

Evaluating the role of environmental concern, risk perception and stakeholder salience in driving sustainable water consumption within sustainability project initiatives in the UAE hospitality sector

تقييم دور الشاغل البيئي وإدراك المخاطر وأهمية أصحاب المصلحة في دفع الاستهلاك المستدام للمياه ضمن مبادرات مشاريع الاستدامة في قطاع الضيافة في الإمارات العربية المتحدة

> By Rasha Abd El Nafea ElShafei

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Project Management at

The British University in Dubai Supervisor: Professor Halim Boussabaine December 2017



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ABSTRACT IN ENGLISH

The global water scarcity problem and unsustainable water consumption hinders the realisation of sustainability goals, therefore, the aim of this thesis is to empirically examine the influence of individual and stakeholder factors on the success of sustainability project initiatives in relation to sustainable water consumption in the UAE hospitality sector.

Within a quantitative research approach, individual determinants of sustainable water consumption were identified. Stakeholder action framework is developed and designed as a questionnaire in an effort to collect and statistically analyse data from managers in UAE hospitality sector. The results indicate that individual determinants were significantly associated with sustainable water consumption strategies and practices. Albeit, the role of stakeholders salience attributes were critically important in this association. A significant positive influence on the association was shaped by power, urgency and legitimacy attributes. Moderation effect was manifested by the urgency and legitimacy attributes. Government and business stakeholders were the most salient stakeholders whereas; customers' saliency was not detected.

This thesis shifts sustainability research focus from individualistic paradigm to stakeholder paradigm. Findings will be cornerstone in achieving sustainability goals as it guides on factors contributing to sustainability project initiatives success. The study is limited to UAE hospitality sector; therefore, generalisation of results to other sectors is challenged.

تقييم دور الشاغل البيئي وإدراك المخاطر وأهمية أصحاب المصلحة في دفع الاستهلاك المستدام للمياه ضمن مبادرات مشاريع الاستدامة في قطاع الضيافة في الإمارات العربية المتحدة

الملخص

ان مشكلة ندرة المياه العالمية واتجاهات استهلاك المياه غير المستدامة تعوق تحقيق أهداف الاستدامة في الدول، ولذلك فإن الهدف هو در اسة تأثير العوامل الفردية وأصحاب المصلحة على نجاح مبادر ات الاستدامة فيما يتعلق باستدامة استهلاك المياه في دولة الإمار ات العربية المتحدة.

منهجية البحث الكمي التي صيغت في هذه الدراسة تقوم على مراجعة الأدب والمحاكاة المفاهيمية للدراسات السابقة. وبناء على ذلك، تم تحديد المحددات الفردية للاستهلاك المستدام للمياه؛ والقلق البيئي، وإدراك المخاطر. تم تطوير وتصميم إطار عمل أصحاب المصلحة فيما يتعلق بخصائصهم البارزة كإستبيان في محاولة لجمع البيانات من المدراء في قطاع الضيافة في دولة الإمارات العربية المتحدة. تم استخدام الأساليب الإحصائية لتقييم ومقارنة نتائج المسح.

وتشير النتائج إلى أن الاهتمام البيئي والمفهوم المتعلق بالمخاطر يرتبط ارتباطا وثيقا باعتماد استر اتيجيات وممارسات مستدامة لاستهلاك المياه في قطاع الضيافة في دولة الإمارات العربية المتحدة. وعلى الرغم من ذلك، كان دور سمات أصحاب المصلحة ذات أهمية حاسمة في هذه العلاقة الطردية. و بالإضافة إلى ذلك، فإن التأثير المعتدل يتجلى في طابع الاستعجال والشرعية، كانت السمة باور صامتة في معادلة الاعتدال. وعلاوة على ذلك، كشفت النتائج أن أصحاب المصلحة وأصحاب الأعمال هم أبرز أصحاب المصلحة في مبادرات مشاريع الاستدامة و يتبعهم وسائل الإعلام والمنظمات غير الحكومية؛ بدون دور واضح للعملاء.

وتحول هذه الأطروحة اهتمام بحوث الاستدامة من النموذج الفردي إلى نموذج أصحاب المصلحة الذي يشمل العناصر الفردية وأصحاب المصلحة، وبالتالي الاستجابة لجدول أعمال البحوث المستقبلية الذي أوصى به عدد كبير من المؤلفين لتحديد العوامل التي تؤثر على نجاح مبادرات مشاريع الاستدامة. وستكون نتائج البحوث حجر الزاوية في تحقيق أهداف الاستدامة للدول لأنها سوف توجه واضعي السياسات والمديرين والأكاديميين على العوامل الهامة التي تسهم في نجاح مبادرات مشروع الاستدامة. تقتصر الدراسة على قطاع الضيافة في الإمارات العربية المتحدة؛ وبالتالي فإن تعميم النتائج على القطاعات الأخرى يواجه تحديا.

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List of Abbreviations

ATT	Attitude	
BFGL	Business and fiscal government legitimacy	
BL	Business legitimacy	
BP	Business power	
BU	Business urgency	
BUSP	Business utilitarian and symbolic power	
CL	Customer legitimacy	
CML	Customer and media legitimacy	
СР	Customer power	
CS	Corporate strategies	
CU	Customer urgency	
EC	Environmental concern	
FAO	Food and Agriculture Organisation	
FP	Facility practices	
GBCP	Government and business coercive power	
GDP	Growth domestic product	
GL	Government legitimacy	
GP	Government power	
GP	Guest practices	
GRL	Government regulatory legitimacy	
GSP	Government symbolic power	
GU	Government urgency	
GUP	Government utilitarian power	
INT	Intention	
IS	Investment strategies	
ISO	International Standards Organisation	
IWMI	The International Water Management Institute	
KMO	Kaiser-Meyer-Olkin Measure of sampling adequacy	
MENA	Middle East and North Africa	
ML	Media legitimacy	
MP	Media power	
MU	Media urgency	
NEP	New Ecological Paradigm	
NGO	Non-Governmental organization	
NL	NGO legitimacy	
NP	NGO power	
NU	NGO urgency	
OECD	Organisation for Economic Co-operation and Development	
OP	Operation practices	
OPR	Operational risk perception	

OS	Operation strategies	
PBC	Perceived behavioural control	
PRP	Physical and time risk perception	
RP	Risk perception	
RRP	Reputational risk perception	
SLA	Stakeholder legitimacy attribute	
SN	Social norm	
SP	Sustainable water consumption practices	
SPA	Stakeholder power attribute	
SPSS	Statistical package for social science	
SS	Sustainable water consumption strategies	
SUA	Stakeholder urgency attribute	
SWC	Sustainable water consumption	
UAE	United Arab of Emirates	
WS	Water scarcity	

1 Chapter one: Introduction

1.1 Introduction

This chapter discusses the background of research and explains the thesis context, research problem, aim, significance and limitation. Finally, an organisation of thesis chapters is presented.

1.2 Background of the thesis

The current situation of unsustainable global consumption trends of natural resources had offset the existing environmental gains and altered the natural balance with a power equivalent to that of volcanoes and earthquakes (Clark, 2007, William et al., 2011). This has triggered the focus of nations on setting sustainability strategies that has been defined as the policies and plans which fulfill the goals and achieve a simultaneous balance between social, economic and environmental pillars under conditions of uncertainty (Aarseth et al. 2017). However, sustainability strategies has been classified as a highly complex concept due to resource limitation, multiplicity and heterogeneity of goals (Deloez, 2001, Bridoux and Stoelhorst, 2014, Hall et al., 2014).

Moreover, the desired outcome from sustainability strategies can only be delivered by a role played by each of government, business and civil society and while public policies and sustainability project initiatives can pave the way to achieve sustainability goals, it is nevertheless a wide range of actors that need to respond to the initiatives by allocating the necessary resources and taking the required actions to deliver the desired outcome. Therefore, it has been argued that the complex nature of sustainability strategies and achieving the balance between its social, economic and environmental pillars represents a significant challenge in front of policy makers due to the variance in values underpinning the three pillars and the controversial interests of involved stakeholders in the sustainability project initiatives (Kyburz-Graber et al., 2006, Mieg, 2010, walker and Hills, 2012).

Therefore, there is an urgent need to empirically examine individual factors that contributes to the realisation of sustainability goals and identify the influence of stakeholders on sustainability project initiatives outcome to efficiently prioritise their claims (Laplume, Sonpar and Litz, 2008) and identify voices that worth having a place on the negotiation table in front of policy makers and project managers (Yang, 2014).

Thus, this thesis empirically evaluates individual determinants of sustainable water consumption; environmental concern and risk perception and identify the role of stakeholder salience attributes; power, urgency and legitimacy in the success of sustainability project initiatives in relation to sustainable water consumption.

1.3 Thesis context

The thesis context –sustainable water consumption in the United Arab of Emirates (UAE) hospitality sector– addresses water consumption specifically since water is a resource that has the potential to employ advanced sustainability practice, and can meet the most quoted definition of sustainability which entails protection of natural resources while providing economic and social welfare to the current and future generations (Sharma and Henriques, 2005) and is currently suffering from unsustainability practices (Zetland and Gasson, 2013).

Moreover, water has been considered to constitute an indispensable element of human development and it has been argued that access to sufficient water is a critical element in social and environmental stability as well as economic growth (Tortajada, 2015) and is a key player in sustaining societies, ecosystems and economies (Allan, Keulertz and Woertz, 2015). Therefore, addressing sustainable water consumption in academic studies will contribute to human development, environmental preservation and economic stability.

In relation to the United Arab of Emirates, the demographic location of the country in the arid region zone of Arabian Peninsula which is characterised by low average annual rainfall, harsh climatic factors, limited recharge of ground water and absence of rivers and lakes (Murad, Al Nuaimi and Al Hammadi, 2006), had contributed to UAE water scarcity problem that has been highlighted by Shiklomanov (2000), Al-Rashid and Sherif (2000) and Saleh (2013). A situation that is compounded with the fact that UAE is among the highest globally with regards to the per capita water footprint due to increased population, rapid development and improved standard of living. The consequences of which is that, the UAE current groundwater resources meets only 44% of the water demand and even more challenging, due to over-pumping, the level of groundwater in the UAE has been dropping at a rate of five meters per year since 1999 and the natural water availability per capita had declined dramatically (MoEW, 2015). Moreover, the government had responded to the water demand deficit by resorting to nonconventional water resources; desalinated water which increased the economic and environmental burden on the

country. The economic cost was due to the excessive energy consumption in the desalination plants, whereas, the environmental cost was reflected in an increased carbon footprint of the UAE and an upset marine life due to the discharge of the highly salinized water back into the sea. An overall situation that offset the balance between the three sustainability pillars; social, economic and environmental and thus contradicts with the overall country's sustainability strategy. Therefore it has been claimed by His Highness Sheikh Mohamed bin Zayed Al Nahyan (Emirates 24/7 news, 13 December 2011) that "water is more important than oil for the UAE".

More specifically, the hospitality sector has been reported to be among the highest sectors in water consumption (Gossling, Hall, & Weaver, 2009) and that water consumption in the hospitality sector has got the highest water intensity ratings in the service industry (Alonso & Ogle, 2010) and therefore presents itself as having responsibility to ecological deterioration (Raab, Baloglu and Chen , 2017). Therefore, pursing research to foster sustainable water consumption in the UAE hospitality sector is critically important and will contribute to current and future generations' welfare.

1.4 Research Problem

Based on the review of literature, the current water scarcity situation is a serious environmental threat to the UAE with researchers expecting the water conditions in the UAE to reach absolute scarcity by 2050 (Wallace, 2000, Al Rashid and Sherief, 2000 and John, 2009).

To pursue the sustainability goals of the UAE and more specifically to achieve the goals of the UAE sustainability project initiative "*Green Economy for Sustainable Development*" with regards to curbing water overuse ratio from 12.7 in 2010 to 4 by 2021 (Vision 2021, 2015), identifying and assessing the influence of determinants of sustainable water consumption; environmental concern and risk perception is an indispensable element of initiative success (Warnecke and Eyerer, 2000 and Barber, 2003). Nevertheless, the conflicting research results to date on the role of environmental concern and risk perception of water scarcity in driving sustainable water consumption (Vainio and Paloniemi, 2014, Leary et al., 2014 and Zhang et al., 2015) sets a challenge in front of policy makers and managers in evaluating success factors that can leverage sustainable water consumption. Therefore, it is critically important to present empirical evidence on their significant role to provide policy makers with a clear cut picture on

their contribution to the realisation of sustainability project initiative goals.

Moreover, sustainability project initiatives call for collaborative attention and intervention of all involved stakeholders. However, stakeholder complexity within those initiatives sets a challenge in pursuing the desired goals (Smith, 1993,Ward, 2001) and despite the agreement in the literature on the potential of stakeholders to exercise their salience attributes to achieve sustainability goals, some authors are critically questioning stakeholders' salience on the ground and the extent of their influence on driving sustainable consumption of natural resources (McKenzie-Mohr, 2000, Rohitratana, 2002, Belal, 2002, Lorek, 2005, Rollof, 2007).Thus, researchers should pay attention to stakeholder analysis in sustainability projects (Reed et al. 2009) through assessing stakeholder salience attributes (Mitchell et al., 1997) and its influence on project initiative outcome (Borune and walker, 2005) to provide reliable guidance to policy makers on project initiative success factors.

Thus, the research problem is; with the current challenging situation of water scarcity and unsustainable water consumption trends in the UAE along with the lack of empirical evaluation of determinants of sustainable water consumption and paucity in research field in evaluating stakeholder salience and weighing the contribution of stakeholders to the success of sustainability project initiatives, there is a challenge in front of UAE government to pursue the goals of *Green Economy for Sustainable Development* project initiative with regards to rationalising water consumption in the UAE and thus, extravagate the water scarcity problem and hinder the countries' sustainability strategy.

1.5 Aim of the research

The thesis aim is to empirically examine the influence of individual and stakeholder factors on the success of sustainability project initiatives in relation to sustainable water consumption in the UAE hospitality sector. Thus, the research has three main objectives; first objective is to empirically examine individual determinants of sustainable water consumption; managers' environmental concern and risk perception and assess their influence on the adoption of sustainable water consumption strategies and practices in the UAE hospitality sector. The second, objective is to test the proposed conceptual scheme in which stakeholder salience attributes (power, urgency and legitimacy); moderating variables can fill the gap between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices in the UAE hospitality sector. The third, is to evaluate the influence of demographic variables (Emirate of operation) on managers' perception of stakeholder salience attributes in sustainability project initiatives.

1.6 Research questions and hypotheses

To achieve the above-mentioned research objectives, the following research questions and hypotheses was derived from the literature and examined in this thesis:

Q1: How do environmental concern and risk perception associate with sustainable water consumption strategies and practices in the UAE hospitality sector?

H1: Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector.

H2: Environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector.

Q2: What is the role of the stakeholders' salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices in UAE hospitality sector?

H3: Stakeholders salience attributes influence the association between environmental concern, risk perception and sustainable water consumption strategies.

H4: Stakeholders salience attributes influence the association between environmental concern, risk perception and sustainable water consumption practices.

H5: Stakeholders salience attributes moderates the association between environmental concern, risk perception and sustainable water consumption strategies.

H6: Stakeholders salience attributes moderates the association between environmental concern, risk perception and sustainable water consumption practices.

Q3: Within the hospitality sector, is there is difference in the perceived stakeholder's salience attributes in sustainability project initiatives between different Emirates in the UAE?

H7: Stakeholder salience attributes are perceived differently in different UAE Emirates by managers within the UAE hospitality sector.

