IFSD) (1996) noted that experts, practitioners and academics from five continents met to set guidelines for sustainable development which was titled ‘Bellagio Principles’. However, these principles were criticised for not asserting a coherent vision of sustainability (Hardi and Terrence 2007). As a result, the Gibson principle was developed from the collaboration of sustainability literature and practical experience (Gibson 2006). This principle was similarly criticised for failing to acknowledge sustainability measurements and indicators. Likewise, in 2001, UNWTO added three key components of sustainability namely economic development, social and environmental impact. This was further developed to the three-dimensional Triple-Bottom-Line (TBL). To this end, the sustainability concept has been interpreted in three dimensions, namely: social, economic and environmental. These three factors reflected in the definition by Farrington and Kulman (2010) which stated that development is a multinational undertaking to achieve a higher quality of life for all people. Economic and social development and environmental protection are interdependent and mutually reinforcing components of sustainable development.

Legrand and Sloan (2010) supported the definition of sustainable hospitality articulated by World Commission on Environment and Development (WCED) as “hospitality industry development and management that meets the needs of today’s guest, hoteliers and stakeholders without compromising the ability of future guests, hoteliers and stakeholders to enjoy the benefits from same services, products and experience”. The industry tends to emphasise the environmental dimensions of sustainability in terms of climate change, water and energy usage, waste management, recycling, natural protection and preservation, biodiversity, and being environmentally responsible by considering environmental impacts. Goldstein et al., (2012) stated that sustainability issues are related to every aspect of the hospitality industry, and therefore require the alignment of environmental, social and economic factors to promote responsible business operations over time. However, in reality, such alignment may prove difficult and at best companies may have to make a difficult compromise between pursuing the wide-ranging sustainability strategies and programmes.

Defining sustainability in the context of the hospitality industry is problematic because the activities of this sector are broad and often do not readily lend themselves to easy measurements. Jones et al., (2016) emphasised that sustainability in the hospitality industry can be interpreted to centre around business efficiency and the search for competitive advantage and therefore driven by business concerns for sustainability. Holcomb, Upchurch and Okumus (2007) expounded that environmental and economic sustainability is strategically imperative to the hospitality business. The social and economic dimensions support issues about equality and diversity in the workplace, health and safety, labour condition in the supply chain and community support. In addition, social sustainability has been increasingly synonymous with the idea of Corporate Social Responsibility (CSR) in many instances. Corporate Social Responsibility, according to (European Commission,

2002), is a concept whereby companies integrate social and environmental concerns in their business operations and their interaction with their stakeholders on a voluntary basis. In this paper we adopt a broad view incorporating ecological, community involvement, legislative and administrative, ethical and discretionary deed of actors in developing countries' hotel industry context, hence the use of the term sustainability.

2.2 Sustainability awareness

The position of knowledge in the body of literature regarding sustainability management is that individuals and organisations need to understand how their activities impact the environment, including the social and economic dynamics, in which they operate; and what they can do to minimise such impacts (Howell, 2018; Garbie, 2015; Horng et al. 2013). This position infers that increasing employees' awareness of sustainability within workplace can encourage them to implement sustainability principles and practices in their activities. This emphasises the importance of awareness concept. Kollmuss and Agyeman (2002) conceptualised environmental [sustainability] awareness as the knowledge and perception of sustainability as a concept and its attendant issues. Sustainability awareness however has been variously defined and approached, in terms of research. Conceptualisation may depend on sector and academic orientation such as in information technology (e.g. Chou & Chou, 2012); manufacturing (e.g. Garbie, 2015) and tourism (Horng et al. 2013). There exist related terminologies often used interchangeably with sustainability awareness these include green awareness, environmental awareness, environmental knowledge, carbon literacy, energy literacy, environmental literacy and ecological literacy. Carbon literacy which seems very popular is a term Howell (2018) noted has emerged in the literature in the last few years without being formally defined. However, Horng et al. (2013) defined low-carbon literacy as knowledge and understanding of energy conservation and carbon reduction and the

incorporation of this literacy into everyday life. According to Howell (2018) many definitions of associated terms such as ecological literacy and energy literacy focus on knowledge and understanding rather than incorporating 'affect' as in other definitions (e.g. Horng et al., 2013).

Measuring sustainability awareness is beset with ambiguity, and difficulties are associated with assessments techniques employed (Garbie, 2015). For instance, Shokri, Oglethorpe & Nabhani (2014), in UK fast food supply chain context, measured sustainability awareness with a 24 item scale. Apart from the fact that the items were not operationalised they seem to test aptitude more than measure awareness. In another instance, Suki (2013) operationalised green awareness with four dimensions consisting of consumers' environmental concerns, awareness of green product, awareness of price and awareness of brand image. Whilst the dimensions are plausible, the conceptualisation is somewhat problematic. The first dimension - environmental concerns depicts a state of worry which is most likely to be established after awareness. The second dimension green product cut across many conceptualisation and measurements (e.g. Rashid, 2009). The third and the fourth dimensions are more related to buying behaviour than sustainability awareness. Garbie (2015) employed four dimensions consisting of the traditional triple bottom line - economy, society and environment, and general sustainability to assess sustainability awareness in an industrial context. The conceptualisation is somewhat difficult to grasp because no definitive items were formulated rather questionnaire templates were developed mainly to guide respondents. In a more comprehensive study, Horng et al. (2013) developed a low-carbon literacy scale for the tourism sector which consists of seven dimensions namely: knowledge of low carbon issues, ecological concept, attitude and values, locus of control, sensitivity, action intent and action strategy. Howell (2018) however established a distinction between awareness and literacy. In

view of this study knowledge of low carbon issues, ecological concept and sensitivity are more applicable to awareness. Rashid (2009) conceptualised perceived environmental knowledge as consisting of three dimensions namely knowledge of green product, knowledge of environmental issues describing perceived general knowledge of sustainability, and concrete knowledge depicting knowledge of industry practice.

2.3 Sustainability practices

A number of studies have explored sustainability management practices in hotels (e.g. Enz & Siguaw, 1999; Erdogan & Baris, 2007; Prud'homme & Raymond 2013; Mensah, 2014; Kasim, Gursoy, Okumus, & Wong, 2014). Often different labels are used such as environmental management practices, green practices, sustainable practices, sustainable development practices, environmentally friendly practices, sustainability management tools and sustainability initiatives. Irrespective of nomenclature, the core as described by Mensah (2014) is a routine practice by organisations to reduce damaging the environment. Chan (2007) and Wang (2012) described sustainable practice as carrying out management actions to save and safeguard resources. It is about implementing operational initiatives that will have impacts on the environment. Tzchentke et al., (2008); Hall (2013) and Sloan et al., (2014) identified examples of sustainable practice as including water saving, energy saving, recycling and procurement of locally produced products. Bohdanowics (2005) further pointed out that waste disposal is the most crucial environmental issue that needs management in many countries and within the hotel sector.