1.7 Significance of the research

Despite the earlier claims by authors like Kilbourne, McDonagh and Prothero (1997) and later arguments by Thøgersen (2005b) that sustainable consumption is influenced by macro factors

(such as government policies, business strategies and product characteristics) as well as individualistic factors (such as attitudes, personal norms and behavioural barriers), in the era of sustainability research, researchers like Aitken et al. (1994), Dahlstrand and Biel (1997), Levallois et al. (1998), Aarts, Verplanken and van Knippenberg (1998), Corral-Verdugo et al. 2003 Keshavarzi et al. (2006) and Hurlimann, Dolnicar and Meyer (2009) have investigated the role of psychological and social variables such as personal behaviour, attitude, values, personal characteristics, age, gender, knowledge gap and habits on water consumption and focused on the impact of individualistic factors on consumer decisions while ignoring the influence of different stakeholders on sustainable consumption.

For this reason, Spaagaren (2003) argues that researchers primarily study consumption as merely dependent on consumer sociology through studying the attitude-behaviour gap. Additionally, Tanner and Kast (2003) claim that, traditionally, psychological research explored the role of values and norms in determining environmental-friendly attitude, whereas the attitudes of other stakeholders are equally important as they can undermine positive attitudes and set a barrier to friendly behaviour. Thus, Schaefer (2005) claims that research and policy of sustainable consumption suffers from "individualising bias" where researchers consider only personal and behavioural factors as the sole manipulating agents of sustainable consumption.

Along the same lines, Spaargaren (2011, p.813) confirms that policy debate on sustainable consumption is dominated by social psychologists and economists working primarily from an individualist perspective. This represents a significant limitation in the research field since sustainable consumption cannot be understood only from isolated preferences of individuals. He thus, argues that:

"By restricting themselves to strategies from the individualist paradigm, policy makers can be said to be sociologically naive while neglecting the profound influences of the wider chains of interaction that serve as systems of provision shaping and sometimes preconfiguring the choices and behaviours of individual citizen-consumers to a considerable extent".

Moreover, since it has been argued that individual variables as managers believes and attitudes are insufficient to influence corporate environmental operations (Zhang eta.al 2015) and it has

been advised to align stakeholders influences in the future of management research to reduce the relevance gap between business and academia (Starkey and Madan, 2001) and to optimise the role of stakeholders in sustainability research (Franche *et al.*, 2005), therefore, the significance of this thesis lies primarily on shifting sustainability research focus from merely individualistic paradigm to the stakeholder paradigm as proposed in table 1.1 (two paradigms for governance for sustainable consumption); in which stakeholder variables as well as individual variables are simultaneously studied.

Therefore, in addition to expanding the current research on individual factors; environmental concern and risk perception, the thesis will respond to the future research agenda recommended by authors like Spaargaren (2003) who claim that the future policy-making research agenda lies in defining/redefining the role of different stakeholders (government and non-government actors) in sustainability projects. And Bruch et al. (2007) who call for the development of coherent framework that articulates different stakeholders' roles and responsibilities in order to achieve effective public participation in management of water resources which lays the ground for implementation of conservation decisions. As well as to the call of Spaargaren and van Koppen (2009) who argue that a legitimate research agenda on sustainable consumption should focus on actors like companies, environmental NGOs, governments in addition to consumer citizens, and Prothero et al. (2011) who call for exploration of new analytical explanations and potential remedies for the gap between environmental concern and its corresponding positive environmental behaviour and Fielding et al. (2012) who suggests that future research should test stakeholder intervention in the promotion of sustainable water consumption. And Chan and Hsu (2016) who encourage scholars to explore stakeholder importance in sustainability and environmental management research especially in the hospitality sector. Finally, the thesis will drive forward the body of stakeholder research through empirically examining stakeholder theory implication from an understudied area as claimed by Steurer

(2006), the conceptual approach of stakeholder theory, which takes the stakeholder theory away from its shortcomings of being corporate-centred and organisational-focused as mentioned by Rollof (2007) and Jones et al. (2007).

Individualist paradigm	Stakeholder paradigm
(Social/psychology research)	(Management research)
Individuals variables are the key measuring	Individual and stakeholder variables are the key
units	measuring units.
Change in individual behavioural is	Change in individual behaviour and stakeholder
decisive for sustainable consumption.	intervention are decisive for sustainable consumption.
Individual choices are key intervention	Individual choices as well as the level and type of
targets.	stakeholders' contribution are key intervention target.
Individual behaviour determine the fate of	Individual behaviour and stakeholder salience
sustainable consumption.	determine the fate of sustainable consumption.
Key policy instruments and approaches:	Key policy instruments and approaches: Setting
persuasion through information provision.	policies and regulations, utility provision, leading by
	example, and persuasion by sharing information.

Table 1.1 Two paradigms for the governance of sustainable consumption (Adapted from Spaargaren,2011)

1.8 Research limitation

The thesis is not free of limitations since generalizability is limited to hospitality sector, potential response bias could be claimed as second limitation as it has been argued that people tend to overestimate an magnify their environmental concern to natural resources (Bansal, 2003). Finally, the scope of the thesis is limited to variables influencing sustainable water consumption therefore, studies on sustainable consumption of other natural resources like energy will complement the study.

1.9 Organisation of chapters

The current thesis is organised in 12 chapters. Chapter one introduced the research, including a background to the thesis topic, the aims, significance, and limitation of the thesis as well as explained the research problem and questions. Chapter two is a review of literature on sustainability and water resources. Chapter three is a continuity of literature review on

stakeholder analysis and stakeholder salience and introduces framework of stakeholder actions in relation to sustainable water consumption claim. Chapter four explains the thesis theoretical background and introduces research conceptual framework. Chapter five describes thesis methodology and justifies the use of a quantitative approach. Chapter six, seven, eight, nine and ten presents the results and data analysis of the thesis. The research findings are discussed in Chapter eleven. Finally chapter twelve concludes the thesis and provides future recommendations for manager, policy makers and academics on success factors and variables influencing sustainable consumption of natural resources.

1.10 Summary

This chapter gave an overview of the research presented in this thesis. First, it provided discussions on the research background and thesis context. Then, research problem, aim, questions and hypotheses were discussed. Finally, thesis significance, limitation and chapter organisation were presented.

2 Chapter Two: Literature Review: Sustainability and water resources

2.1 Introduction

This chapter discusses is a literature review on the principles of sustainability and highlights the association between sustainability project initiatives and sustainable consumption of natural resources, special attention is given to water resources with presentation of the current water scarcity and water resource management arenas. Then determinants and measures of sustainable water consumption are explained. Finally, explanation of UAE demographics, water resources is provided as well as discussion on water consumption in hospitality sector is presented.

2.2 Sustainability and sustainable project initiatives

Sustainability entails the protection of natural resources while providing economic and social welfare to the current and future generations (WCED, 1987). Based on this definition, sustainability had been acknowledged by many researchers to encompass environmental, economic and social pillars and thus, nations should consider human, nature and economic aspects or the so-called "3 Ps" of *profit, people* and *planet* in their processes (Elkington 1997; Kajikawa 2008; Schoolman et al., 2012).

Although being legitimatised as early as 1987 by WCED, sustainability has been classified as one of the wicked public policy problems and represents a highly complex concept commonly associated with debates around needs, resources, development, equity and futurity. Moreover, the desired outcome from sustainability strategies can only be delivered by a role played by each of government, business and civil society and while public policy can pave the way to achieve sustainability goals, it is nevertheless a wide range of actors that need to respond to the policy by allocating the necessary resources and taking the required actions to deliver the desired outcome (walker and Hills, 2012) and for this reason, governments around the globe are introducing sustainability project initiatives in order engage relevant stakeholders and to achieve the goals of their sustainability strategies.

2.2.1 Sustainability project initiatives

Bell and Morse (2005) defined sustainability project initiatives as the social, environmental and economic activities that are discrete in terms of time period, involved stakeholders, desired outcome and resources required. They claim that since we live in a politically controlled world where competition on natural resources prevails, there is greater demand on delivering end

product and achieve high value of resources from the preset sustainability strategies, thus, the conventional mean to achieve this is through discrete, budgeted and closed periods of spend and exertion; projects in which projects agents can manage their resources to achieve sustainability goals , in other words , the environment in which researchers and practitioners are trying to achieve sustainability is projectified.

In the same line, Walker and Hills (2012) confirm the importance of sustainability project initiatives since they are the tools that brings together actors and organisations from the realms of the public, private, and civil society to attain the goals of sustainability policies; social, economic and environmental long-term welfare and thus, those project initiatives can be viewed as the "microsoms" of the society that should encompass the recent shift in sustainability field from command and control policy making process to a stakeholder participation process.

In order to achieve the goals of sustainability project initiatives, elimination of unsustainable production and consumption of natural resources is a prerequisite (Warnecke and Eyerer, 2000) and countries should strive to promote sustainable consumption patterns (Barber, 2003). Additionally, Kates, Thomas and Anthony (2005) argue that a key principle in sustainability projects is to reject natural resource consumption beyond what is needed for the fulfillment of a "good life". Along the same lines, Fuchs and loreck (2005) argue that sustainability is impossible without sustainable consumption. Thus, it could be said that for governments to pursue sustainability goals, sustainable consumption of natural resources must be an indispensable element of its strategy and local projects.

In line with this, the UAE Government had launched the *Green Economy for Sustainable Development* project initiative on January 2012. The initiative aims to position the UAE as a global hub for green economy and present a successful model for sustainability. The principles for achieving project goals involves building on existing policies and strategies and engaging stakeholders at all levels in six focus areas; namely, green economy, green investment, green city, climate change, green life and green technology. The fifth focus area, green life, is specifically set to foster sustainable consumption of natural resources and raise awareness towards the environment (Sheikh Mohammed, 2012).

2.2.2 Sustainable consumption

The most widely cited definition for sustainable consumption was proposed by the Oslo Symposium in 1994 as:

"The use of goods and services that respond to basic needs and bring a better quality of life, while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations" (Iisd.ca, 2015).

Similarly, Strong (1997) defined sustainable consumption, as meeting current needs without compromising the coming generation's needs. Those definitions made a clear distinction between sustainable consumption and consumerism, which refers to the process of purchasing possessions to increase happiness (Hume, 2010). And later in the literature, Leary et al (2014, p. 1954) defined sustainable water consumption as the "behaviour intended to meet the needs of the current generation and benefit the environment without jeopardising the ability of future generations to satisfy their needs".

The 1992 United Nations Conference on the Environment and Development had put the issue of sustainable consumption under the spotlight through confessing that unsustainable consumption contributes highly to environmental deterioration. In this conference a comprehensive plan, "Agenda 21", has been developed for actions to be taken through a global dialogue in all areas of human life that can impact the environment. The debate on sustainable consumption was further discussed in 1994 at the Oslo Symposium on Sustainable Consumption. On 2002 the World Summit on Sustainable Development announced its sustainability 10 Year- framework. The framework aims to accelerate the shift towards sustainable consumption.

In an attempt to enhance the understanding of sustainable consumption, Princen (1999) explained two approaches of sustainable consumption; weak sustainable consumption and strong sustainable consumption. Weak sustainable consumption is like driving a car that consumes almost one third of the originally required fuel, whereas strong sustainable consumption is like using train instead of the car or travelling smaller distances, or travelling less frequently.

Greening, Green and Difiglio (2000) further elaborate that tackling sustainable consumption by improving consumption efficiency (through technological innovation) alone is not enough since, although it initially promoted sustainable consumption, it proved to have a rebound effect on consumption as it is usually accompanied by an increase in consumption levels.

Seyfang (2005, p. 292) claims that "Sustainable consumption has become a core policy objective of the new millennium in national and international arenas...". Similarly, Clark (2007) argues that the era of sustainable consumption is currently considered a public issue of activism, governments and non-government organisations due to the negative impact of unsustainable consumption on our ecosystem and the little doubt in the unsustainable world that we live in due to an ever-increasing resource consumption (Stern, 2006). Within the literature of sustainable consumption, many scholars agree that the movement towards sustainable consumption requires increasing the efficiency of consumption through technological innovations as well as change in consumption patterns and reduction in consumption levels through adopting conservative consumption practices (Spangenberg and Lorek, 2002; Princen, 2003).

However, despite the contribution of many scholars and institutes to the understanding of sustainable consumption as well as the evolution of many sustainability project initiatives in different parts of the world which promote sustainable consumption, there are poor results to date and little reach to the global sustainable consumption discourse, with little hope of this occurring in the near future (Fuchs and Lorek, 2005). Thus, more efforts from the research side are needed to construct an understanding of the factors influencing sustainable consumption of natural resources and since water is the most essential natural resource for sustaining lives, should be treated with special concern for its influence on human beings, ecosystem, social and economic development (Braga, 2012) and flows into the three dimensions of sustainability ; economic, social and environmental (WWAP, 2015), thus, the focus of this thesis will be on factors that can potentially influence the realisation of sustainable water consumption goal in the UAE sustainability project initiatives.

2.3 Water resources

2.3.1 Water significance to human life

Despite the fact that water exists as a non-man-made resource, water cannot be dealt with in isolation from its social context and human acts. In line with this view, Linton (2010, p.3) argued that the simple definition of water as a colourless, tasteless chemical compound, or the description of water as hard or soft, fresh or salty and clean or polluted is not enough. Thus, he defined water in relation to other things and processes – "Water is what we make of it"–

reflecting on the vital role of water in our world and the need to efficiently utilising such a precious asset.

In addition to its basic role in sustaining life, water is essential for food and energy production, stabilizing the ecosystem, and supporting economic development and human well-being (Gleick, 1998). Similarly, Yang et al. (2003) emphasise the positive correlation between water availability and food security; and by implication, its impact on social and economic stability. Along the same line, Rijsberman (2006) projected that water would become a limiting factor for food production in Asia and most of Africa.

In its relation to energy, Bhaduri et al. (2015) claim that water is an integral part of energy production and water use for energy production is expected to increase by 85% in the coming decade due to the transformation of high-efficiency power plants and the employment of more advanced cooling systems. Similarly, Mayor et al. (2015) conclude that freshwater is increasingly used in oil exploitation.

Therefore, because of the above-mentioned interdependencies between water, energy and food and because of water centrality in other security realms, Tortajada (2015) claims that water is an indispensable element to human development and argues that access to sufficient water is a critical element in social and environmental stability, and economic growth. Thus, Allan, Keulertz and Woertz (2015) conclude that water is a key player in sustaining societies, ecosystems and economies.

2.3.2 Water resources and types

Two decades ago, Shiklomanov (1997) published the most cited work on information on water resources (FAO, 2003). He classified water into either fresh water or salty water and assessed the total amount of available water on the earth's surface to be approximately 1.386 million cubic kilometers and the percentage of salty and freshwater available on the earth's surface to be 97.5% and 2.5%, respectively. He also stated that 68.7% of the available freshwater is in its solid state as ice or permanent snow, 29.9% is underground water and only 0.26% is water in lakes and rivers, which are the only directly accessible source of water to human beings.

Shiklomanov (2000) who classified water resources into static or freshwater storage (lakes, groundwater, glaciers) and renewable water resources claim that intensive use of freshwater normally results in its depletion and unfavorable ecological consequences, particularly because it requires tens or hundreds of years for the freshwater to be restored. A renewable water resource includes annual replenished water into the water turnover process on the earth's surface and is generally of low volume. The annual renewed water consists of runoffs, inflow of groundwater into the river network, and renewable upper-aquifer groundwater that is not drained by the river systems.

Authors and organisations have classified water in two different ways, in relation to either its consumption sector or its method of production as explained below:

Shiklomanov (2000) classified water based on its consumption into water withdrawn for municipal water use, industry and agriculture, as well as water lost by evaporation as follows:

Municipal water use: Water withdrawn by the population in cities and towns for public services where in many cities a considerable volume of this water is used in gardening of landscape. The volume of withdrawn municipal water depends on many factors like population, level of utility service and climatic conditions. He claims that municipal water withdrawals can reach up to 400-600 liters per day per capita in well-developed countries with consumption rate not exceeding 5%-10% of water intake, whereas in developing countries and less developed cities water withdrawals are only 100-150 liters per capita per day with consumption rate up to 40%-60% of the water intake.

Industrial water use: Water withdrawn for industry is used for cooling and transportation purposes and as solvent for or an ingredient of finished products in atomic power generation, and thermal, chemical, petroleum, wood paper and other industries. The withdrawn water is either via an in-flow system where it is used once and then returned back to water streams, or via a circulating system in which water is reused and returned back to the water supply source. In industry the value of water consumption is generally insignificant to the water intake where most industries consume 5%-20% of water intake with higher levels of consumption in southern regions compared to northern regions of the world due to hot climate.
Agriculture water use: Water used for irrigation (consumes around 92%-95% of agriculture water), livestock and modernizing of rural populations. Estimates for future water consumption for agricultural purposes is generally expected to decline due to advancements in technology and engineering efficiency.

A complementary method of water classification was introduced by the Food and Agriculture organisation (FAO, 2003) based on its method of production for human use as conventional water resources referring to the directly available freshwater; surface water (from rivers and lakes) and ground water and nonconventional water resources which is freshwater produced by the treatment of salt water (seawater or brackish) and wastewater.

2.3.3 Water scarcity definition and indices

On the contrary of other resources such as land, water is considered a complex non-static resource that exists in dynamic cycles of rainfall, runoffs and evaporation that are subject to geographical and temporal variations, thus, it is a vulnerable resource that should be managed properly (Rijsberman, 2006). In order to address the degree of water vulnerability and consumption of fresh water resources, indicators are needed to make the impact of consumption patterns transparent (Ridoutt and Pfister, 2010).

Different water scarcity indices were made available to define water scarcity as a relationship between water availability and the size of a specific population. For example, the "water stress index" by Falkenmark, Lundqvist and Widstrand (1989) defines water stress, scarcity and absolute scarcity as a situation in which countries cannot sustain 1700m3, 1000m3 and 500m3 of water per capita per year, respectively. Although the water stress index is widely used because of its simplicity, its limitation is that national and annual averages do not reflect the true scarcity situation; moreover it ignores demand changes and infrastructure developments that can influence water availability and uses (Rijsberman, 2006).

More recently, the introduction of the water resource "vulnerability index" overcomes this limitation by making more accurate water demand assessment and relating it to the national annual renewable water supply. The index considers a country is under scarce water resources if annual withdrawals are between 20% and 40% of annual supply, and severely scarce if it exceeds 40% (Alcamo et al., 1997). However the index is still not free of shortcomings; for example, it

does not take into account how much of the water resources could be made available for human use and how much of the withdrawn water is consumed, evaporated or left for recycling, and finally it does not take into account the ability of societies to adapt to stressful water situations (Rijsberman, 2006).

The International Water Management Institute (IWMI) developed a similar water scarcity index, *Physical and Economical Water Scarcity Index*, which was explained by Seckler et al., (1998) that it takes into account freshwater resources available for human use. On this index a country is labelled as physically water-scarce when more than 75% of its river flows are withdrawn for industry, agriculture and municipal use, and a country is considered economically water-scarce when it has adequate renewable resources with less than 25% of the water withdrawn from rivers for human purposes but needs infrastructure development to make this water available for use. However, water analysis under this index implies that dry areas in the world are not necessarily water-scarce. Despite the consideration of water availability for human use on the IMWI index, it is still considered an aggregate national analysis tool and is not an easy index to apply (Rijsberman, 2006).

Sullivan et al. (2003) developed a disaggregated index, the *Water Poverty Index* that assesses individual water security at the household and community levels. The index has five dimensions: access to water; water quantity, quality and variability; water uses for domestic, food and productive purposes; capacity for water management; and environmental aspects. The index is considered an inclusive one and provides a more holistic approach to the assessment of water scarcity (Rijsberman, 2006).

2.3.4 Global water scarcity pressure

Earlier in the literature, the World Meteorological organisation's (1997) assessment of global freshwater resources indicated that, as of 1997, one third of the world's population was living in countries with moderate to high water stress, and projections for 2025 showed that this figure would rise to two thirds of a much larger population. In the same line, many researchers confirm that up to two-thirds of the world's population will suffer from water scarcity within the coming decades (Alcamo et al., 1997, Raskin et al., 1997; Seckler et al., 1998).

Similarly, Charrier et al. (1998) argue that water scarcity could generate strife and even armed conflict. In addition to this general water stress problem, Jones (1999) claims that despite the fact that water efficiency is improving in developed countries, developing ones show little evidence of proper management of water resources where the per capita waste is rising mainly due to the nature and requirements of industries, unaffordable technologies and lack of public education. He also nominated the Middle East as a region suffering from considerable water stress due to demographic explosion and push demand well above the naturally available resources.

Thus, many authors attempted to assess the global water scarcity situation. A fundamental appraisal and assessment of world water recourses was published by Shiklomanov (2000) on water availability (per capita available renewable water resources) by region from 1950; extrapolated to 2025, it indicates that water distribution is uneven and the available water resources do not coincide with population spread and level of economic development which gives rise to the possibility of severe water scarcity situations in some areas of the world. In the same line, authors claim that water will be scarce in areas with high population density and low freshwater resources, such as rainfall. Furthermore, the Middle East and North Africa (MENA) are at the top of the future list of water scarcity. For example, Wallace (2000) estimates for 2050 indicates that water availability in the Middle East will drop below 1000 m3/capita/year. For this reason, John (2009) emphasises that any contemporary dialogue on world water should consider the fundamental problem of water scarcity in the Middle East, Africa and Asia where the water demand is rising more than at any time in history.

In a recent attempt to assess the current global situation of water stress/scarcity, the United Nations published the global map shown in figure 2.1 for total renewable water resources per capita for the year 2013 in its W*ater for a Sustainable World Report 2015*, which shows global renewable water resources per capita per country indicating areas with absolute water scarcity, stress and vulnerability across the globe (WWAP, 2015). The map indicates that the UAE among other countries in the Middle East and few in Africa lies in the zone of absolute water scarcity situation i.e. total renewable water resources per capita is less than 500m3, a situation that calls for rapid attention of policy makers as well as academics to find a an appropriate remedy for the current absolute water scarcity situation in the Middle East and more specifically in the UAE.



Figure 2.1 Total renewable water resources (WWAP 2015, p. 12)

2.3.5 Global current and future water consumption

Water is life; however the current increased worldwide consumption trends exert growing pressure on water resources and represent a major impact on water sustainability and human wellbeing (WWAP, 2015). Many authors as well as research institutes have for some time been alarming about the current water consumption trends; for example, Levine and Asano (2004) claim that due to the increased water consumption in the last decades, society no longer has the luxury of using water only once. Similarly, Gleick, (2004) and Zeman et al. (2006) claim that the increased population as well as extravagant water use led to the current stressful situation on water resources. In the same line, Baraga et al. (2012) claim that although water resources are mostly renewable by rainfall, they are finite and highly threatened by human beings through contamination and more importantly by excessive withdrawal to meet the demand of our increasing numbers and higher standards of living. Moreover, Zetland and Gasson (2013) argue that excess water consumption is a major threat on sustainable water service. In the same line, in 2015, the *World Water Assessment Program* announced that over the past few decades, the growing demand for and misuse of water resources have increased the risks of water stress in

many parts of the world, and express alarm over the unexpected and negative consequences of the current inequitable and excessive water consumption (WWAP, 2015).

Despite the above-mentioned agreement on the increased current water consumption trends over the past decades, future water consumption is debatable in the literature. Some authors argue that future water consumption could be controlled, for example, Gallopin and Rijsberman (2000) claim that future water consumption is highly related to people's value assumptions, and the lifestyles of future generations. Similarly, Rijsberman (2006) argues that the exact water future requirement per person primarily depends on policies and personal choices and that the average daily water consumption of 50 liters per capita is just an absolute figure that does not take into account the lifestyle, consumption behaviour and decisions that people can make, giving an example on people who live in Rajasthan, North India and managed successfully to build an enormous civilization for centuries with less than 200mm of rainfall per year.

Whereas; on the other hand, scholars claim that the problem of excessive water consumption will escalate. For example, Baraga et al. (2012) argue that given the current water consumption trends along with the rapidly urbanizing and industrializing world and growing attempts to raise standards of living in emerging countries, it is expected that water consumption will escalate and more pressure will be exerted on water resources particularly in developing countries as they are at a stage where water use is in line with their increasing population and growing economy. Along the same line, Allan, Keulertz and Woertz (2015) claim that future global water consumption is expected to increase by 55% between the years 2000 and 2050 and argue that future water use trends are difficult to alter as water demand primarily relies on demography and consumption behaviour. Thus, it can be said that author's debate on future water consumption lies in considering future water consumption trends as either a simple extrapolation process of the current trends or as a more supple process that can be influenced by external variables.

2.3.6 Water resource management and allocation

The Pacific Institute tackled the issue of water depletion and claim that the problem of water scarcity stems from ineffective water management, wasteful use of water, improper economic incentives to reduce water consumption, and ineffective water management that focuses exclusively on developing new supplies excluding the "soft path"; conservation measures (Pacinst.org, 2015). With similar emphasis, on 2003, Gleick called for the "soft path of water"

which focuses on the improvement of the water use efficiency instead of continuously searching for new water resources.

Rijsberman (2006) claims that although governments' responses to increased water consumption through focusing only on the supply side and adopting the traditional engineering of developing infrastructure like dams succeeded in introducing cheaper food, it failed to provide a safe and affordable water supply to many people in the world and did not protect against the rapid fall in the water levels of aquifers. Similarly, Bruch et al. (2007) confirms that the lack of demand management and inefficient use of water contributes vastly to the growing pressure on water resources.

Fielding et al. (2012) argue that there is growing evidence that humans are placing excessive demand on future fresh water resources. Thus, future water security is a great challenge for policy makers, and managing water demand is vital to combat future water resource vulnerability. However, the development of effective demand management strategies requires clear understanding of factors influencing consumer usage (Jorgensen, Graymore and O'Toole, 2009).

Further a debate around allocation of water resources has arouse among policy makers and practitioners since the announcement of water as an "economic good" at the *Dublin Conference on Water and the Environment* (ICWE, 1992), which announced the four Dublin principles as shown in table 2.1. However, the term "economic good" has been interpreted by two schools of thoughts; the first claims that water should be priced at its economic value and then the market mechanism will automatically ensure best allocation of water resources. The second argues that water allocation should be made as a deliberate choice based on cost benefit analysis, and its allocation should be guided by integrated analysis of all pros and cons relating to alternative options (Van der Zaag and Savenije, 2000) and the interest of all stakeholders should be considered while securing water resources for future generations (Agarwal et al. 2000).

The author of this thesis argues in line with Savenije and van der Zaag (2002) that the market mechanism does not work perfectly with water resources management due to its unique nature where the choice between different water resources is inapplicable, and economic and financial considerations alone fail to satisfy all sectorial and stakeholder interests, particularly those with

limited ability to pay for water. Furthermore, economists who value water based solely on pricing can easily demonstrate that the future value of water is nil and thus, will sacrifice future generation rights in water security, an approach that contradicts with sustainability principles. Therefore, water pricing should not be considered as the sole variable that manipulates water consumption. Thus, it can be concluded that more research is needed to investigate potential determinants of sustainable water consumption to aid policy makers in setting strategies to secure future water resources.

- Water is a finite vulnerable and essential resource, which should be managed in an integrated manner.
- Water resources development and management should be based on a participatory approach involving all relevant stakeholders.
- Women play a central role in the provision management and safeguarding of water.
- Water has an economic value and should be recognized as an economic good, taking into account affordability and equity criteria.

Table 2.1 The four Dublin principles (Source: ICWE, 1992)

2.3.7 Sustainable water consumption (SWC)

Early in the literature, Gleick et al. (1995) defined sustainable water consumption as use of water that supports the ability of human society to flourish into the future without affecting the hydrological cycle or the ecological systems. Sustainable water use is also defined by the organisation for Economic Co-operation and Development (OECD) (1998) as the pattern of water use that meets both current and future generations' needs, or meeting needs while at the same time protecting aquatic ecosystems.

Further elaborating on sustainable water consumption, Bithas (2008, p.223) argues that this definition is insufficient and does not lead to the prescription of effective policy that secures current as well as future water needs. He then proposed two conditions to describe sustainable water consumption. The first is the use of exhaustible renewable water resources within the limit of its natural regeneration rate to secure future generation needs and to avoid unnecessary use

while promoting rational use of non-renewable resources to extend their availability. The second is "the avoidance of any kind of welfare losses in the use of water resources".

Authors and institutes explained different factors influencing water consumption. For example, Cosgrove and Rijsberman (2000a) claim that although water consumption is highly correlated to population growth, population is not the sole player in influencing water consumption, the world population has tripled from the beginning of the twentieth century, but water consumption has experienced a six-fold increase. Along the same lines, Baraga et al. (2012) claim that the rate of increase in global water use in the twentieth century exceeds the double of the population growth rate. Thus, they claim that other factors like urbanisation, industrial development as well as improved living standards are major contributors to unsustainable water consumption.

Other studies in the literature that mainly focused on domestic water consumption, identified a range of individual factors that influence sustainable water consumption such as demographic characteristics - number of family members and family income (Aitken et al., 1991, 1994; De Oliver, 1999, Corral- Verdugo et al. 2003, Portnov and Meir 2008), water use behaviour (Gregory and Di Leo, 2003, Richter and Stamminger, 2012), attitudes and values (Syme et al., 2004; Willis et al., 2011), and socio-demographic as age (Levallois et al. 1998, Keshavarzi et al. 2006) and gender (Corral-Verdugo et al. 2003) and psychosocial variables like trust in authorities and fellow citizens (Jorgensen et al. 2009, Fielding et al., 2012).

However, despite the fact that corporate sustainable water consumption is an important element in achieving sustainability goals, there is a lack of research examining variables that promote it, while more research attention has been paid to designing intervention for sustainable energy consumption (Gregory and Di Leo, 2003). Therefore, this thesis will examine the following potential determinants; manager's environmental concern and risk perception that can leverage firm's sustainable water consumption as explained in the following sections.

2.3.7.1 Environmental concern as determinant of SWC

Environmental concern (EC) has been early defined as a general value orientation toward the environment and treated as an evaluation of individual behaviour on the environment and determines individual intention towards environmentally positive behaviour (Fransson and Garling, 1999). More recently EC was defined by Schultz (2001) as the attitude and beliefs in

environmental protection issues and attention to environmental problems. Similarly, Dunlap and Jones (2002) defined environmental concern as the awareness of people that the natural environment is threatened by human overuse of resources and pollution.

Environmental concern has been categorized as egoistic environmental concern, social altruistic environmental concern, and biospheric environmental concern, where egoistic environmental concern explains people's concern on self-interest, social-altruistic environmental concerns are related to anthropocentric altruism in which people care about environmental and biospheric environmental concern is a concern for all living species (Schulz et al. 2005).

Franzen and Meyer (2010) argue that environmental concern is part of a general change in fundamental values that take place as societies develop. In further elaboration, Franzen and Vogl (2013, p.1002) claim that environmental concern is "as an individual's insight that humans endanger the natural environment combined with the willingness to protect nature". In describing the relation of environmental concern and positive environmental behaviour, early in the literature, Hines, Hungerford and Tomera (1987) argue that heightening environmental concern increases environmental positive behaviour. Similarly, Stern & Oskamp, (1987) argue that when perceived as easy to implement, sustainable behaviour is determined by environmental concern. Additionally, many authors argue that a necessary intervention for fostering environmentally friendly behaviour like sustainable consumption of natural resources is to increase environmental concern (Takala, 1991 and Stern, 1992).