In several hotel sustainability management practices studies (e.g. Prud'homme & Raymond 2013; Kasim et al., 2014) waste management hierarchy (i.e., 3R strategy: reduce-reuse-recycle) is often adopted. This framework can however be argued to have been adopted

because of its direct, albeit minimalist nature; and extended because it is limited in scope to capture sustainability practice fully. For instance, in manufacturing Joshi et al., (2006) extended the 3R to developed a 6R model (reduce, reuse, recover, redesign, remanufacture, recycle). More importantly as it applies to this study, in hotel context Kasim et al. (2014) extended the model by adding a fourth 'R' – Reaching. As much as the 3R and its extended version – the 4R are valuable and whilst the first R – reduction stands for active effort of organisations to reduce energy use, noise pollution and water wastage etc.; Recycle and Reuse are efforts geared towards modifying and managing behaviour of resource users. Leslie (2007) noted that hotels are putting programmes and practices in place in order to promote responsible environmental behaviour. Mensah (2014) pointed out that environmental management practices of hotels have evolved from water and energy conservation to include voluntary environmental programmes extending the thinking of sustainability beyond waste management and reduction of noise pollution to environment stewardship encompassing support actions such as eco-labelling and Environmental Management Systems (EMS).

The term sustainability management practice is more encompassing; however, the focal point of many past studies is often on physical environment and this is partially as a result of the restrictive nature of terminologies (e.g. environmental management practices, green practices etc.) adopted. Kneipp, Gomes, Bichueti, Frizzo, and Perlin, (2019) noted eco-labelled terminologies are only concerned with environmental and economic dimensions, on the other hand, sustainable-labelled terms encompasses ethical and social aspects. In addition, another reason for this exclusion might have emanated from Johnson's (2015) submission that EMS and corporate citizenship are exceptions to the conventional management approach because their origin is not from traditional business management practices. Mensha (2014) noted that green purchasing policies and practices can help hotels reduce operational costs; this can

serve as some form of support for the community when organisations consider food mileage and buy local (Radwan, Jones & Minoli, 2012). Erdogan and Baris 2007) however found in Turkish hotel context that hotels failed to meet the basic requirements of an environmentally sensitive purchasing policy.

2.4 Organisational culture

Culture is required as a medium to shape the communication and action necessary to achieve sustainable development in ecological, economic and social contexts (Packalen, 2010).

Culture composes of two main elements: traditional and anthropological. The latter is intangible unlike the former; it is this aspect that needs to be the point of focus in shaping policies and practices (Packalen, 2010). Organisation culture can be argued to be predominantly anthropological particularly when viewed from Schein's (1999 in Schein, 2010) definition, which says that culture is the sum total of all the shared, taken-for-granted assumptions that a group has learned throughout its history. In the context of the hospitality industry, developing an organisational culture has become very important due to the intangible nature of the operations carried out, and the subjective perception of the quality of service provided (Christou, 2003). In other words, the competitive nature of the hospitality sector, and its growing importance to the local and national economies have ensured that organisational culture has become a "common agenda" as managers in the sector strive to gain a competitive advantage (Kandampully and Hu, 2007).

Landrum and Edwards (2009) highlighted that it is important that the sustainability agenda is perceived as a company-wide goal that incorporates every aspect of business activity. The move toward sustainability requires a positive change in corporate culture. After all, adherence to sustainability issues has taken on greater significance due to the fact that it is

seen as an expression of corporate behaviour which allows an organisation to be differentiated from its competitors (Balmer et al., 2007; Heikkurinen 2010). In particular, developing an organisational culture that encompasses sustainability issues could act as a powerful source of sustainable competitive advantage (Kandampully and Hu 2007). It could also be argued that having an effective organisational culture could influence the relationship between hotel owners and employees by strengthening the trust between them and likely impact on the latter's organisational commitment and performance (Justwan, et. al 2018). This is important in terms of sustainability related issues given the level of dependence between owners and employees in Ghana and Nigeria in the hospitality sector.

This requires systematic thinking that everything is related, and each aspect of the business can contribute towards the sustainability agenda. Organisational culture can be described as the hidden driving force of people's behaviour both inside and outside the organisation (Doppelt 2003; Schein 2009). The common thread within many definitions in the literature is the importance of group norms and assumptions, and how they point to a particular way of operating. In other words, as individuals within an organisation become socialised into particular ways of viewing the environment around them, their responses to particular problems will change. Research by Kuada and Hinson (2012) shed light on the impact of organisational culture on the CSR practices in both foreign owned and local organisations in Ghana. They noted that CSR practices of local organisations were consistent with cultural expectations that those with surplus resources should help those who were less privileged members of society. In contrast, they noted that the CSR decisions of foreign owned organisations were guided by legal prescriptions.

Whilst Jaakson, Vadi and Tamm (2009) contended that only a few studies are available that offer insight into the relationship between organizational culture (OC) and CSR, their study of the effect of organizational culture on corporate social responsibility (CSR) in service companies in Estonia, was inconclusive. Although their paper claimed to be the first attempt to systematically relate organizational culture with CSR behaviour. This further highlights the need to examine the relationship between these two constructs. Unlike Jaakson, Vadi and Tamm's (2009) conceptualisation of organisational culture on corporate internal stakeholders (managers and employees), this study looked at organisational culture holistically focusing on both internal and external stakeholders.

2.5 Hypotheses and theoretical model development

This study adopts Situated Cognition (SC), which draws its basis from anthropology, philosophy and sociology as its theoretical foundation. SC is commonly used in learning and education research, this is however applicable to the context of this study because sustainability awareness is a learning behaviour in which knowledge (awareness of sustainability) is secured to the situation (hotel operation and management of sustainability) in which behaviour is learnt. SC's premise is that individual cognition is closely related with the context of social interactions and culturally constructed meaning, where what an individual knows and does within a given environment are inseparable (Brown, Collins & Duguid, 1989). Greeno and Moore (1993) argued that knowledge is situated in activity bound to social, cultural and physical contexts. In this case, it is argued that employees of hotel will become aware of sustainability issues as they interact with their setting in terms of organisation culture and the organisation approach to the management of sustainability. Situated cognition theory is therefore based on a sociocultural setting over an individual setting where humans think through paying attention to elements of experiences (Gee, 2010).

According to Driscoll (2005) knowledge is accumulated through the lived practices of the people in the society. For example, while people can learn and become aware of sustainability by reading about it or listening to news and debate about the subject, this isolated effort can only teach basic aspects of the subject; when employees interact with organisation's policies and management principles, they are likely to learn the fundamental aspects and mechanics of the subject within the socio-cultural context of the organisation.

Management of sustainability is shaped by quite a varied number of factors (ranging from benefits of sustainability to risk avoidance of various degrees) which in turn have effects on stakeholders, particularly employees' awareness of and readiness to implement sustainability agenda within the organisation. Such factors would determine the scope and style of management. Bohdanowicz and Martinac (2003) studied the attitude of chain hotel managers in Europe and revealed that there are positive attitudes towards environmental protection and acknowledgement of the importance of the environment for further development of the industry. Also, the level of environmental awareness among the hotels was corresponding to the efforts made by the chain management towards developing and enforcing environmental policies and programs. Essentially, management effort towards sustainability enhances awareness amongst practitioners (Jonhson, 2015). Based on this argument hypothesis one is formulated.

H1: Management practice of sustainability is positively related to the level of sustainability awareness among the hotel employees.

The attitudes of small hotel owner-managers are often not geared toward sustainability but are influenced by their personal values and beliefs, perception of environmental imperatives,

motivations and goals and the understanding and awareness of the type of action required (Dewhurst and Thomas, 2003). All of these often form the basis of the culture in their organisations and their intention to engage with sustainability. A good understanding of an organisation's culture is important because a strong culture that promotes sustainability and related agenda could potentially increase service quality and yield sustainable competitive advantages. Dief and Font (2010) argued that organisations that understand that practicing sustainability is the right thing to do and perceive they have a duty to behave in a socially responsible manner modify their entire corporate culture to make sure that environmental issues are incorporated into every aspect of their business. In essence management practice wills modify their culture. Based on this, hypothesis 2 is formulated:

H2: Management practice of sustainability is positively related to organisational culture.

Based on SC, Driscoll (2005) contends that people should not only interact with the physical environment but should also relate with the concepts that were constructed by themselves as well as understand the importance of activity bound learning in the social and cultural environment. Culture being a medium that shapes action necessary for the achievement of sustainability (Packalen, 2010) will inform employees' awareness of sustainability and subsequent behaviour. Driscoll (2005) expounding the premise of SC explained that humans learn in the cultural context of their environment, where learning is described as participation in communities of practice where individuals participate in various communities and form identity within each community through personal involvement and growth. Based on the discussions above, a research model is proposed (figure 1.0) and hypotheses 3 and 4 are formulated as follows:

H3: Organisation culture is positively related to the level of sustainability awareness among the hotel employees.

H4: The relationship between management practice of sustainability and the level of sustainability awareness among the hotel employees is mediated by organisational culture.

FIGURE 1 ABOUT HERE

3. Methods

3.1 Study contexts

The hospitality industry in Nigeria contributed NGN 390.0 million in 2006 (CBN, 2006), and in 2015 this figure increased to NGN 1.6 billion [US\$321m], representing 1.7% of the GDP. A 4.8% increase was estimated in 2016 although it is doubtful whether this was achieved due to the economic recession that gripped the country due to decline in the price of crude oil. It has been highlighted by Akpabio (2007); Awoseyin (2007); Amadi (2008a) and Nwosu (2008a) that the Nigerian hospitality industry had and is still facing (Bello & Bello, 2017) critical barriers including high hotel charges, erratic power supply, poor service, low occupancy rate, unethical behaviour by professionals in the industry and the slow pace on developing and attracting tourists.

In the Ghanaian case, the hospitality industry has remained resilient in spite of recent global economic challenges. The sector grew by 1.2% between 2015 and 2016 and expected to continue its growth in the coming years (Ghana Hospitality Industry Review Report 2016). According to the World Travel and Tourism Council (WTTC), tourism in Ghana was expected to expand by 5.6% in 2016 and maintain an annual growth rate of 5.1% from 2017

through to 2027 (WTTC, 2017). However, similar to Nigeria, the hospitality sector In Ghana is facing similar problems. Amongst the top challenges are inadequate investment in the hospitality industry, lack of professionalism, poor infrastructure, limited understanding of tourism, and the high cost of tourism destinations (Ghana Hospitality Report, 2016).

3.2 Data collection

Using stratified purposeful sampling strategy (Patton, 1990; Martens, 2014) data were collected in five Nigerian states and three regions in Ghana. Within each stratum the snowball sampling was used by first identifying an initial contact, in participating organisations, who subsequently helped in recruiting other participant through referral. Data were gathered from hotel workers on-site by means of self-completed questionnaire after permission have been sought from and granted by hotel managements. Surveying workers on hotel sites allows for relevant data to be collected and increased the response rate. Through this means only those individuals who work in the hotel industry were included in the survey and this further assured that relevant and reliable information pertaining to practices and awareness of sustainability in the industry were collected. States in Nigeria where data were gathered include Federal Capital Territory, Abuja (81), Benue State (70), Oyo State (43), Ogun State (41) and Lagos State (122) making a total of 357 completed questionnaires in the Nigerian survey. The variation in the number of surveys completed reflects the concentration of hotel establishments in each geographic location. The three regions in Ghana are Greater Accra Region - Accra (67), Ashanti Region – Kumasi (86) and Upper East Region – Bolgatanga (82) making a total of 250 questionnaire realised. In total 607 completed questionnaire were returned from both countries. Because the snowball sampling was used it was difficult to determine the response rate as people were approached based on referral;

however, a total of 29 questionnaire were not fully completed hence were excluded from the analysis.

3.3 Operationalisation of constructs and preliminary statistical verification

The survey respondents were asked to indicate to what extent they agreed or disagreed with the statements relating to sustainability awareness, organisational culture and management practice. Adapting Rashid (2009) perceived environmental knowledge scale, sustainability awareness (SA) was measured with a eight-item measure comprising three subscales assessing individuals' awareness of sustainability as general knowledge (GEK), legal requirement and industry practice (LIR), and product and procurement (PP). Management practice (MP) construct drawing from Kasim, Gursoy, Okumus and Wong's (2014) 4R model was based on Bohdanowicz and Martinac (2003) and Bohdanowicz (2006) consists of three dimensions namely energy and water saving/noise pollution reduction (EWS), behaviour modification (BM), and environment and community stewardship (CS). Organisational culture was measured based, but adapted, on O'Reilly et al. (1991) as cited by Tepeci & Bartlett (2002). The main dimensions in the organisational culture measurement scale include people orientation (TPO), innovation (INN), valuing customers/customer focus (CF), employee development and empowerment (EPP) and result orientation (FRO) Formality (Bradley et al., 2006) was subsumed in FRO (please see Appendix). The three constructs under analysis in this study were conceptualised as second order constructs as a result of their multi-dimension nature. An initial assessment of the reliability of the scales was conducted, all the three constructs had Cronbach alpha coefficient between .752 and .922 depicting excellent internal consistency, according to Gliem & Gliem's (2003) guideline. The authors also computed the average variance extracted (AVE) and composite reliability (CR) for each

construct to examine the construct validity (convergent and discriminant validity) and scale reliability (discussed in section 4.4).