More recently, George and Leo (2003) argue that individuals who shows positive environmental actions, tend to possess higher levels of environmental concern. Similarly, environmental concern has been found to be an important determinant of pro-environmental behaviour (Wakefield et al., 2006). Similarly, Kang and Kim (2013) argue that consumers are willing to pay for sustainable consumption products if their concern to the environment is high. From firm's perspective, it has been argued that decisions related to natural resource allocation for environmental management practices and thereby firm's sustainable consumption of natural resources relies on management environmental concern (D'Amato & Roome, 2009). Similarly, Franzen and Meyer (2010) argue that voters with higher environmental concern should support political parties that favor ecological policies and concluded that environmental concern was positively associates with resource consumption and decreased carbon emission. Additionally, it has been claimed that environmental concern is one of the most important motives for managers'

intention with regard to environmental behaviour (Wang, Zhang, Yin, & Zhang, 2011). Similarly, Willis et al. (2011) demonstrated empirical evidence of positive relationship between manager's environmental concern and conservative water consumption behaviour. In the same line, Franzen and Vogl (2013) argue that public support to government policies that foster sustainable consumption of researches increases simultaneously with public environmental concern as individuals will exert less effort to protect their environment.

More recently, Vainio and Paloniemi (2014) argue that environmental concern plays an integral role in increasing the willingness to make pro- environmental choices related to resource consumption. Additionally, Zhang et al. (2015) claim that since senior managers are decision makers in industrial firms and their commitment to environmental sustainability has a strong influence on the firm's strategies associated with natural resource conservation, therefore it is indeed that manager's environmental concern regardless whether it is egoistic, social-altruistic or biospheric is critical for industrial practices related to conservation of natural resources, especially in developing countries where external stakeholder pressures on firms may not be well developed. Moreover, they claim that the effect from senior managers' environmental concerns on environmental strategy will be quite different from their effect on concrete environmental practices and that this difference does not seem to have been adequately addressed in the literature and it remains unclear how the environmental concern of managers are related to corporate strategies and practices.

On the contrary of the above agreement on the role of environmental concern on driving sustainable consumption of natural resources, Alwitt & Pitts (1996), Bamberg (2003) and Neville, & Whitwell (2014) find that the relation-ship does not always exist. In the same line, Nordlund and Garvill (2002) argue that despite increased levels of environmental concern, consumers have not exhibited any greater willingness to engage in sustainable consumption behaviour. Thus, despite the reported positive association between environmental concern and sustainable consumption Vainio and Paloniemi (2014) claim that there is still an environmental concern.

Despite that the above mentioned conflicting findings on the role of environmental concern in driving sustainable consumption of natural resources and the argument that there is an implicit challenge in focusing on sustainable consumption is the need to understand how environmental concern shapes managers consumption decisions (Leary et al., 2014), many researches focused

on studying factors influencing environmental concern and it has been claimed that few studies have examined the association between environmental concern and environmental friendly behaviour (Fransson and Garling, 1999).

Furthermore, Zhang et al. (2015) argue that research field commonly ignores the effect of manager's environmental concern on sustainable consumption of natural resources where discussions about environmental concern of managers are rare and remains unclear how the environmental concern of managers are related to corporate strategies and activities and thus, they call for empirical research to measure if there is potential relationship between environmental concern and firms natural resource conservation ,therefore, it is important to demonstrate empirical evidence that establish the relationship between environmental concern and pursing research in this era will contribute to the knowledge and guides managers and policy makers on potential determinant of sustainable water consumption.

2.3.7.2 Risk perception as a determinant of SWC

Bauer (1960) was one of the earlier researchers who defined perceived risk comprehensively. He explained risk perception as involving the chance of unhappiness, financial loss, lack of expected utility and negative social image or physical damage. Following this, Cox & Rich (1964) defined risk perception (RP) as the nature and level of uncertainty that is felt when making a specific decision and explained five dimensions for risk perception; namely, financial risk, social risk, psychological risk, physical risk and performance risk. Following this, Stone and Gronhaug (1993) introduced time risk dimension and the six risk dimensions were explained by the authors as follows;

Financial risk, relates to concerns about monetary losses, performance risk or functional risk is considered to be the risk to the quality of operation of goods and service produced, whereas, psychological risk, refers to possible damage to one's self-image. Social risk involves in individual embarrassment or disapproval from one's family or community. Physical risk involves concern about tangible harming effect and finally time risk refer to loss of time resulting for example from product returns or delays in receiving goods and service.

Researchers have argued that the original five dimensions of perceived risk explain the large amounts of variance (about 60–70%) in overall risk measures (Brooker, 1984). However, several

researchers have argued that time-related risk played a significant role and should be included in measurement of perceived risk (Stone and Gronhaug, 1993).

Since this elaboration on risk perception, the variable continues to receive attention by practitioners and academics (Mitchell, 1999) and scholars believe that risk perception along with its six dimensions should be one of the key constructs when attempting to examine consumption behaviour and is regarded as one of the major explanatory variables within this discipline (Veloutsou & Bian 2008).

In an explanation to risk perception and in a direct relation to environmental issues, risk perception has been defined by Leiserowitz (2003) as the likehood of current and future impact of environmental threat on local and global scales and it was claimed that risk perception is socially constructed, with different interpretive communities predisposed to attend to, fear, and socially amplify some risks, while ignoring, discounting, or attenuating others. (Leiserowitz, 2005).

Early in the literature, many authors argue that a necessary intervention for fostering environmentally friendly behaviour like sustainable consumption of natural resources is to increase knowledge about negative effects and consequences of ongoing environmental deterioration and therefore, stimulates people's risk perception from a specific environmental threat (Stern & Oskamp, 1987, Takala, 1991 and Stern, 1992). Additionally, Hine and Gifford (1991) argue that exposing people to a threat related to an environmental problem increased their intention to behave in a positive environmental manner. Similarly, Baldassare and Katz (1992) concluded that the perceived environmental threats can influence environmental behaviour positively. In the same line, O' Connor (1998) concluded that increased risk perception increases the likehood of public participation in voluntary actions to protect against a specific environmental risk, however, they argue that the presumption of risk perception and actions correlation has rarely been tested. Similarly, Bord et al. (1998) argue that people who perceive the biophysical world as fragile and thus, have high risk perception are more likely to adapt proenvironmental behaviour. Where on the same year and on the contrary, Slovic & Peters (1998) argue that risk perception can do little in changing human behaviour in relation to environmental issues where, people act in a way that cannot be easily changed.

Following this debate, Leiserowitz (2005) was a proponent for the role of public risk perception in inducing behaviour change and public acceptance to government policies and claims that public risk perception is a critical components of the sociopolitical context within which policymakers operate. Within the same vein, Roseth (2006) concluded that community water saving behaviour is triggered by the threat of running out of water. In a similar field, Gifford and Bernard (2006) argued that the risk perception of health hazards from conventional agriculture produce had altered consumption behaviour towards organic consumption.

Similarly, Gilbertson et al. (2011) argue that the perception of water crises is usually accompanied by positive water consumption behaviour. Moreover, within a similar discipline, Chen eta al. (2012) concluded that risk perception of water quality had influenced water consumption behaviour. Where on the other hand Kang and Kim (2013) argue that risk perception might indirectly act against sustainable water consumption capitalizing on the threat associated with the adoption of new water saving technologies and hinders its consumption. More recently, Zhang et al. (2015) argue that concern over threats to environmental legitimacy is a driving force for adoption environmental management practices (strategies and operation activities). Finally, in congruence with the available research on environmental concern, it has been claimed that although risk perception is a complex issue, previous research has examined only limited dimensions of it (e.g., Halepete, Littrell & Park, 2009). Moreover, many authors explored the determinants of risk perception as demographic variables, identity and ideology variables, trust and confidence variables and knowledge variable (Flynn et al., 1994, Finucane, 2000, Marshall, 2004 and Leiserowitz, 2005) whereas; few studies had empirically investigated the association of risk perception of specific environmental threat with ethical and socially responsible consumption despite of the above mentioned debate on its significant role (Kang and Kim, 2013). Therefore pursing research that identifies the variance in sustainable consumption of water resources induced by risk perception of water scarcity will contribute to the knowledge and guides managers and policy makers on potential determinant of sustainable water consumption.

2.3.8 Measures of corporate sustainable water consumption

Execution of corporate environmental strategy as intended is rarely a clear process due to the presence of uncertainties such as regulation shifts, fluctuating customer choices and poor performance of staff and therefore a gap might exist between corporate environmental strategic planning and environmental activities (practices), this could be related to the fact that the managers (strategy makers) are sometimes physically isolated from the operation and in turn the staff are usually separated from decision making (Liu, 2014).

For these reasons, authors argue that corporate environmental performance should be assessed by measuring the adoption of both, environmental strategies and environmental practices because strategies are mainly determined by the senior managers, and form the backdrop for implementation of the concrete environmental practices of the firm and it is critically important for firms to convert their strategies into concrete activities for implementation (Zhang et al. 2015). Therefore, in this thesis, the adoption of sustainable water consumption strategies and practices will be used simultaneously as measures of corporate sustainable water consumption.

2.3.8.1 Sustainable water consumption strategies

In general, environmental strategies are defined as a plan and processes for corporate environmental management practices (Eisenhardt & Martin, 2000), which is designed and proposed by top management. More specifically, sustainable consumption strategies has been defined as the processes through which sustainability can be delivered (Coaffee et al., 2001). Similarly, Szlezak, Reichel and Reisinger (2008) claim that strategies for sustainable consumption should include elements to set out general policy directions combined with overall objectives as well as action plans that describe concrete objective, detailed measures with short and medium term planning horizon. They also highlighted on different elements of sustainable consumption strategies in different countries, for example, in France, the strategic documents includes overall objective, action programmes associated with sustainable consumption and defines performance indicators. Whereas in UK, the documents sets out broader objectives, means for implementation and directions for future actions and for Chez republic, strategies for sustainable consumption encompass principal policies, areas of required actions and proposals for specific activities in short and medium terms. They described the most common areas for planned actions and means in the strategy for sustainable consumption as setting targets, consideration of environmental aspects in the procurement process and coordination with wide range of stakeholders.

Previous studies agree that a well prepared strategy is useful for the effective environmental performance (Wagner & Schaltegger, 2004) and in detailed explanation of strategic means for improved environmental performance, Barbir and Sergio (2008) claim that environmental management systems to achieve sustainable consumption should encompass strategies that highlight the need for partnerships and wider involvement of territories and stakeholders. Furthermore, Niinimäki & Hassi (2011) claim that appropriate corporate strategies that

encompass innovation can lead development to a more sustainable path. Holt (2012) argue that sustainable consumption strategies should seek to trade out consumerist values for environmental values and then can have high impact in addressing key environmental problems in the upcoming decades and the movement towards sustainable consumption requires corporate strategies that acknowledge and overcome the structures holding the current unsustainable consumption. In relevant discipline, Zhang et al. (2012) claim that strategy for energy saving along with well established strategic plans had contributed to the reduction of 5% in energy consumption per steel tone and benefits overall corporate environmental performance.

Additionally, Ambarwati et al. (2014) claim that encompassing of corporate sustainable consumption strategies will lead to adoption of sustainable consumption practices, they also claim that strategies for sustainable consumption includes investment in technological innovation, policies to reverse trends, governance choices and control over supply chain, investment in employee training, effective planning to rationalise consumption, promote forums and engage with relevant stakeholders and building social networks on sustainable consumption. Moreover, Oliveira et al. (2015) argue that application of environmentally oriented strategies can lead to rationalization in consumption of resources as water and energy. Within a similar discipline, Zhnag et al. (2015) argue that having the strategies in the first place is a prerequisite for concrete environmental operations and for example, without clear energy conservation strategies, firms may encounter difficulty in conducting energy-saving activities. In the same vein, Similarly, Tortella and Tirado (2016) argue that management strategy in hospitality sector plays a relevant role in explaining sustainable water consumption.

2.3.8.2 Sustainable water consumption practices

Sustainable water consumption practices defined as the actions that avoid any kind of welfare losses in the use of water resources (Bithas, 2004) and from corporate side, Zhang et al. (2015) claim that corporate environmental practices are those detailed activities implemented by the staff and employees in order to achieve environmental protection such as product eco-design, renewable energy application and resource conservation.

An early study by Meade and Monaco (2001) carried out in the Jamaican reported that water conservation practices such as installation of low flow showers and aerators in taps, and encouraging the reuse of bed linen and towels resulted in 30% reduction in water consumption; whereas, type of laundry equipment, employee training and gardening operations can influence

20% and 10-20% of water consumption respectively. Thus, they recommended the following sustainable consumption practices to be adopted in hospitality sector:

- Immediate fixing leaks
- Installing low-flow shower heads in all hotel areas
- Periodically cleaning and descaling all shower heads
- Using top loading machines
- Investing in laundry water recycling
- Sweeping decks before hosing
- Planting native species
- Irrigating lawns and gardens in the early morning hours to Minimise evaporation
- Controlling sprinkler operations with the use of timers and rain gauges
- Use of graywater from sinks, showers, and laundry for irrigation

Following this, researchers such as Syme, Nancarrow and Seligman (2000), Gregory and Leo (2003), Gilg and Barr (2006), and Martínez-Espiñeira and García-Valiñas (2013) emphasised that the following practices can lead to sustainable water consumption: gardening during the evening or in the early morning; reduced use of garden sprinklers; using native species of plants that need less water, replacing baths with showers; ensure washing machines (clothes and dish washers) are fully loaded; training employees on water saving habits as avoiding running taps while washing dishes and vegetables; immediately fix leaking taps, and recycling bath water. In the same line, Deng, and Burnett (2002) argue that practices related to wash loads are extremely important in rationalising water consumption and claim that good housekeeping practices particularly in kitchen and laundry departments can reduce up to 15% of water consumption in hotels, employee training and use of new water saving technologies as water efficient shower heads and implementing grey water recycling program are good indicators for successful implementation of sustainable water consumption practices in hospitality sector and

recommended an environmental management program that encompass and monitor those activities.

Further, Cheng (2003) confirms that toilet flushes and bath water use constitute large percent of water consumption in different parts of the world. In light of this, Turner at al. (2004) confirm that the use of water-efficient devices reduced water consumption in Australia by 12%. The UK Environmental Agency (2004) ran a similar study on eight hotels, introducing changes such as new toilets with a lower flush capacity, infra-red taps in rooms and kitchens, modernized watering systems in gardens, and repairing leaks and concluded that these changes had led to water savings of 15–58%. Similarly, Inman and Jeffrey (2006) argue that the use of water-efficient devices can save up to 35%-40% of consumed water.

In the same vein, Bohdanowicz (2006) highlighted that the practice of towel and linen reuse program in hospitality sector can save up to 22700L per month, installation of water efficient devices is highly influential, and leaflets encouraging guest conservation, although of less popular use, yet can induce a change in consumption. Additionally, environmental performance of accommodation sector was investigated by Leslie (2007) based on practicing a membership in green organisations. In the same line, Mensah, (2007) concluded that for water consumption, reuse of linen and towel is among the most popular sustainable practices in hotels. Referring to the use of water saving technologies in Chinese restaurants, Lo et al. (2011) find that using a thawing machine or microbubble machine instead of a traditional cold-water thawing method could save 20% and 13% of that water respectively.

Along the same lines, Fielding et al. (2012) emphasised the importance of efficient infrastructure and installation of water-saving appliances like low-flow showerheads, shower timers, pool covers and dual flush toilets to secure future water demand and achieve sustainable water consumption. Similarly, Barberán et al. (2013) claim that practices in hospitality sector that requires small investment as implementation of retrofitted water saving technologies in wash basin taps, bidet taps, showerheads, prewash showerheads and dishwashing station leads to very significant reduction in water consumption.

Additionally, Singh et al. (2014) advocate that hotels should practice recycling programmes and involve guests in the process whenever possible. Oindrila et al. (2015) also recommend the use of water-saving fixtures, low-flow showerheads and low flushing toilets by household to save water. Chan and Hsu (2016) argue that green marketing as communication of green effort to

customer, environmental reporting and use of environmental technologies, employee involvement and engagement of hospitality firm's stakeholder are all useful practices in hospitality sector. Additionally, Tortella and Tirado (2016) argue that introduction of water saving initiatives, such as re-using swimming pool water, recycling of sewage for irrigation purposes, and the installation of sub-meters and flow regulators in rooms, kitchen or laundry are useful practices for sustainable water consumption in hospitality sector.