All items of the three constructs - Sustainability awareness, Organisational culture and Management practice were measured on a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). Other items in the questionnaire include socio-demographic such as age, gender and years of experience, and organisation specific questions such as location of organisation, and size and type of hotel. Structural equation modelling (SEM) was utilised to test the properties of the three constructs (one exogenous: sustainability awareness; and two endogenous: organisational culture and management practice) in the proposed model. SEM was deemed appropriate for testing the model because it (SEM) allows for an evaluation of how well a proposed theoretical model fits collected data (Hoyle, 1995). The hypothesised relationships were analysed using AMOS 24.0 adopting the maximum likelihood (ML) method of estimation. To check the suitability of SEM and ML in analysing the data, univariate normality was ascertained prior to model estimation. The normality of the data was examined by assessing skewness and kurtosis which are known to affect analysis of variances and covariances when using SEM. Values greater than 2 for skewness and 7 for kurtosis indicate non-normality of data (West et al. 1995; Aleshinloye et al., 2019). Results showed that there is no item with skewness or kurtosis values higher than the stipulated thresholds, indicating that the data is approximately normally distributed supporting the use of maximum likelihood estimation in SEM.

4. Analysis and results

4.1 Sample profile

Respondents in the combined sample, gender wise, were almost equally represented with male (n = 256, 45%) and female (n = 316, 55%). The age distribution of the sample was: 15–24 (n = 163, 28%), 25–34 (n = 274, 48%), 35–44 (n = 107, 19%), 45–54 (n = 19, 3%), 55+ (n = 11, 2%). The age groups of 15–24 and 25–34 account for 76% of the total respondents. In terms of education, 38% (n = 216) report qualification attainment of Higher National Diploma/Degree; 26% (n = 149) have qualification attainment of National Diploma; 23% have Secondary School leaving certificate; only 8% (n=44) and 5% (n = 26) have post graduate degree and no formal education respectively. Majority 80% (n=447) work for independently owned hotel organisations; 13% (n=73) report working for local chains and 6% (n=31) for international chains. A large proportion of the sample 79% (n=448) work for small size hotels of 50 rooms or below; with 75% (n=424) of the respondents working between less than one year and four years in the industry.

4.2 Descriptive statistics

An examination of the distribution of subjects' responses on the variables under investigation would be informative before testing the proposed model. The distribution of Ghanaian and Nigerian hotel workers' agreement in terms of their awareness of sustainability and practices in their workplaces were considered. Majority of the variables have mean score over 3 except for 'Options to reuse towels for guest staying more than one night' (Mean: 2.86); 'The hotel uses thermostat to control guest room temperature' (Mean: 2.93); and 'The hotel has noise control system in place e.g. soundproof system in guest room (Mean: 2.77). These results indicate that majority of hotels in Ghana and Nigeria may not pay much attention to noise and temperature control. Also, the practice of reusing towels may not be popular in this region of the world. However, it does seem that hotel workers have fair knowledge of CSR and sustainability issues. One outstanding feature of the culture of hotels in this region seems to

be their focus on ‘customer relationship/value’ and ‘getting the job done’ (mean score over 4).

Furthermore, taking cognisance of Bohdanowics’ (2005) findings about the disparity between awareness of chain-affiliated hotel managers and independent operators an ANOVA was conducted to test if local and international chain hotels are different from the independently owned hotels. It was found that only five items - MAN4PR, MAN9PR, ORG13CU, ORG15CU and ORG16CU (**please see Appendix**) are significantly different across groups. No significant differences were found among the groups in terms of sustainability awareness.

4.3 Confirmatory factor analysis

The three constructs under analysis were conceptualised as second-order constructs because of their multidimensionality. Second-order modelling is applicable in this study context because the measurement instrument used assessed related constructs which were measured by multiple items. According to Chen, Sousa and West (2005) a second-order model represents the hypothesis that constructs that are apparently distinct, but related can be accounted for by one or more common underlying higher order constructs. For example the sustainability awareness (SA) construct was measured with a eight-item instrument comprising of three first-order latent variables general knowledge (GEK), legal requirement and industry practice (LIR), and product and procurement (PP) (**see Appendix for details**). Chen, Sousa and West (2005) submit that second-order factor models are capable of providing a more parsimonious and interpretable model when compared to first-order. This was the case in this study, conceptualising variables as second-order constructs provided a better and more comprehensive model than first-order conceptualisation.

FIGURE 2 ABOUT HERE

Two measurement models (one employing first-order modelling and the other second-order constructs) using the maximum likelihood estimation method were evaluated. The first estimation of the full measurement model with three constructs (first-order) and 38 measured variables did not produce acceptable levels of model fit, having a chi-square of value of 1514.569 with degrees of freedom 373 ($P = .00$). Some of the goodness of fit indices indicated that the hypothesised model did not fit the data well, showing GFI (.81), CFI (.82), RMR (.06) and RMSEA (.08). The model provided a poor fit despite removing some measurement items with low loadings and inter-correlating some measurement errors. A second measurement test was conducted subjecting the 38 items to CFA conceptualising the three variables as second-order constructs. Nine items with factor loadings below 0.4 and low squared multiple correlations were excluded. The measurement model was re-estimated excluding the nine items (Ford et al., 1986). The results of the CFA with the remaining 29 items provided a satisfactory fit. Although, a statistically significant value of the chi-square test ($X^2 = 846.83$, $df = 362$, $p < .000$) was obtained; however, given that chi-square is sensitive to sample size and may lead to biased results (Joreskog, 1993), other fit indices were also assessed. Findings from the measurement model are summarized in Table 1. The better results obtained from the second-order measurement model support Chen, Sousa and West (2005) submission that second-order factor models can provide a more parsimonious and interpretable model when compared to first-order, hence the better fitting model was chosen to complete the analysis.

Table 1 Godness-of-fit indices.

	Combine	Ghana	Nigeria
Fit Index			
	Value		
Chi-Square (df)	846.83 (362), p = .000	674.61(357), p =.000	684.78(362), p = .000
CMIN/DF	2.34	1.89	1.89
CFI	.92	.91	.92
GFI	.91	.90	.91
TLI	.91	.90	.91
RMR	.05	.07	.05
RMSEA	.05	.06	.05

Note. RMSEA = Root mean squared error of approximation; RMR = Root mean square residual; CFI = Comparative fit index.

4.4 Reliability and validity

The validity of the measurement model was tested by examining convergent validity and discriminant validity. This study utilised average variance extracted (AVE) for the convergent validity test. The values of AVE in the Nigerian, Ghanaian, and combined sample were respectively 0.94, 0.69, and 0.843 for MP; 0.86, 0.70, and 0.77 for SA; and 0.84, 0.59, and 0.74 for OC, which signifies that the latent variables of this study had a high convergent validity because all AVEs were above the criterion of 0.50 recommended by Fornell and Larcker (1981). In addition, the square root of the AVE of each construct were greater than their inter-construct squared correlation estimates, signifying that the constructs are truly distinct from one another therefore, discriminant validity exists (Fornell & Larcker, 1981).