2.4 Overview of the UAE

2.4.1 UAE demographic and typology in relation to water scarcity

The UAE's increased population, rapid development and improved standard of living has resulted in increased water consumption which has not only imposed extra pressure on the country's conventional current and expected future water resources but has also brought a new progression of environmental concerns and their associated development costs (Uitto and Schneider,1997, Al-Rashid and Sherif, 2000). In addition to those demographic factors, the typological nature of the United Arab Emirates, based on its location in the arid region zone of Arabian Peninsula which is characterised by low average annual rainfall (6.72 billion cubic metres), harsh climatic factors as leading to high evaporation rates (2500-4000mm/year), limited recharge of ground water and absence of rivers and lakes has contributed vastly to its water scarcity problem (Murad, Al Nuaimi and Al Hammadi, 2006).

2.4.2 UAE water resources

The UAE is considered to be in a critical water supply situation based on Shiklomanov's (2000) assessment as shown in figure 2.2, and the issue of water scarcity in the UAE is "...approaching the level of crisis" since freshwater resources are depleted at a rate faster than their renewal rate due to high level of water consumption, with municipal water consumption contributing highly to water shortage due to the increased living standards, population growth and over-irrigation of private gardens to counter the harsh weather (Al-Rashid and Sherif, 2000, p. 59).



Figure 2.2 Dynamics of specific water availability by natural economical region of the world, 1950 to 2030 (Shiklomanov, 2000)

Within the same vein, Murad, Al Nuaimi and Al Hammadi (2006) claim that groundwater is the primary conventional water source in the UAE that is naturally renewed by rainfall at a rate lower than its withdrawal rate due to the scarcity and uneven rainfall. They conclude that the UAE lacks sufficient water resources due to the arid climate, scant and irregular rainfall, high level of surface water evaporation, and over-pumping of groundwater to meet increased demand and thus, water scarcity in the UAE can hinder the country's sustainability strategy.

Moreover, in the *UAE State of Green Economy* report for the year 2014 it was declared that despite the fact that the UAE is blessed with the world's seventh largest oil and gas reserves, the availability of freshwater (mostly groundwater) is one of the lowest in the world. As a result, nowadays, the UAE groundwater meets only 44% of the water demand and even more challenging, due to over-pumping, the level of groundwater in the UAE has been dropping at a rate of 5 meters per year since 1999 as per research done by the Masdar Institute of Science and Technology, and the natural water availability per capita had declined to less than 200 cubic meters (Kansoh, Muller and Klingbeil, 2003).

Due to this scarcity and vulnerability of UAE groundwater, and to bridge the gap between water demand and water availability, the country is resorting to non-conventional water resources; desalinated water (fossil water) and treated wastewater in order to meet 42% and 14% of water demand, respectively. However, production of fresh water from non-conventional water resources is not free of shortcomings; for example, the desalination process is exerting an extra load on energy consumption and poses extra pressure on the country's economy particularly with

the current uncertainty in oil prices; it is offsetting marine life; and it contradicts with the overall sustainability strategy of the UAE. Moreover, although it costs only a fraction of the desalination cost, recovered (treated) wastewater use is only limited for irrigation, district cooling and industrial purposes and is not used for municipal purposes; therefore, there is still a challenge to create potential demand for treated wastewater (MoEW, 2015, pp.42-88).

Additionally, focusing on increasing capacity alone will not be sufficient to meet current and future demands. Thus, His Highness Sheikh Mohamed bin Zayed Al Nahyan (Emirates 24/7 news, 13 December 2011) claimed that "water is more important than oil for the UAE".

2.4.3 UAE water consumption

Despite the above-mentioned scarcity of freshwater as well as the high cost of desalinated water and scarce demand for treated wastewater, the per capita water consumption in the UAE among the highest gloablly - around 500 L/ day (Saleh, 2013) – which is more than ten times the basic human requirement of 50-60 liters/capita/day (Shiklomanov, 1997, Gleick 1996, 1998; Crockett & Carroll 1997); approximately five times the average daily per capita consumption in developing countries; 100-150 liters per capita per day (Shiklomanov, 2000); and more than four times the consumption in nearby countries such as Iran with an average per capita daily water consumption of 121.7 liters (Keshavarzi et al., 2006). Thus, the nation is currently among the highest globally with regards to the per capita water footprint (MoEW, 2015).

Earlier in the literature, Uitto and Schneider's (1997) study on the past and postulated volume of water demand in the UAE shows exponential increase in water consumption in all the three sectors, municipal, agriculture and industrial from 1990 to 2025 as shown in table 2.2. The results indicates that the approximate percentage increase in water consumption during the first decade for municipal, agriculture, industrial and total consumption is 46, 47, 11 and 46 percent respectively, whereas, the approximate percentage increase in the three and half decades from 1990 and 2025 is 114, 116, 85, 115 percents for the same sectors respectively, which indicates a current and expected future dramatic increase in the total water consumption with municipal and agriculture consumption contributing largely to the change.

Year	Municipal (million m3)	Agriculture (million m3)	Industrial (million m3)	Total consumption of 3 sectors (million m3)	Approximate % of municipal consumption	Approximate % of agriculture consumption	Approximat e % of industrial consumption
1990	513	950	27	1490	34.4%	63.8%	1.8%
2000	750	1400	30	2180	34.4%	64.2%	1.4%
2025	1100	2050	50	3200	34.4%	64.1%	1.6%

Table 2.2 Past and projected water demand in the UAE (adapted from Uitto and Schneider, 1997) Despite the fact that the expected increase in industrial-sector water demand is 85% by the year 2025, it is the lowest percentage increase compared to the other two sectors. Moreover, the volume of industrial water consumption is negligible compared to municipal and agriculture sectors (representing only 1.4% by 2000 and expected to reach 1.6% by 2025 of total water consumption). Additionally, treated wastewater responds partially to industrial water demand in the UAE (MoEW, 2015) Thus, it can be concluded that both agriculture and municipal sectors are the main contributors to the freshwater shortage in the UAE.

However, since agriculture water consumption is a sign of agriculture development and can have a multiplying economic effect and can yield an agriculture-industrial offshoot through trading and employment and thus, contributes successfully to countries' development strategies and strategies to achieve food self-sufficiency and since estimates for future water consumption in agriculture sector is to decrease due to technological advancements (Shiklomanov, 2000), for example, the recent use of hydroponics among farmers in the UAE saved up to 70% of agriculture water (MoEW, 2015). Whereas; estimates for future municipality water consumption is to increase due to increased standard of living (Al-Rashid and Sherif, 2000). The focus of this thesis will be on municipal water consumption in the UAE and more specifically water consumption in hospitality sector.

2.5 Water consumption in hospitality sector

A plethora of researchers has pointed to the excessive water consumption in the hospitality sector and the positive impact of different intervention mechanism to curb water consumption in this sector, for example, Meade and Monaco (2001) claim that one of the challenges in front of sustainable tourism is the excessive and inefficient use of water in hospitality sector. And O'Neill et al., (2002) argue that when it comes to water conservation, the hotel sector can be seen as an attractive target sector capitalizing on their case study on Westin hotel where the consumption was approximately 802 liter per day per room compared to the newer Grand chain of the hotel which has an approximate consumption of 488 liter per day per room for being equipped with low flow toilet fixtures and has no in house laundry, which indicates around 50% reduction in water consumption due to adoption of some conservative measures.

Within the same vein, Kasim (2006) points to the impunity hotels seem to have in water consumption even when water restrictions and tight regulations are in place. Furthermore, the situation was found to be more complex when Revell and Blackburn (2007) concluded that the problem of over consumption of water in restaurants is not attended to properly by managers because of time pressure that hinders their attention to contemplate environmental issues despite their admission of the contribution of their excessive water consumption to environmental damage. Additionally, it has been claimed that hotels guests can consume up to triple the amount of water consumed by an average person living at home (Ministerio de MedioAmbiente, 2007), as they tend to use the pleasure behaviour approach (Eurostat, 2009) and thus extravagating the problem of water consumption in the hospitality sector.

Moreover, Gossling, Hall, & Weaver (2009) claim that although hospitality industry is one of the largest and fastest growing industries, it is at the same time, one of the least sustainable economic industries in the world. Additionally, Dief and Font (2010) confirms that water use in hospitality sector constitutes a substantial share of total utility bills of most hotels and thus, argue that water management and conservation in this sector is becoming increasingly important. In the same line, Robinot and Giannelloni, (2010) claim that the hospitality industry is not immune from environmental scrutiny , for example, hotels consumes substantial quantities of water and thus, have a negative environmental impact greater than other types of facilities of similar size. Similarly, Alonso and Ogle (2010) claim that in some countries, the hospitality sector's water consumption has got the highest water intensity ratings in the service industry.

Later in the literature, Tortella and Tirado (2011) blamed water consumption in hotels to have serious negative environmental impact and can generate big problems of sustainability especially in areas suffering from water scarcity and confirm that water demand from hospitality enterprises is responsible for negative environmental impact as it contributes to extreme water stress, depletion of groundwater and associated problems such as demand for energy-intensive desalination and water desalination especially in hotspot areas of water stress. Moreover, Hof and Schmitt (2011) reported that the average water use in regions that is dominated by luxury hotels can reach of 1181 L/ per person per day, and since the UAE is one the countries that is featured with its luxurious hotels, therefore, it could be expected that this huge level of water consumption at least applies to those luxurious hotels in the UAE and thereby extravagate the water scarcity situation.

A more complex situation was highlighted by Gossling et al. (2011) who claim that tourism demand for water is projected to increase substantially in the near future and more worse, climate change is projected to reduce precipitation and increase the frequency of severe droughts, thus, water demand from tourism related hospitality is expected to contribute to severe water stress situation and since the UAE is one of the countries that riels on its hospitality sector to flourish the countries' travel and tourism industry which contributes to 12.1% of its GDP on 2016; above average contribution of the same industry in all Middle Eastern countries by 3% and is expected to reach 17% of GDP by 2027, as shown in figure 2.3, therefore, the projected water consumption in the UAE hospitality sector will simultaneously increase and contributes to worsening the water stress situation if the current consumption trends continues to prevails.

TRAVEL & TOURISM'S TOTAL CONTRIBUTION TO GDP		2016 % share	TRA COI	VEL & TOURISM'S TOTAL NTRIBUTION TO GDP	2017 - 2027 % growth pa
38	Jordan	19.4	29	Oman	5.9
39	Lebanon	19.4	35	Lebanon	5.8
64	Syria	13.0	44	Jordan	5.6
70	United Arab Emirates	12.1	47	Bahrain	5.6
84	Saudi Arabia	10.2	57	Qatar	5.3
	World	10.2	68	United Arab Emirates	4.9
87	Qatar	10.1	69	Yemen	4.8
91	Bahrain	9.9		Middle East	4.8
	Middle East	9.1	78	Saudi Arabia	4.7
128	Oman	7.3	79	Kuwait	4.7
153	Yemen	5.7		World	3.9
158	Kuwait	5.4	134	Syria	3.2

Figure 2.3 Current and projected contribution of travel and tourism industry to UAE GDP (Rochelle, 2017, World Travel and Tourism Council)

Within the same vein, Martinelli et al. (2012) claim that the overuse of water in hospitality sector, pointing mainly to meal preparation in restaurants had contributed to environmental damage. Moreover, Styles, Schoenberger and Galvez-Martos (2015) claim that the negative environmental impact of water discharges which is directly related to water consumption from the hospitality sector is particularly significant in water stressed regions. In the same line, Styles, Schoenberger & Galvez-Martos (2015) argue that water consumption in tourism industry is environmentally significant owing the geographic concentration of hotels in dry regions and that water saving practices can save up to 58, 436 Euros from monthly utility bill of a typical 100 room of an European hotel, an argument that matches water consumption in the UAE where the benchmarking results for hotel water consumption indicates a comparatively high level of consumption as declared by Fayyad et al. (2016) and therefore, being one of the highest sectors in terms of water foot print, therefore, reducing water consumption in this sector will potentially have a considerable impact in the change towards the three pillars of sustainability; environmental, social and economic .

Moreover, Gatt and Schranz (2015), who assessed water consumption in three start hotels in Malta; a country whose the depletion process of its ground water resources is congruent with the UAE, claim that the tourism industry is the largest water consumer industry out of all the economic sectors and concluded that the intervention to curb water consumption achieved considerable water savings. Within the same vein, Vasile et al. (2016) claim that during the recent decades, hospitality sector as a part of the tourism industry involves a complex interactions with the natural system and have substantial ecological negative impact when considering water and energy consumption.

In the same line, Razumova, Rey-Maquieira & Lozano (2016) argue that the hospitality sector is one of the biggest consumers of fresh water within the tourist economy and leads the tourism industry to represent a serious challenge for the management of water supplies. Additionally, Raab, Baloglu and Chen (2017) claim that negative effects of hotels and restaurants on the environment due to excessive use of water and energy have increased public concerns and presents itself as having responsibility to ecological deterioration.

Based on the above literature review on water consumption in hospitality sector, it can be concluded that despite blamed to be one of the highest service sectors in water consumption, sustainable water use in hospitality sector still represents a major challenge arena. Therefore, the focus of this thesis will be on hospitality sector to present factors that can contribute to sustainable water consumption in this sector and thereby help in achieving nations sustainability goals.

2.6 Summary

This chapter defined sustainability as the ability to fulfill current and future generations' needs by simultaneous improvement of social, environmental and economic aspects, and the literature confirms that the promotion of sustainable consumption – defined as the use of goods and services to meet current needs without sacrificing needs of future generations—is a prerequisite to achieve goals of sustainability project initiatives. However, despite the agreement over contribution of sustainable consumption to nations' sustainability goals, scholars admit that there are poor results to date and little reach to the global sustainable consumption discourse, leaving little hope in the near future.

The chapter further elaborates on different water types and resources, water consumption sectors, water significance to human life, and water influence on the three dimensions of sustainability – social, economic and environmental. Additionally, the section highlights the current situation of excessive consumption of global water and water scarcity in which water resources are currently depleted faster than they can be renewed, placing our natural capital at risk and therefore, the focus on the demand side in water resource management as well as intervention to positively alter future water consumption trends were recommended by many scholars. Thus, determinants of sustainable water consumption was explained, however, although it is claimed that manager's environmental concern and risk perception are examined as drivers for sustainable water consumption, it has been reported by authors that the research field shows conflicting results on their significant association with sustainable water consumption, therefore more research is needed to provide empirical evidence on this association.

Finally the chapter described the UAE demography, typology, climate and water resources. Researchers as well as government officials admit that the UAE is approaching a water crisis situation as its freshwater resources are currently depleted at a rate faster than their renewal rate. This is a situation that is compounded by the fact that the UAE is the country with lowest water resources and highest rates in terms of water consumption, with municipal water consumption contributing highly to water shortage due to improved living standards, rapid population growth, and over-irrigation of private gardens to encounter the harsh climate. Moreover, Hospitality sector was specifically blamed by many scholars for excessive water consumption and contribution to water shortage problem in many countries.

Therefore, this thesis will expand the literature by introducing and examining different variables that can help in curbing water consumption in the UAE, and more specifically in hospitality sector in order to preserve the scarce water resources for the current and future generations and support in achieving the goals of *Green Economy for Sustainable Development* project initiative in relation to sustainable water consumption.

3 Chapter Three: Literature Review: Stakeholder analysis and salience

3.1 Introduction

This chapter begins with explanation of stakeholder influence on the success of projects, following that stakeholder analysis tools and significance is explained in details. Finally, stakeholder salience attributes are presented and stakeholder action framework in relation to sustainable water consumption claim is developed and discussed and the controversy on the significance of stakeholders' actions is provided.

3.2 Stakeholders influence on the success of sustainability project initiatives

The term stakeholder has been debated by authors over the last decades, for example, Freeman and Reed (1983) argue that the much-quoted stakeholder definition is the one introduced by Stanford Research Institute (SRI) in 1963, as those groups without whose support the organisation would cease to exist is too general and exclusive to identify strategically important external groups. Thus, they advocated the wider sense of stakeholders as:

"Any identifiable group or individual who can affect the achievement of an organisation's objectives or who is affected by the achievement of an organisation's objectives. (Public interest groups, protest groups, government agencies, trade associations, competitors, unions, as well as employees, customer segments, shareowners, and others are stakeholders, in this sense)" (p. 91).

In following the same line Carroll (1993, p. 60) defines stakeholders as "any individual or group who can affect or is affected by the actions, decisions, policies, practices or goals of the organisation". From an approach-focused stakeholder management perspective that aims to focus on relevant actors rather than just corporations, Brugha and Varvasovszky (2000) defined stakeholders as actors who have an interest in the issue under consideration. Similarly, Roloff (2007) defines stakeholder in a multi-stakeholder context as any group or individual who can affect or is affected by the approach to the issue addressed by the network, where the multi-stakeholder network is a network in which actors from business, civil society and governments come together to find an approach for a specific issue of concern.

In a wider scope of stakeholder definition, Hubacek and Mauerhofer (2008) view stakeholders as any party that is affected by organisational actions, whether living or non-living, or even future or past generations. Similarly, Turner (2009, p.77) defines project stakeholders as "anybody who has interest in the project, its work, output, outcomes or ultimate goals."

To conclude, stakeholders can be viewed from either a narrow perspective limited to those who directly affect the project or from an extremely wide perspective to include any party or element that can affect or be affected by the project. However, proponents of the wider definition of stakeholders claim that they are too broad for practical purposes (Parmar et al., 2010) despite the fact that they are highly influential in the field and most cited in the literature (Weitzner and Deutsch, 2015). For this reason, researchers over the years attempted to identify criteria for classifying relevant stakeholders through stakeholder analysis process (Brenner and Cochran, 1990, 1991; Savage et al., 1991; Hill and Jones, 1992; Clarkson, 1994; Freeman, 1994; Donaldson and Preston, 1995; Mitchell et al., 1997; Jensen and Sandstrom, 2011).

More specifically, in sustainability projects many authors like Kyburz-Graber et al. (2006) and Mieg (2010), argue that the balance between sustainability pillars is not always guaranteed due to the variance in values underpinning the three pillars and the controversial interests of involved stakeholders within even a single sustainability pillar. Moreover, despite the fact that although sustainability policies are usually set by governments and often enforced by some regulatory forms, in most cases, stakeholders applies it voluntarily by strengthening their sustainability activities and this is where the influence of stakeholder salience attributes are seen on the implementation success or failure (Steurer et al., 2005). Since stakeholders are influenced by their own identity and usually apply their implicit rules along with the external ones explicated in project manuals, therefore it is necessary to analyse stakeholders and generate knowledge about their attributes in a specific situation and investigate the influence of those attributes on project goals (Cicmil et al, 2006). Thus, this thesis will complement the current research body on stakeholder analysis and uniquely analyse the stakeholder salience attributes and their influence on the success of sustainability project initiatives and more specifically on sustainable water consumption in hospitality sector.

3.3 Stakeholder analysis

3.3.1 Stakeholder analysis definitions

Scholars in the literature proposed definitions for stakeholder analysis from different perspectives. For example, in business management studies, Schmeer (1999) claims that

stakeholder analysis is the process of gathering information to identify whose interests should be considered in developing and implementing projects. In policy research, Varvasovazky and Brugha (2000) define stakeholder analysis as an approach or tool for generating knowledge about relevant actors to evaluate their influence and resources they bring that affect decisionmaking or project implementation. Similarly, Reed (2008) agrees that stakeholder analysis is a process used to identify and classify stakeholders for defining strategies for their involvement and engagement. More recently, Jepsen and Eskerod (2009) claim that stakeholder analysis should identify stakeholders, uncover the contribution, expectations, power and influence of different stakeholder groups, and finally decide the strategy to influence each stakeholder group individually.

It can then be concluded that whether stakeholder analysis is defined as a process, a tool or an approach, almost all definitions involve generating knowledge on stakeholders' attributes, behaviour, interrelations, intentions, considerations, interests, contribution, power and influences to affect project outcome to enable proper categorization of stakeholders and thereby identification of the strategies of their involvement and engagement (Olander, 2007 & Yang, 2014).

3.3.2 Significance of stakeholder analysis

Stakeholder analysis has become increasingly popular in many fields and sectors; policy makers, regulators, government and non-government organisations are now showing great interest in analysing stakeholders (Friedman and Miles, 2006). More specifically, in sustainability projects, Yang (2014) claims a growing dilemma for decision makers and policy team is identifying which stakeholder voices are worth listening to.

Recommendations for stakeholder analysis research were made as early as 1997 by Mitchell and colleagues who claim that empirical research is needed to test the attributes of stakeholders that shape their salience and examine the real stakeholder-management relationship. Similarly, in environmental projects, Angell (1999) argues that the complexity of environmental projects along with their multiple stakeholders sets significant challenges for managers, therefore, pursuing research in this field will achieve significant progress in the field of environmental operations management. Additionally, Winter et al. (2006) claim that future research should move from theory to practice where the lifecycle image of projects as a linear sequence of tasks

implemented using codified processes should be replaced by a more dynamic image that focuses on social interaction and illuminates the flux of human action, stakeholder relations and attributes. More recently, Jepsen and Eskerod (2009) argue that research is needed to carry dynamic stakeholder analysis (over the project lifecycle) rather than at the onset of the project.

In addition to the above-mentioned call of scholars for further research on stakeholder analysis, many authors highlight the significance of stakeholder analysis in projects. Table 3.1 presents a summary of different authors' views on the impact of stakeholder analysis on project success.

Scholars	Significance of stakeholder analysis
Grimble and	Failure of many conservation initiatives is due to inadequate attention paid to
Wellard (1997)	defining stakeholder attributes.
Brugha and	Stakeholder analysis in project management increases chances of project success
Varvasovsky (2000)	
Bourne and Walker	Project managers should be aware of stakeholder influence to garner their influence
(2005)	for project success.
Winch and Bonke	Major project challenges lie in lack of understanding of interests, motives, attributes
(2005)	and influences of different stakeholders.
Diallo, Thuillier	Project success is highly related to managing stakeholders through taking their needs
(2005)	and impact into consideration.
Elias and Cavana	Stakeholder analysis allows for timely anticipation of opportunities and threats; thus,
(2006)	it gives project managers valid opportunity for maneuvering.
Jepsen and Eskerod	Stakeholder analysis makes great contribution to project success.
(2009)	
Reed Et al. (2009)	The application of stakeholder analysis in natural resources management literature
	has been stimulated by failed projects due to inadequately analysed stakeholders.
Prell et al. (2009)	Stakeholder analysis secures project success through waiving inflaming conflicts and
	avoiding reinforcement of the marginalization of certain groups.
Aaltonen (2011)	Stakeholder analysis represents a central component of stakeholder management as it
	builds a proper stakeholder picture upon which decision makers can act.
Yang (2014)	Stakeholder analysis is an indispensable part of sustainability projects.

Table 3.1 Summary of different authors' views on significance of stakeholder analysis

3.3.3 Stakeholder analysis approaches and phases

Brugha and Varvasovsky (2000, p. 339) argue that "in project management, stakeholder analysis is used to increase chances of project success through informing their design, preparation and implementation; or as part of evaluation, during or after project completion". Thus, they claim that in sustainability projects a systematic approach to stakeholder analysis is required to ensure successful implementation through implementing the following four steps: The first is the identification of different sustainability issues of the project. Second, through a structured survey, managers can identify relevant stakeholders who might have influence on the project outcome. The third is the mapping of stakeholders through identifying who will be concerned with or affected by the identified project issues, followed by assessment of their level of interest in or influence on the project. Finally, stakeholder diagnosis is carried out to assess potential stakeholder threats and opportunities followed by strategy formulation.

More recently, Reed et al. (2009) explain stakeholder analysis as a three-phase typology; namely stakeholder identification, stakeholder differentiation and categorization and stakeholder relationship determination. Similarly, Aaltonen et al. (2009) describe the phases of stakeholder analysis as a three-phase process. The first phase involves data scanning for collection of data on project stakeholders and their characteristics through generic stakeholder lists, interviews, brainstorming, surveys, semi-structured questionnaires, reports, workshops and dialogues. The second phase is data interpretation for stakeholder identification and classification, and the third phase is the strategy formulation of stakeholder management based on results of the identification and classification phases. More recently, Yang (2014) claims that steps of stakeholder analysis involve stakeholder identification, then categorization, followed by their prioritization. In the same line, Weitzner and Deutsch, (2015) argue that the shift from historical emphasis on shareholder to a consideration of the stakeholder's importance requires an analysis of how managers identify, classify stakeholders and choose between stakeholder claims.

3.3.4 Identification and classification of stakeholders

Scholars in the literature identify stakeholders in many different ways. For example, Clarkson (1995) considers stakeholders as either primary or secondary stakeholders, Mitchell et al. (1997) identify stakeholders as either actors or acted upon, and Cleland (1998) views stakeholders as internal or external stakeholders where internal stakeholders or primary stakeholders are project

members or those who have formal or contractual relationships with the organisation and are usually supportive of project activities (Winch, 2004). On the other hand, external stakeholders or secondary stakeholders are not formal members but either affect or get affected by project decisions.

In a different approach Cova and Salle (2005) identified stakeholders according to the role played in the project as business actors (financial agents, subcontractors, consultants, etc.) or non-business actors (governments, union pressure groups, etc.) Similarly, El Gohary et al. (2009) view stakeholders with relevance to their responsibility into responsible, impacted and interested stakeholders. Responsible stakeholders are in charge of project outcome; these include governments, business actors and officials. Impacted stakeholders are affected either positively or negatively by project outcome, like users and residents; and finally interested stakeholders are those who are voluntarily willing to participate in the project and share opinions, such as the media and NGOs.

In this thesis, the researcher will employ Cleland (1998) and Wick (2004) view for stakeholders and will identify stakeholders in relation to the firm as external and internal stakeholders. External stakeholders represents government, business, civil society, media and customer stakeholders who can affect or affected by an organisation whereas internal stakeholders will be represented by managers of UAE hospitality sector. This identification facilitates the assessment of salience attributes of external stakeholders by an internal stakeholder group thus, mitigate the risk of research bias and ignorance of external stakeholder groups along with their influence on the firm (Frooman1999 and Aaltonen, 2011).

To classify stakeholders, authors has introduced different tools and matrices based on stakeholders' attributes and influence on project outcome, for example, Mitchell at al. (1997) have introduced the dynamic theory of stakeholder identification and salience which categorize stakeholders according to three owned and exercised attributes of power, legitimacy and urgency (explained in details later in section 3.4). Scholars agree that Mitchell and his colleagues analysis tool is the most influential stakeholder analysis tool to date and presents the most important proposal on how managers can categorize and prioritise stakeholders who have multiple claims and influence attempts (Neville, Bell and Whitwell, 2011), and have made a significant contribution to the understanding of stakeholder analysis (Missonier and Loufrani-Fedida, 2014),

and is considered a critical construct in stakeholder research and management (Weitzner and Deutsch, 2015).

Following Mitchell et al. (1997) proposal, Johnson and Scholes (1999) proposed the interestinfluence matrix, which categorize stakeholders into four different groups: first, the "key players" with high interest-high influence in a specific project and thus, need to be actively engaged; second the "context setters" who have high influence-low interest, so they need to be closely monitored; third, the "subjects" who have high interest-low influence and should be then empowered by project managers, and fourth, the "crowd" who has low interest-low influence on the project so little engagement is required for this group of stakeholders unless changes occur. Although they admit the usefulness of this tool to analyse stakeholders, its shortcoming lies in the assumption of the relevancy of the interest and influence attributes to the project and the possibility of marginalizing certain groups of stakeholders.

Later, De Lopez (2001) categorized stakeholders on a two-dimensional matrix; the first dimension refers to the potential of stakeholders to induce an impact and the second dimension measures the influence of those stakeholders in inducing the impact.

To conclude, since stakeholder analysis is the tool used to identify and classify stakeholders based on their attributes and impact on projects in order to prioritise their claims (Yang, 2014), therefore, this thesis will analyse external stakeholders' salience attributes and examine their role in relation to sustainable water consumption capitalizing on Mitchell et al. (1997) analysis tool that has been claimed to be the most influential tool of stakeholder analysis.

3.4 Stakeholder salience and attributes

Mitchell et al. (1997) earlier framework of stakeholder identification and salience identifies the conditions under which managers should consider and pay attention to a specific stakeholder group. They defined the term "salience" as the degree to which managers assign priority to competing stakeholders' claims based on their possession of one or more of power, legitimacy and urgency attributes, and they proposed that stakeholders will be perceived by managers as increasingly salient if they accumulate any combination of the three attributes. Thus, they argue that the three attributes of power, urgency and legitimacy provide the foundation for managerial salience perception and hence guidance for prioritization of stakeholder claims. They explained

the three attributes as follows; the first attribute, *power*, as the ability to bring about the desired action; thus, influencers are considered to have power over the managers regardless of their possession of valid claim or their wish to use those claims. The second attribute, *legitimacy*, is a perception of an entity's actions as proper with regards to their property or moral rights. They argue that a legitimate stakeholder is not necessarily a powerful one, so should be treated as a separate attribute. The third attribute, *urgency*, is defined as the degree to which a stakeholder's claim calls for instant attention and thus, depends on time sensitivity and claim criticality.

Mitchell and his colleagues argue that stakeholder possession of a cumulative number of these attributes and the level at which each attribute is owned and exercised determines the salience of the stakeholder; Thus, the degree to which managers give priority to its claims is shaped. And therefore, they introduced four classes of stakeholder salience which encompass eight stakeholder typologies based on their possession of one, two or all three attributes as follows: Stakeholders class with low salience who possess only one of the three salience attribute; dormant stakeholders who possess power attribute, discretionary stakeholders who have the legitimacy attribute and demanding stakeholders who holds the urgency attribute. Stakeholders class with medium saliency who possess two salience attribute; dominant stakeholders who holds legitimacy and power attributes, dangerous stakeholders who possess urgency and power attributes and dependent stakeholders who carries urgency and legitimacy attributes. Stakeholder such accumulate the three types of attributes and are therefore a definitive stakeholders and finally, the fourth class of stakeholders who possess none of the salience attributes and is considered a non-stakeholder.

Moreover, they made another proposition to their stakeholder salience framework; in reality the features of stakeholder attributes are dynamic for three main reasons; the attributes are variable; generally transitory and can be either lost or acquired at any point, socially constructed; not objective reality to the perceivers and exercising any of these attributes is not always guaranteed.

In verification of the Mitchell's theory, Agle et al. (1999) provided empirical support that stakeholder salience attributes of power, urgency and legitimacy are individually and cumulatively related to the perception of stakeholder salience and therefore, they do affect the degree to which managers give priority to stakeholder's claims. Similarly, Harvey and Schaefer (2001) assessed the perception of stakeholder salience attributes; power, urgency and legitimacy

and provided an empirical evidence for the varying influence of these attributes by different stakeholders on firm's environmental performance. In further attempt to assess salience attributes in the contextual situation, Jawahar and McLaughlin (2001) argue that organisations need to identify salient stakeholders at each stage of the organisation's life cycle and develop strategies to deal with them accordingly and thus, they focused on the moderator effect of life cycle on the perception of stakeholder salience, concluding that investors are salient at the start-up stage whereas, customers are highly salient at the mature stage of organisational life cycle.