The results also show an acceptable level of internal consistency of the scales, not only in the combined data, but also in both the Nigerian and Ghanaian samples. The construct reliability (CR) values ranged between 0.95 and 0.98 in the Nigerian hotel sample, between 0.87 and 0.88 in the Ghanaian hotel sample, and between 0.91 and 0.94 in the combined sample. Table 2 shows the results of the reliability, convergent, and discriminant validity of the scales. It (Table

2) shows the scores for AVE and CR, with all constructs attaining Hair et al. (2014) recommended thresholds of 0.5 and 0.7, respectively.

Table 2 Correlation

	CR	AVE	MP	SA	OC
<i>Combined sample</i>					
MP	0.94	0.84	0.92		
SA	0.91	0.77	0.65	0.88	
OC	0.94	0.74	0.82	0.61	0.86
<i>Ghana</i>					
MP	0.87	0.69	0.83		
SA	0.87	0.70	0.62	0.83	
OC	0.88	0.59	0.77	0.37	0.77
<i>Nigeria</i>					
MP	0.98	0.94	0.97		
SA	0.95	0.86	0.66	0.93	
OC	0.96	0.84	0.82	0.70	0.91

Notes: CR = Construct Reliability; AVE = Average Variance Extracted; the square root of AVE is shown on diagonal in bold faces.

Three types of invariance – configural, metric and measure, were established in order to evaluate the structure relationship across groups. Configural invariance was established as both groups had the same structure; and metric invariance was satisfied because the measurement instrument for both groups had same origin and scale (Chen, Sousa & West, 2005). Following the hierarchy of tests advocated by Widaman and Reise (1997) and Chen, Sousa and West’s (2005) additional stages of completing invariance tests for second-order models, measurement invariance was established by testing a series of hierarchically nested models. Table 3 presents the summary of the fit statistics for the tests. Whilst only Model 2 had non-significant $\Delta\chi^2$, other models had significant $\Delta\chi^2$ but not more than .01 CFI difference, indicating acceptable threshold for change in model fit for testing measurement invariance (Cheung & Rensvold, 2002).

Table 3 Summary of fit statistics for testing measurement invariance of second-order factor model

Model	χ^2	df	RMSEA	RMR	CFI	Model Comparison	$\Delta\chi^2$	Δdf
<i>Model 1</i> Configural invariance	1304.33	724	.04	.06	.91	-	-	-
<i>Model 2</i> Measurement weights invariant	1318.62	742	.04	.06	.91	2 vs. 1	14.29	18
<i>Model 3</i> Structural weights invariant	1349.23	750	.04	.07	.91	3 vs. 2	30.61*	8
<i>Model 4</i> Structural covariances invariant	1374.07	756	.04	.09	.91	4 vs. 3	25.42*	6
<i>Model 5</i> Structural residuals invariant	1425.16	767	.04	.09	.90	5 vs. 4	50.51*	11
<i>Model 6</i> Measurement residuals invariant	1563.79	797	.04	.09	.89	6 vs. 5	138.64*	30

Notes: Model 1 = baseline; Model 2 = Measurement weights; Model 3 = Measurement weights + Measurement intercepts + Structural weights; Model 4 = Model 3 + Structural intercepts + Structural mean + Structural covariance; Model 5 = Model 4 + Structural residuals; Model 6 = Model 5 + Measurement residuals

4.5 Structural model and hypothesis testing

The structural model includes the exogenous construct, management practice, and the two endogenous constructs, respectively organisational culture and sustainability awareness (see figure 3). Like the measurement model, the overall model of the combined data has a statistically significant value of the chi-square test ($X^2 = 846.829$, $df = 362$, $p < .000$). However, given that chi-square is sensitive to sample size and may lead to biased results (Joreskog, 1993), other fit indices were also used. It was also noted that all the indices remained the same with that of the measurement model test. In the combined model, 67% of the variance in organisational culture is explained by management practice of sustainability, and 44% of the variance in employees' sustainability awareness is explained by management practice and organisational culture. Hypotheses 1, 2 & 3 are supported in the combined and Nigerian data, while H3 is unsupported in the Ghanaian sample (see table 4).

FIGURE 3 ABOUT HERE

Table 4 Hypotheses test

Hypotheses			Std. Estimate	S.E.	C.R.	P	
Combined							
H1	Sustainability Awareness	<---	Management Practice	.43	.09	9.22	***
H2	Organisational Culture	<---	Management Practice	.817	.14	3.50	***
H3	Sustainability Awareness	<---	Organisational Culture	.257	.12	2.29	*
Nigeria							
H1	Sustainability Awareness	<---	Management Practice	.266	.12	2.0	*
H2	Organisational Culture	<---	Management Practice	.817	.09	8.07	***
H3	Sustainability Awareness	<---	Organisational Culture	.48	.13	3.51	***
Ghana							
H1	Sustainability Awareness	<---	Management Practice	.81	.09	2.89	*
H2	Organisational Culture	<---	Management Practice	.77	.14	4.44	**
H3	Sustainability Awareness	<---	Organisational Culture	-.25	.12	-1.19	ns

***p<0.001; *p<0.05; ns “not significant”

Further analysis was undertaken to test whether there is any statistical difference between Nigerian hotel workers and Ghanaian hotel workers by conducting a multigroup analysis. The regression weights of the structural models for both groups were compared. It was noted that regression weights for both groups were observably different for two paths. A chi-square difference test was conducted to check if the observed differences are statistically significant by comparing an unconstrained model with a constrained one. Results of this test ($X^2 = 57.85$, $df = 29$, $p < .001$) shows that groups are different at the model level. Results further shows that the groups are different in terms of OC-SA and MP-SA relationships with 99% degree of confidence.

In the Ghanaian model, 59% of the variance in organisational culture is explained by management practice of sustainability, and 41% of the variance in employees' sustainability awareness is explained by management practice and organisational culture. While in the Nigerian sample 67% of the variance in organisational culture is explained by management practice of sustainability, and 51% of the variance in employees' sustainability awareness is explained by MP and OC. OC-SA relationship in the Ghanaian sample surprisingly, is negative and not significant. Surprisingly again, MP exhibit far more influence on SA than in other two models. Consistently, MP maintains high positive influence on OC in all the three samples.

4.6 Mediation effects

Test for mediation was conducted through bootstrapping. The proposition that the relationship between management practice of sustainability and employees' sustainability awareness is mediated by organisational culture is not supported in the combined data. Table 5 shows the mediation test results for Nigerian sample, Ghanaian Sample and combined data. The results depict MP as having a statistically significant direct effect on SA in all three case but no statistically significant indirect effect through organisational culture in the combined data and Ghanaian sample. However, the Nigerian sample shows a partial mediation relation through OC.