Driscoll and Starik (2004) attempt to employ stakeholder theory to answer the question "who and what really count in nature?" (p.68) instead of the question of Agle and his colleagues "who really counts to CEO's" (199, p.507), they introduced a fourth attribute of salience; proximity attribute, referring to the spatial distance between stakeholders and the environment which they consider as a qualified stakeholder, arguing that stakeholders sharing the same physical state are likely to affect each other and experience significant development of their stakeholder relationship, therefore they claim that proximity attribute which can be measured by the impact of a stakeholder on the environment can contribute to the identification of stakeholder salience. They also dig deeper into explaining some features of stakeholders attributes, for example they argue that legitimacy attribute is multifaceted and vague and that urgency attribute is a factor of probability of claim occurrence and power attribute can be exercised by both social actors as well as the environment.

On 2004, Roberto Fernández Gago, Mariano Nieto Antolín has built on Mitchell and his colleagues work in assessing stakeholder environmental salience; stakeholders that can significantly influence corporate environmental management through empirically examining the three attributes of power, legitimacy and urgency and provided an empirical evidence for the hierarchical nature of stakeholder salience based on the perception of salience attributes. In a similar advancement to Mitchell and his colleague work, and in agreement with Driscoll and Starik (2004), Bourne (2005) has introduced the stakeholder circle methodology which analyse stakeholder salience based on the three attributes of power, urgency and proximity. She argues that legitimacy can be explained by power and therefore is not a critical construct in assessing stakeholder salience. Further, Buysse and Verbrke (2003), employed Mitchell and his colleague theory to assess the relation between firm's environmental proactive strategies and perceived
importance of stakeholders and found that proactively environmental firms perceive increasing numbers of stakeholders as salient.

In further advancements to the concepts of Mitchell et al. (1997) that is more in line with environmental sustainability, Eesley & Lenox (2006) argue that since stakeholder salience can only be measured in a social context with an identified environmental demand thus, assessment of stakeholder salience attributes is better measured in terms stakeholders actions to specific environmental claim. Thus, they defined stakeholder salience as the degree to which stakeholder respond to and act consistently with an environmental request. Moreover, they also argued that the salience of stakeholders should be isolated form the salience of the claim and claim that urgency of environmental request is more critical than the stakeholder urgency.

Further assessment of the salience framework was carried out by Jones et al. (2007) who argue that stakeholder culture affects the perception of salience attributes. Similarly, Álvarez-Gil, M., Berrone, Husillos and Lado (2007) found an empirical link between stakeholder salience and firms' tendency to implement reverse logistic program. Similarly, Parent and Deephouse (2007) assessed the moderating role of manager hierarchical level between stakeholder identification and perceived salience with power attribute showing the most important effect on salience, followed by urgency and legitimacy.

Later in the literature, Neville, Bell and Whitwell (2011) revisited the salience framework by arguing that urgency alone is an enough attribute to grant any degree of stake holding and claim that it is only the legitimacy of moral claims that is directly relevant to stakeholder salience whereas, the legitimacy of the stakeholder can only play a secondary role and therefore, they redefined stakeholder salience as the degree to which managers prioritise stakeholder claims based on the perception of stakeholder power, moral legitimacy and urgency of the claim. Additionally, Majoch, Hoepner and Hebb (2014), employed Mitchell et al (1997) salience attributes in finding a positive association between stakeholder salience attributes and the saliency of the United Nations backed principles for responsible investment.

More recently Oliveira et al. (2015) concluded a positive association between stakeholder salience and firm's adoption of principles and tools for cleaner production. Moreover, Poplawska et al. (2015) employed the salience attributes of power, urgency and legitimacy in assessing stakeholder salience in corporate social responsibility with the introduction of new framework based on fuzzy logic and visual analytics to provide a tool for calculation of stakeholder salience

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which positions and indicates the exact degree of membership of stakeholders to a particular stakeholder group.

Finally, since it has been recently argued that the potential of stakeholder salience research has yet to be realised (Neville, Bell and Whitwell, 2011), this thesis will empirically evaluate the role of stakeholder salience attributes in sustainability project initiatives through measuring salience attributes of power, urgency and legitimacy for external stakeholder claims on sustainable water consumption. It is also argued in this thesis that although proximity attribute is important, its influence is embedded within both power and legitimacy attributes as claimed by Neville, Bell and Whitwell (2011) and thus, will not be considered as a separate attribute as done by Eesley & Lenox (2006), Majoch, Hoepner and Hebb (2014) and Poplawska et al. (2015).

3.4.1 Stakeholder power attribute

Stakeholder power attribute (SPA) has been defined earlier in the literature as "the ability of A to influence B to do X rather than Y through the use of information, coercion or threats" (Knoke, 1990, page 6). Thus, concentration of power in the hands of few stakeholders, which is a prominent phenomenon in many societies (Smith, 1993, page 18) can influence the evolution of many initiatives or projects (Granovetter and McGuire, 1998).

In a detailed explanation of stakeholder power, Mitchell et al. (1997) classified the power attribute into three different types based on the owned resource to exercise power; first; *coercive* power: based on the physical resource of force or violence; second; *utilitarian* power: based on financial or material resources, and third; *normative* power: based on symbolic resource. Thus, they defined a powerful stakeholder as the one who has access to coercive, utilitarian or normative means to impose its will in the relationship. Similarly, Parent and Deephouse (2007, p.21) defined stakeholder power as "Power is the (potential) ability of stakeholders to impose their will on a given relationship through coercive, utilitarian or normative means". Based on the above-mentioned explanation of stakeholder power attribute, authors agree that stakeholder power attribute refers to the use of either force, material means or non-material means to impose will on a firm, thus, this thesis attempts to assess the role of stakeholder power as relates to sustainable water consumption of the influence of external stakeholders power on their sustainable water consumption strategies and practices. Therefore, stakeholder power attribute will be defined in this thesis as the ability of external stakeholders to bring change in sustainable water

consumption strategies and practices in UAE hospitality sector by using coercive, utilitarian or symbolic means.

3.4.2 Stakeholder urgency attribute

Stakeholder urgency attribute (SUA) has been defined early by Mitchell et al (1997), as the degree to which a stakeholder's claim calls for instant attention and thus, depends on time sensitivity and claim criticality, later in the literature, Roberto Fernández Gago, Mariano Nieto Antolín, (2004) confirmed that environmental claim urgency have the same two dimensions explained by Micheall and his colleagues, first is the time priority given by firms to environmental claims of other stakeholders. Additionally, Eesley & Lenox (2006) explained stakeholder urgency as like-hood of providing immediate and appropriate response to a specific environmental claims. Additionally, Parent and Deephouse (2007, p.21) defined stakeholder urgency as "...the degree to which a stakeholder believes its claims are time sensitive or critical." In the same line, Garcés-Ayerbe, Rivera-Torres and Murillo-Luna (2012) defined stakeholder urgency as involving the immediacy with which firms are bound to pay attention to stakeholder demands.

Based on the above definitions of stakeholder urgency attribute, it is clear that there is an agreement in the literature that stakeholder urgency attribute is composed of two elements; time and attention, thus, this thesis attempts to assess the role of stakeholder urgency as relates to stakeholder claims for sustainable water consumption which is addressed by measuring managers' immediate response and attention to those claims. Then stakeholder urgency attribute will defined in this thesis as the time priority and attention given by managers to external stakeholders' actions related to sustainable water consumption claim in UAE hospitality sector.

3.4.3 Stakeholder legitimacy attribute

Early in the literature, Suchman (1995, p.574) described stakeholder legitimacy attribute (SLA) as a "generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed systems of norms, values, believes and definitions". Quite later, legitimacy attribute has been defined as a perception of an entity's actions as proper with regards to their property or moral rights (Mitchell et al. 1997). Similarly, Roberto Fernández Gago, Mariano Nieto Antolín, (2004) explained environmental claim legitimacy as the extent to which stakeholders consider an environmental claim as appropriate claim. And

parent ad Deephouse (2007, p.21) defined "A legitimate stakeholder is one whose actions and claims are seen as appropriate, proper, and desirable in the context of the social system" In the same line, Garcés-Ayerbe, Rivera-Torres and Murillo-Luna (2012) claim that legitimacy refers to the socially accepted conduct which establishes the limits for corporate decisions regarding what is right and what it wrong.

Based on the above definitions of stakeholder legitimacy attribute, there is consensus in the literature that stakeholder legitimacy attribute is a measure of firm's degree of acceptance to actions and claims of stakeholders which in turn influence corporate decisions, thus, this thesis attempts to assess the role of stakeholder legitimacy as relates to stakeholder claim for sustainable water consumption which is addressed by measuring the degree to which the actions of external stakeholders in relation to sustainable water consumption claim are perceived as appropriate by managers of the firm. Thus, stakeholder legitimacy attribute in this thesis will be defined as the extent to which managers perceive external stakeholders' actions related to sustainable water consumption claim in UAE hospitality sector as appropriate.

3.5 External stakeholder actions in relation to sustainable water consumption claim

This section presents literature review on external stakholders actions in realtion to sustainable water consumption claim which is discussed in details and summarised in the framework of stakeholder actions in relation to sustainable water consumption claim (table 3.2).

External stakholders are identified by Henriques and Sadorsky (1996) and Delmas and Toffel, (2008) as customers, suppliers, competitors, trade associations, local communities, environmental groups, regulators, legislators, investment funds entities and media. To facilitate the analysis of stakholder salience, the above-mentioned external stakholers are grouped by the researcher into five main groups according to their functional relation to the hospitlaity sector as follows; first government stakeholder group which represent regulators and legistators for the UAE hospitality sector. Second, businesss stakeholders which encompass suppliers, competitors, trade associations and fund providers to UAE hospitality sector. Third, are the Non-Government organisations (NGO) which includes community networks and environmental groups as Food Banking Regional Network and Emirates Environemntal Group in the UAE. Fourth is the media stakholder and fifth is the customer stakeholder group which represent hospitality sector guests.

3.5.1 Government stakeholder

Many authors explained the role of government to drive sustainable water consumption through fiscal policies. For example, Rogers et al. (2002) argue that significant government intervention is required to ensure adequate water pricing that can promote equity, efficiency and sustainability. Similarly, Michaelis (2003) argues that government policies play an integral role in driving sustainable consumption of natural resources. He claims that "Eco-taxes" affect both producers and consumers and encourages "Eco-innovation", thus, introducing more conservative patterns of consumption. Additionally, Paehlke (2008) claims that the fiscal route to change consumer behaviour works well, capitalizing on the 90% cut in the use of plastic bags in Ireland on 2002 when a policy of non-exempt bags costing shoppers 15 cents each was applied.

Along these lines, Tuker et al. (2008) confirm that governments as a leading actor should set policies that abolish perverse subsidies. Similarly, Muradian et al. (2010) claim that payment to environmental services creates incentive and forces individuals to align their use decisions with the social interest in the management of natural resources. Wolff and Schönherr (2011) claim that governments can set a regulatory system to encourage rational use of resources and that policies can either directly affect consumption patterns for example by offering grants for favorable products like water and energy-efficient investments or indirectly by implementing a fiscal policy which affects prices of goods through taxes/subsidies, consequently governments can alter the consumption behaviour of consumers. Similarly, Zetland and Gasson (2013) claim that government policies that subsidize water prices lead to an increase in unsustainable water consumption, and Allan, Keulertz and Woertz (2015) claim that global water unsustainable consumption stems from ineffectively priced water and un-captured cost of misusing it.

Moreover, researchers also explained the role of government to drive sustainable water consumption through imposing policies, strategies and regulations. For example, Bruch et al. (2007) emphasise on the imperative role of governments in achieving good water governance through setting and enforcing the implementation of effective regulations and policies, monitoring, inspecting and evaluating water consumption as well was penalizing water misuse in order to lay foundation for economic growth and social welfare. Moreover, Jorgensen, Graymore and O'Toole (2009) argue that there is evidence that mandatory restriction on certain water uses was successful in curbing water use. Similarly, Jones et al. (2010) argue that government policies involving restrictions like reduction of water provision and limitation activities can be imposed to induce significant change in cultural habits. In the same line, Fielding et al. (2011) claim that government policies like restrictions on water usage, incentives for installing water-efficient devices, per-person water targets, had resulted in significant reduction in water use of water in Australia during drought seasons.

From a different perspective, Spaargaren (2003, p.693) claims that consumption of green housing is determined to a large extent by the availability of green alternatives in the fields of water and energy, and concludes that "...ecological modernization within networks of utility provision is to a great extent carried by and dependent on technological innovations". Similarly, Dolnicar and Schäfer (2006) claim that the demand for wastewater is low due to reluctance on the part of governments to supply recycled water to households and community ignorance of the scarcity of fresh water resources. Additionally, Wolff and Schönherr (2011) claim that governments can reduce resource consumption by developing convenient infrastructure.

Within the role of government in utility provision, Tom et al. (2011) emphasise the role of government in providing informative, timely and meaningful feedback to consumers on their level of water consumption using appropriate tools that provide a baseline of water usage and identify not only the total volume of water consumption, but also the sources of water usage. Similarly, Oindrila et al. (2015) argue that government provision of green building is an environmental movement arising from the principles of sustainability since one of the main objectives of green building is to reduce water consumption through, for example, designing dual plumbing that recycles waste water from car wash and water closets, implements a rain water harvesting scheme, and reuses grey water.

Other government actions were described by Dobson (2007) who argues that national education systems can promote environmental-friendly behaviour and reduce resource consumption. Similarly, Mathipa and Le Roux (2009) argue that conservation and management of water are learned skills and can be developed through appropriate training and educational programmes for the public and more specifically to school students through a curriculum material that focuses on environment and environmental issues for all learning areas. In the same line, Jones et al. (2010) concluded that higher level of environmental education contributes to water conservation. Additionally, Seyranian, Sinatra and Polikoff (2015) emphasise the role of municipalities in

providing intensive environmental educational programmes to school students to make up for the lack of awareness and impart water-saving skills and argue that providing comparative feedback to consumers could be an effective tool to conserve water, particularly for affluent users.

Government symbolic actions in promoting sustainable consumption had been emphasised by Clark (2007) who claims that governments can promote resource conservation by setting themselves up as role models through its sustainable procurement. Form a different perspective, Jorgensen at al. (2009) view that governments can utilise their symbolic power by building trust in managing authorities and thus, argue that consumers will be reluctant to save water in the case that they do not trust the managing actor i.e. the government. The same was confirmed by Jones et al. (2010) who argue that institutional trust positively influence consumer perception on the effectiveness water conservation policies and their conservation behaviour. Similarly, Walker and Hills (2012) confirms the importance of trust on the performance of sustainability projects and argue that "trust deficit" in government authorities is an obstacle in front of pursing sustainability goals.

3.5.2 Business stakeholder

From a business perspective, Spaargaren (2000) argues that a business's innovative products and services are critical in bringing a sustainable means of consumption; for example, the hydroponic technology for farming saves up to 70% of water and allows for a longer growing season. Similarly, Michaelis (2003) claims that business can enforce resource consumption through their marketing policies, claiming that business create, design, set price and advertise products that people consume. In this way, they influence market demand and environmental impacts of consumption and he argues that even small firms can enforce marketing policies that drive sustainable consumption. In the same vein, Tanner and Kast (2003) argue that business organisations can influence the degree of environmental-friendly behaviour through their marketing policies that set product prices and commercialize product features, which encourages sustainable consumption.

Moreover, with an emphasis on business actions, Tukker et al. (2008) argue that business organisations can improve products' visual design to provide consumption feedback to raise consumer consciousness on water consumption. And Chumpitaz Caceres and Paparoidamis, (2007) and Lee et al. (2013) emphasis the role of business in providing high quality water

efficient products and concluded that consumer satisfaction with performance of water efficient devices and increased product trust leads to increased engagement in water savings practices.