Table 5 Mediation test

Hypothesis	Direct effect	Indirect effect	Result
Combined			
H4 MP -> OC -> SA	.43***	.21(ns)	No mediation
Nigeria			

Hypothesis	Direct effect	Indirect effect	Result
H4 MP -> OC -> SA	.27*	.39*	Partial mediation
Ghana			
H4 MP -> OC -> SA	.81*	-.26(ns)	No mediation

***p<0.001; *p<0.05; ns “not significant”

5. Discussion and implications

5.1 Discussion

Research into the interrelationship between hotel employees’ sustainability awareness, hotel organisations management of sustainability issues and organisational culture is important from theoretical as well as managerial perspectives as it may help answer the question of how both managers and employees can play a crucial role in the sustainability agenda, particularly in the west African hotel context where much research has not been conducted, and practices are minimal and very informal (Efiong et al., 2013). This paper put forward and tested a model and four hypotheses. The empirical validation of the relationships between employees’ sustainability awareness, management practices of sustainability and organisational culture on a sample of hotel workers at various hotels in Ghana and Nigeria were substantiated; however, no mediation relationship was identified when data from both countries were combined and in the Ghanaian sample.

The first objective of this study was to examine the level of awareness of sustainability amongst hotel practitioners in developing countries; in this case Nigeria and Ghana were used as a context. There seems to be a general awareness of sustainability principles amongst West African hotel workers and to some level an extended knowledge was demonstrated through knowledge of legal requirement and industry practice. This may be due to development noted by De Grobois (2012) and Tsai et al. (2010) such as embedding CSR guiding principles within hotel policies and procedures which might have led to increased social responsibility awareness. No doubt human right development identified by Efiong et al. (2013) and Amao

(2011) might have contributed to the level of awareness too. However, some sustainability management methods are not actively used in the studied hotels. Measures such as the reuse of towel, temperature control and noise pollution reduction as sustainability management practices are not popular in this study context as their mean scores were below 3.0. In addition, the results of the ANOVA revealed no significant differences among the groups in terms of sustainability awareness, contradicting Bohdanowics' (2005) conclusion that managers in chain-affiliated hotels are generally more likely to pay attention to environmental issues than independent operators. However, since international chain hotel managers are underrepresented in this study it is uncertain whether a direct comparison can be made in this instance.

The second objective was to explore the relationship between management sustainability practice, hotel staff sustainability awareness and organisational culture. In order to explore this relationship, we tested the theoretical model and hypotheses developed in this study. According to the results from the combined sample, it was found that management practice significantly influences employees' sustainability awareness (H1). It seems the more an organisation practices sustainability the more employees will be aware of issues and practices. The results also confirm H2 which proposed relationship between OC and MP. A positive and strong relationship (the strongest in the model) signified that management adoption of sustainability practice goes a long way in shaping organisational culture emphasising Dief and Font's (2010) submission that the practice of sustainability influences corporate culture. There is however a much stronger relationship between MP -> OC than between MP -> SA and OC -> SA. This is an opportunity that hotel practitioners should exploit their corporate culture as Hodgson (2005) opined that substantial benefit will accrue

to organisation that align their practices of corporate social responsibility to their organisational culture.

Furthermore, the results also confirm H3 (OC → SA) although the relationship is the weakest in the model albeit statistically significant. As it has been noted above that organisational culture and management practice of sustainability have strong relationship; Ogbonna and Harris (2002) also noted that organisational culture helps shape the ways in which a group or organisation respond to others and to their external environment. It is safe to say here that organisational culture may enhance employees' awareness of sustainability and consequently how they respond to related issues, and possibly help hotel guest in understanding organisations' policy. In contrast, H4 which proposed organisational culture as the mediator in the relationship between management practices of sustainability and employees' sustainability awareness was not substantiated. The absence of this mediating relationship can be attributed to the fact that owner-managers, in West African hotels context, have not realised the importance of building up a robust organisational culture to enable hotel management.

In particular, a significant difference was found between Nigerian hotel workers and Ghanaian hotel workers in relation to how organisational culture influence sustainability awareness, and the influence of management practice on sustainability awareness. This result concurs with Bohdanowicz (2006) that the geo-political context of a country has an influence on the sustainability attitudes of hotel operators. The differences shown by the results of the study on country by country basis, while expected seems rather baffling. The partial mediation of OC in the relationship between MP and SA in the Nigerian sample, and the direct negative relationship between OC and SA in the Ghanaian sample are somewhat

problematic. The negative relationship contradicts Driscoll's (2005) submission on the premise of situated cognition that humans learn in the cultural context of their environment.

In sum, this study partially supports the situated cognition theoretical idea that individual awareness is closely related with the context of collective interactions and culturally constructed meaning, which facilitate what an individual becomes aware of in a given environment (Brown, Collins & Duguid, 1989). The study shows that sustainability is increasingly becoming an important issue in the study context hospitality industry. Although the concept is difficult to define, hotel businesses in Ghana and Nigeria can be said to be increasingly implementing sustainable business practices with level of awareness being influenced variously by management practice and/or organisation culture. The awareness of sustainability is no doubt influence by management practice which accordingly has strong relationship with organisational culture.

5.2. Theoretical and practical implications

This study has important practical and theoretical implications. The study highlights employees' cognition state of understanding both the concept of and organisation management of sustainability. Integrating the analyses of organisational and individual variables, the study suggests that the social-cultural context of the organisation (i.e., organisational culture and management practice) will enhance individual (i.e., employee) awareness of sustainability. Theoretically, the study shows that organisational culture may mediate the relationship between management practices of sustainability and employees' sustainability awareness in West African hotel context, but not in all contexts. The findings are consistent with that of Bohdanowicz (2006), confirming that sustainability attitude may differ from country to country. Another noteworthy contribution of this study relates to

answering the call by some previous scholars e.g. Visser (2008), Graham & Wood (2006), Frynas (2006), and Wood (2010) for theoretical and empirical research in this area to come from developing countries. This study contributes to the sustainability literature not only from developing country perspective, but also emphasises the influence of management practice of sustainability on organisational culture.

In addition, the findings of this study provide some insights that may be relevance for the development of sustainable practices in the hotel industry in West Africa and other regions of the world. As organisations continue to embed sustainability guiding principles within hotel policies and procedures, there is a need for employees to understand the basis and be carried along because this study has further substantiated that formulation and adoption of policy can led to increased sustainability awareness. The implication here is that management need to be aware that staff members should be complementing management policy based on how much they know about sustainability issues and practices in this way employee can take ownership of their knowledge and act accordingly. This is important because it is more beneficial to take ownership of their knowledge of sustainability rather than just absorbing practices introduced by the organisation without understanding the principles.

Particularly, this study recommends that Ghanaian and Nigerian hotel managers take advantage management practices to inform their staff's awareness of sustainability issues. For example, practices obtainable in the western world (e.g. towel reuse) are not common in the African context. Effort should be made to strengthen management practices particularly in Ghana where MP has a very strong influence on SA. Nigerian hotel managers can use a double prong strategy of MP and OC to influence awareness since OC has a partial indirect influence on SA in the Nigerian context unlike the Ghanaian counterpart. In addition, this

study strongly encourages Ghanaian hotel managers to establish a robust organisational culture particularly in support of their sustainability management practice that will empower and increase the awareness of their staff. Policies promoting organisational culture and values aimed at sustainability may be formulated in this regard. This may also be built into their recruitment programmes to employ staff with similar organisational culture and values.

5.3 Limitations and future research directions

Findings from the present research should be interpreted in the context of its limitations. Firstly, few large, multi-national hotel chain took part in the survey, although this somewhat reflects the composition of the hotel industry being predominantly populated by SMEs, so the results in this study depict the practices in small to medium sized hotels in Nigerian and Ghanaian hotel context. Given that this is a case study on a specific region, results are exploratory in nature therefore care should be taken in generalizing findings to developing countries beyond the group studied in the paper. Secondly, unlike Jaakson, Vadi and Tamm's (2009) study that examined the influence of two dimensions of organisational culture on CSR behaviour, this study looked at the overall influence of the concepts; future studies may want to examine the effects and relationships between the dimensions of management practice and organisational culture on sustainability awareness. Finally, expansion of the framework utilised in this study would likely enhance its explanatory power, so, the model should be tested in more than two developing countries and comparison with developed world context may also be undertaken. Qualitative studies may also be undertaken to explain the 'why' question.

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Appendix

Items		Sum of Squares	Mean Square	F	Sig.
Sustainability Awareness					
General knowledge (GEK)					
KNW1ST	I am very knowledgeable about environmental/sustainability issues.	3.17	1.06	.91	.43
KNW2ST	I understand the Corporate Social Responsibility (CSR) concept.	.89	.30	.25	.86
KNW3ST	I understand that sustainability is mainly about physical environment.	5.05	1.68	1.23	.30
KNW4ST	I know that contribution to the community is part of corporate social responsibility.	5.66	1.89	1.92	.13
Knowledge of legal requirement and industry practice (LIR)					
KNW5ST	I am aware of sustainability legislative and administrative requirements pertaining to the hotel industry in my country.	1.06	.35	.31	.82
KNW6ST	I understand the industry practices of sustainability.	1.88	.63	.64	.59
Product and procurement (PP)					
KNW7ST	I understand the environmental phrases and symbols on product packages.	2.14	.71	.69	.56
KNW8ST	I understand how to source for and procure sustainable products.	3.38	1.13	1.03	.38
Management practice					
Energy and water saving & Noise pollution reduction (EWS)					
MAN1PR	The hotel where I work uses water saving techniques.	2.22	.74	.63	.60
MAN2PR	The hotel has noise control system in place e.g. soundproof system in guest room.^	NIA	NIA	NIA	NIA
MAN3PR	The hotel uses thermostat to control guest room temperature.^	NIA	NIA	NIA	NIA
MAN4PR	The hotel uses energy efficient lighting fixtures.	10.91	3.64	3.31	*
Education/behaviour modification (BM)					
MAN5PR	Options to reuse towels for guest staying more than one nights^	NIA	NIA	NIA	NIA
MAN6PR	Use refillable amenities in bathroom.	2.37	.79	.56	.64

MAN8PR	The hotel you work for contribute to and get involved in community programmes.	7.48	2.50	2.18	.09
Environment and community stewardship (CS)					
MAN7PR	Purchase locally grown food. ^	NIA	NIA	NIA	NIA
MAN9PR	Have in place environmental protection programme for staff.	10.33	3.44	3.19	*
MAN10PR	Have in place environmental disclosure/accounting policies.	1.47	.49	.42	.74
MAN11PR	Promotes environmental activities for guest.	1.55	.52	.51	.67
Organisational culture					
Team/people-orientation (TPO)					
ORG1CU	The hotel where you work promotes team atmosphere.^	NIA	NIA	NIA	NIA
ORG2CU	The hotel where you work embraces team-orientation.^	NIA	NIA	NIA	NIA
ORG3CU	The hotel where you work encourages working in collaboration with others.	5.82	1.94	2.01	.11
ORG4CU	The hotel where you work cares about employees	1.67	.56	.61	.61
ORG5CU	The hotel where you work has respect for individual's right.	4.43	1.48	1.65	.18
Innovation (INN)					
ORG6CU	The hotel you work for has a willingness to experiment.	2.70	.90	.95	.42
ORG7CU	The hotel where you work is a very dynamic and entrepreneurial place.	5.63	1.88	1.98	.12
ORG8CU	The hotel you work for is committed to innovation	.76	.25	.25	.87
ORG9CU	The hotel you work for is not averse to taking risk.^	NIA	NIA	NIA	NIA
ORG10CU	The hotel where you work encourages creativity	2.53	.84	.87	.46
Valuing customers (CF)					
ORG11CU	The hotel you work for values customers	6.45	2.15	2.52	.06
ORG12CU	The hotel you work for maintains its relationship with customers.	4.19	1.40	1.61	.19
ORG13CU	Giving customers what they expect is key focus of my hotel.	8.84	2.95	3.30	*
Employee development (EEP)					
ORG14CU	There are advancement opportunities for employees	1.89	.63	.57	.63

ORG15CU	There are opportunities for promotion from within.	8.73	2.91	2.98	*
Formality and results orientation (FRO)					
ORG16CU	The hotel where you work is a very formal and structured place.	7.77	2.59	2.76	*
ORG17CU	The glue that holds the hotel you work for together is formal rules and policies.	3.86	1.29	1.33	.26
ORG18CU	The hotel where you work has ethos of results orientation^	NIA	NIA	NIA	NIA
ORG19CU	The hotel you work for maintains marked focus on getting the job done^	NIA	NIA	NIA	NIA

*p<0.05 - ANOVA - Difference across countries

^Deleted items

NIA not included in the analysis

Figures

Figure 1 Theoretical framework

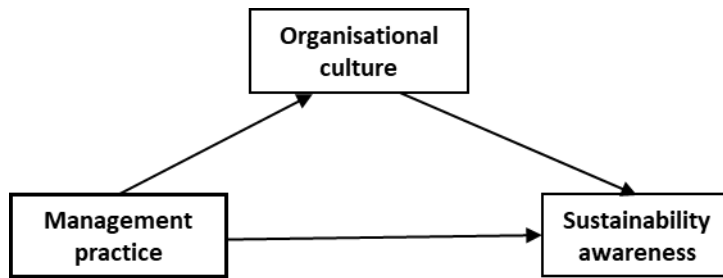
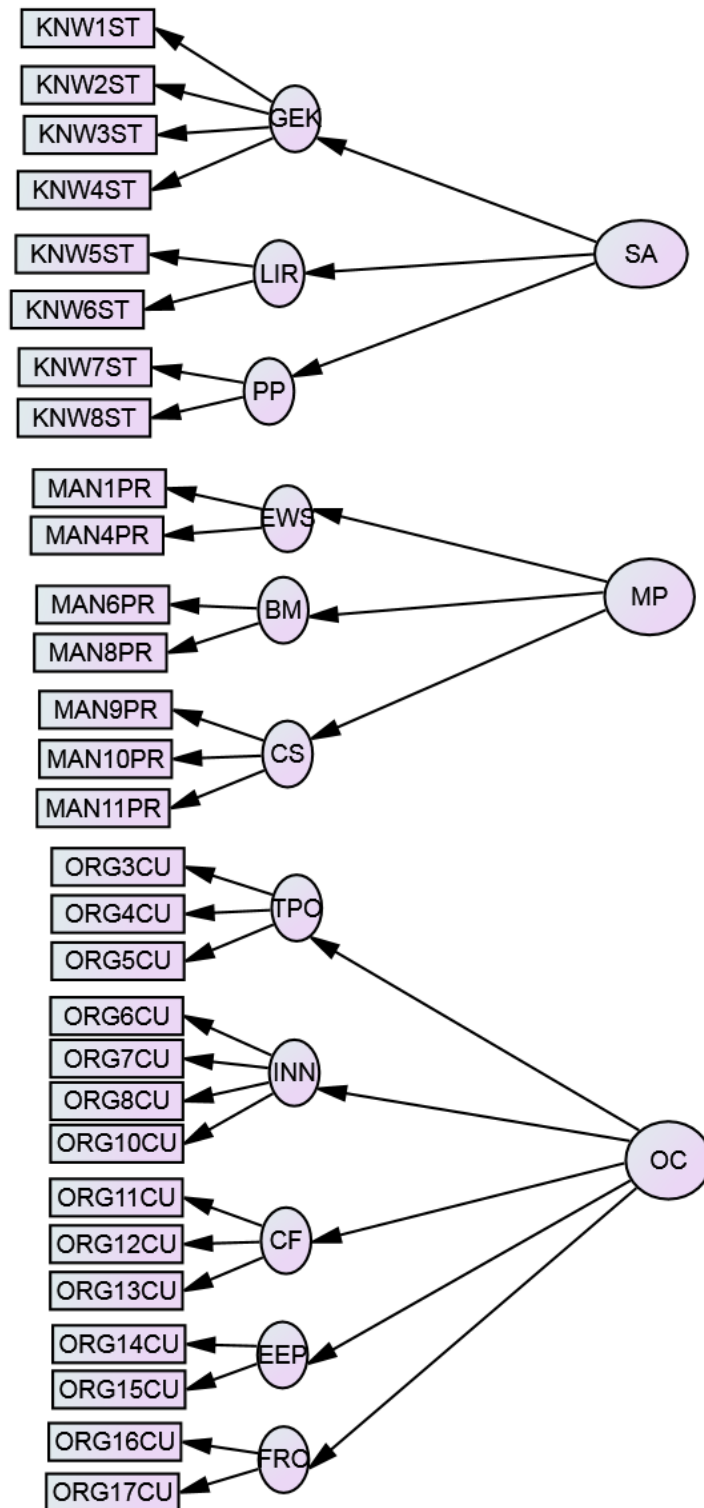


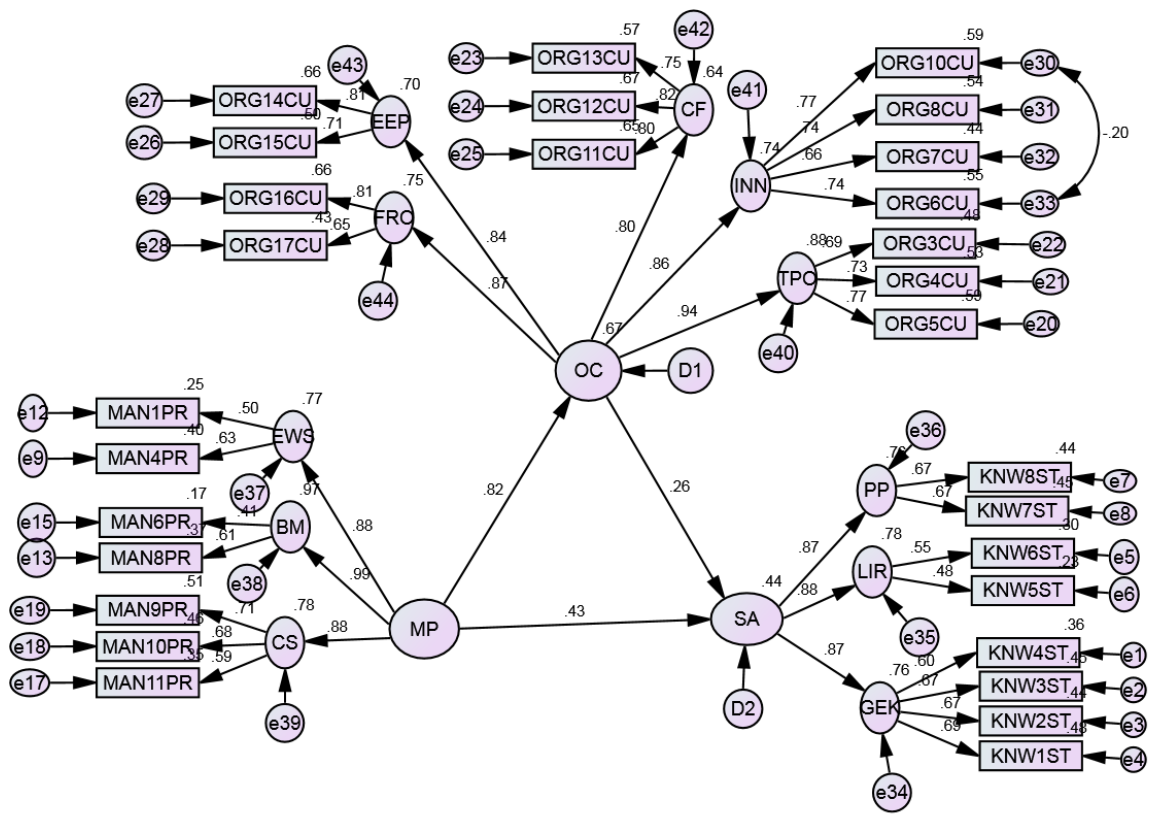
Figure 2 Configuration of second-order factors



Notes:

GEK = General knowledge, LIR = Knowledge of legal requirement and industry practice, PP = Product and procurement, EWS = Energy and water saving & Noise pollution reduction, BM = behaviour modification, CS = community stewardship, TPO = Team/people-orientation, INN = Innovation, CF = Customer focus, EEP = Employee empowerment, and FRO = Formality and results orientation.

Figure 3 The structural model



Notes:

Parameter estimates are for the combined sample and indicated factor loadings are standardized.