Form a perspective other than marketing policies, Michaelis (2003) posit that organisations can lead by example when considering conservation of water and energy in their operations, thus, reducing resource consumption internally and externally through building a socially accepted image and influencing broader consumption trends of their supply chain members and competitors. Similarly, Delmas, M. & Toffel, M. (2004) and Zhang et al. (2015) argue that competitor pressure can encourage mimetic isomorphism and therefore, encourage the adoption of sustainable consumption strategies and practices. In the same line, Concepción Garcés-Ayerbe Pilar Rivera-Torres Josefina and Murillo-Luna, (2012) argue that proactive business organisations can achieve competitive advantage and lead by example in their adoption of sustainable water consumption strategies and practices.

From a different view point, Henriques and Sadorsky (1996) argue that business organisations more specifically, industrial associations and suppliers can influence environmental performance of firms through imposing sanctions and boycott poor performers. Whereas, Sarkis, Gonzalez-Torre and Adenso-Diaz (2010) argue that training programmes that educate employees can reduce barriers to environmental friendly practices. And actions of funding institutions was emphasised by Oliveira Neto et al. (2015) who argue that installation of water efficient devices can be encouraged by the provision of low interest funds to serve the purpose of saving water.

3.5.3 Non-Governmental stakeholder (NGO)

In explaining the actions of NGOs in relation to sustainable water consumption claim, Shaw and Clarke (1999) had emphasised their role in providing environmental awareness service and monitoring environmental change.

Middlestadt et al. (2001) also concluded a positive relation between student environmental awareness by NGOs and water conservation practices. Moreover, Kong et al. (2002, p. 110) claim that non-governmental organisations (NGOs) "are increasingly developing more strategic ways that encourages public to exercise their shareholder power, screen their investments, use their money as a tool of change, and ask for more socially responsible behaviour". They also claim that NGOs can play a powerful role in driving sustainable consumption through testing the environmental impact of available products and focusing on changing market forces towards

creating green demand that will consequently drive changes in supply. Additionally, they argue that NGOs are steering themselves away from confrontation to a proactive innovative partnership with stakeholders, such as, for example, partnering in new product development that integrates environmental decisions in product formulation and marketing as well as lending their logos for good environmental performers and therefore, increases consumer demand for environmental friendly products.

Additionally, Michaelis (2003) claims that NGOs plays an important role in encouraging different stakeholders like business, governments, and public to open a common dialogue to achieve sustainable consumption. While, Leipziger (2003) argues that non-governmental standardizing institutes can provide standards that help in increasing a firm's accountability towards its stakeholders.

Additionally, Beck (2005) and Fuchs and Lorek (2005) argue that NGOs strategies and actions like disseminating trustable and reliable information to the public can achieve sustainable consumption global governance. The same was emphasised by Jordan and Van Tuijil (2006) who claim that NGOs trust is ranked above corporations, governments, churches and media. In the same line, Roome and Wijen (2006), Gilbert and Rasche (2007) and Benn et al. (2009) emphasise the role of NGOs in mobilizing public opinion in favor of or against organisations' environmental performance through disseminating comprehensive information to the public.

Moreover, Gilbert and Rasche (2007) emphasise the role of NGOs who can act as "watchdogs" to check relevant stakeholders' compliance with international standards that advocate environmental issues. Additionally, Bruch et al. (2007) highlighted the role non –governmental agencies in capacity building of citizens to promote compliance with laws and regulations related to water conservation. Similarly, Brown et al. (2009) stressed the role of NGOs in mobilizing public opinion through monitoring organisational sustainability achievement and argue that the standardized civil regulatory tools should be an " …instrument for empowering and mobilizing various societal actors as long as it is produced by way of broad participation and with an eye to the needs of future users" (p. 579).

In the same line, Sarkis et al. (2010) concludes that NGO pressure can positively influence the adoption of environmental friendly practices. Boström and Hallström (2010) confirmed the same and argue that the term NGO is loaded with symbolic actions as they own an effective weapon; monitoring corporate conduct and thus, influencing public perception on corporate promises and

can promote corporates when they associate their name and logo with organisations that symbolize sustainability values and at the same time they are profound actors in the provision of standard setting tools, theoretical and technical expertise with comprehensive information and framings.

Within the same vein, Mont and Plepys (2008) argue that although NGOs are less powerful than international government organisations and business actors in making a significant impact on commercializing for sustainable consumption, they are the most profound actors in the debate around sustainable consumption, and play a complementing role that can lead to an effective strategy for shifting towards sustainable consumption. Additionally, Horne (2009) argues that continuous development of Eco-labels by NGOs is critical to foster the contribution of those labels to sustainable consumption.

Delmas and Toffel (2004 and 2008) argue that NGOs can exert pressure on organisations by publicizing lapses filing lawsuits against poor environmental performers as well as lobbying for stringent regulations from government in the discourse of sustainability, where on the other hand, Sarkis et al. (2010) argue that non-governmental organisations has a more positive role through publicizing information to affect consumer choices in favor of organisations that perform well with resource conservation and environmental performance and thus, when trustworthy, they can provide "social license" for organisations.

Similarly, Jones et al. (2010) concluded that the presence of social networks represented in NGOs helps provision of information on water conservation practices, increases public awareness and promotes the frequency of water conservation behaviour.

Additionally, Mathipa and Le Roux (2012) argue that NGOs are expected to function in a consultative way to build the capacity of local communities through raising awareness, offering skills training, and increasing the understanding of rights and responsibilities towards water use and conservation.

3.5.4 Customer stakeholder

Early in the literature, Henriques and Sadorsky (1996) argue that consumer pressure have often been cited as a contributing factor to environmental protection and that firms that are highly susceptible to direct consumer pressure tend also to have an environmental strategy and plan in action and concluded that customers represent 17% of the most important pressure sources to the development of environmental protection strategy and plan through their buying and boycott decisions. Similarly, Delmas and Terlaak (2001) argue that firms often adopt the ISO 14001 standard in response to customer demand. Whereas, in a more coercive position, Dolan (2002) confirms that consumers can influence firm's adoption of sustainable consumption strategies and practices not only through their buying power but also their ability to boycott poor performers.

Similarly, in confirmation of customer role in driving sustainable consumption, Delmas and Toffel (2004) argue that firms that adopted environmental management practices were motivated by customer concerns. Additionally, Fernández Gago and Nieto Antolín (2004) argue that consumer group owns coercive power because of their buying decisions. Additionally, Rezabakhsh, Bornemann, Hansen and Schrader (2006) highlight consumer ability to impose sanctions or reward a firm through spreading negative word of mouth and their ability to increase the 'surveyability' and the 'transparency' of the market through building an information platform over the internet. Additionally, Zhang et al. (2015) argue that quest from international buyers can drive firm's environmental positive attitude and since international buyers constitutes the majority of customers to hospitality sector, therefore, it is important to study their influence on driving sustainable water consumption in hospitality sector.

3.5.5 Media stakeholder

Many researchers had acknowledged the role of media actions in promoting sustainable consumption. For example, earlier in the literature, Corson (1995) argue that media can disseminate information through social platform to catalyze behavioural change and facilitate the progress towards sustainable future. Similarly, Shaw and Clarke (1999) had emphasised the role media and in promoting environmental awareness. Similarly, McKenzie-Mohr (2000) argue that media can utilise information- intensive or economic motive campaigns in fostering sustainable consumption. In the same line, Aerts & Cormier (2009) argue that attention to environmental moral rights are highly influenced by reactive press releases by media. Moreover, Godemann and Michelsen (2011) highlight the role of the media in disseminating information on sustainability and influencing social discourse about sustainability.

3.5.6 Framework of stakeholder actions in relation to sustainable water consumption claim Based on the above literature review, scholars claim that government, business, NGOs, customers and media can take varying actions to drive sustainable water consumption which are summarized below in table 3.2; framework of stakeholder actions in relation to sustainable water consumption claim:

Government actions is represented in fiscal policies to price, tax or subsidize water consumption and regulatory policies through setting restrictions on certain water usage, per- person water targets and mandatory eco-labels. Government utility provision could be summarized in development of green infrastructure as building with dual plumbing systems to recycle wastewater and rain water harvesting scheme in addition to the embracement of national education system that foster water sustainable consumption of water resources as well as provision of timely and comparative consumption feedback. Within the symbolic actions of government, authors agree that setting a role model through government sustainable water consumption and promoting trust in authorities' performance in managing water resources can have positive influence on the adoption of sustainable water consumption strategies and practices.

On the business side, firms' marketing policies (product design, price and promotion) can lead to increased level of sustainable water consumption practices and adoption of sustainable water consumption strategies. Form the utilitarian side of business; the development of training programmes to foster water conservation was indicated as predictor of sustainable consumption and the provision of funds with reduced interest rates was reported to facilitate investment in water saving technologies. Through leading by example in adoption of sustainable water consumption strategies and practices and achieving competitive advantage and building consumer trust in water efficient devices, business can aise their symbolic role to initiate mimetic isomorphism and encourage competitors to adopt and follow the same sustainability principles.

NGOs was reported to influence sustainable consumption through creating public pressure groups to advocate green demand and mobilise public opinion to screen their investments in water saving products through monitoring organisational performance. Moreover, NGOs can build consumer capacity through opening dialogue to raise awareness and engaging related stakeholders on sustainable water consumption as well as provide optimised testing tools like standards to check product compliance and informative labels to provide comprehensive information on product environmental performance, therefore direct demand towards environmental friendly products. The symbolic role of NGO has been highlighted in the literature by building corporate social image through lending credibility and dissemination of trustworthy information on product testing and compliance. Moreover, authors highlight that actions like inspecting firm's performance, lobbying with government for more stringent regulations on water consumption and filing lawsuit cases against poor environmental performers can positively influence the discourse of sustainable consumption.

Customers were reported by plethora of researches to have positive influence on firm's adoption of sustainable consumption strategies and practices through their purchase power and more stringently through their boycott decisions. Moreover, their symbolic actions was explained as the dissemination of information and use of their expert power to promote or condemned firms' sustainability performance. Media actions was highlighted by the majority of researches to raise awareness on sustainable consumption and water scarcity, promote/ condemned good/ poor environmental performers and disseminate information to the public on the sustainability discourse and forums.

Stakeholder	Stakeholder actions	Scholars	
Government	Set fiscal policies (water pricing, taxes, penalties and subsidizes) Impose regulatory policies (permits, caps, water inspection) Utility provision (green infrastructure, educational programmes, Consumption feedback, disseminate information) Represent a role model and building trust in managing water resources	Rogers et al. (2002), Michaelis (2003), Paehlke (2008), Tuker et al. (2008), Muradian et al. (2010), Wolff and Schönherr (2011), Zetland and Gasson (2013), Allan, Keulertz and Woertz (2015) . Bruch et al. (2007), Jorgensen, Graymore and O'Toole, (2009), Jones et al. (2010), Fielding et al. (2011). Spaargaren (2003), Dolnicar and Schäfer (2006), Wolff and Schönherr (2011), Oindrila et al. (2015) Dobson (2007), Jones et al. (2010), Tom et al. (2011), Mathipa and Le Roux (2012) and Seyranian, Sinatra and Polikoff (2015). Clark (2007), Jorgenson et al. (2009), Jones et al. (2010) and walker and Hills (2012)	
Business	Set marketing policies for water efficient devices (product design, price and advertisement)	Spaargaren (2000), Michaelis (2003), Tanner and Kast, (2003), Chumpitaz Caceres and Paparoidamis, (2007), Tukker et al. (2008) and Lee, Mengshan and Berrin Tansel. (2013)	

	Fund provision policies	Oliveira Neto et al. (2015)	
	Offer training programmes on water sustainable consumption	Sarkis, Gonzalez-Torre and Adenso-Diaz (2010)	
	Lead by example and achieve competitive advantage	Michaleas et al. (2003) and Garcés-Ayerbe,	
		Delmas, & Toffel (2004), Rivera-Torres and	
		Murillo-Luna (2012), Zhang et al. (2015)	
	Impose sanctions on poor water performers	Henriques and Sadorsky (1996)	
		Shaw and Clarke (1999), Middlestadt et al. (2001),	
		Kong et al. (2002), Fuchs and Lorek (2005),	
	Build capacity and mobilise public opinion	Roome and Wijen (2006), Gilbert and Rasche	
		(2007) Bruch et al. (2007), Benn et al. (2009),	
		Brown et al. (2009), Sarkis et al. (2010), Boström	
		and Hallström (2010), Mathipa and Le Roux	
		(2012).	
	Provision of optimised labels		
	and guide on product	Kong et al. (2002), Leipziger (2003), Jones et al.	
	performance through efficient	(2010), Rasche (2007), Horne (2009),	
NGO	product testing processes		
NUU	Monitor and inspect corporate	Gilbert and Rasche (2007) and Boström and	
	conduct	Hallström, (2010).	
		Michaels (2003), Beck (2005), Fuchs and Lorek	
	Open dialogue and release	(2005), Jordan and Van Tuijil (2006) , Mont and	
	trustworthy information	Plepys (2008), Benn et al. (2009), Jones et al.	
		(2010) and Sarkis et al. (2010).	
	Lending credibility and	Kong et al. (2002), Mont and Plepys (2008),	
	promote good environmental	Boström and Hallström (2010), Sarkis et al.	
	performers	(2010).	
	Publicise lapses/file lawsuits	Delmas, M. & Toffel, M. (2004) and Delmas and	
	against poor water performers	Toffel (2008)	
Customer	Impose sanctions on poor water performers	Henriques and Sadorsky (1996), Dolan (2002).	

	consider environmental	Henriques and Sadorsky (1996), Delmas and			
	performance in their buying	Terlaak (2001), Fernández Gago and Nieto Antolín			
	and consumption patterns	(2004) and Delmas, M. & Toffel, M. (2004)			
	Disseminate information and	Hansen and Schrader (2006)			
	promote good performers using				
	their expert power on social				
	media				
Media	Provide awareness on	Shaw and Clarke (1999), McKenzie-Mohr (2000)			
	sustainable consumption of				
	natural resources				
	Promote (or condemned)	Aerts & Cormier (2009)			
	environmental performance				
	Disseminate information and	Corson (1995), Godemann and Michelsen (2011)			
	promote forums on water				
	sustainability				



3.6 Debate on stakeholder actions in relation to sustainable water consumption claim

Despite the agreement in the literature on the actions of stakeholders that can drive sustainable water consumption , many authors questions the intention of stakeholders to use their potentially owned attributes and the level of influence of exercised attributes to drive water sustainable consumption. For example, from a government perspective, Velasquez (2000) claims that despite the growing mass of legislations, governments are unable to address environmental issues adequately. Moreover, Barrett (2004) challenges the influence of the government's water pricing policies due to price inelasticity of demand for water. Similarly, Bruch el al. (2007) argue that although government power expressed in legislations to conserve water are usually in place, economic constrains and institutional capacities to operationalise the laws hinders their effective implementation. In the same line, critics of the concept of "selling nature to save it" argue against the effectiveness of fiscal policies by government in defining rights and responsibilities of different actors over water usage due to politics and power relations that determine modes of environmental governance (McAfee, 1999, Robertson, 2004, Büscher, 2012, McAfee and Shapiro, 2010).

Similarly, Inman and Jeffrey (2006) argue that political risks can influence the government regulatory urgency and legitimacy through hindering the implementation of restrictions on water use by governments. In the same line, Jones et al. (2010) argue that higher level of restrictions are difficult to be implemented by governments because they require high level of trust in authorities and imposes social cost and thus, are expected to be accompanied by intense protests and consumer unwillingness to cooperate with policies in action, thus, it can be said that government urgency and legitimacy to government actions in the sustainability discourse is challenged by consumer trust.

Further criticism of the government actions in fostering sustainable consumption is explained by Roloff (2007) who claims that the government's limited resources hinders an effective response to many environmental problems thus, their exercise of power attribute is not always guaranteed. Moreover, Bruch et al. (2007) claim that government regulations are usually difficult to implement and enforce due to lack of human and financial resources, political will and /or coordination between ministries as well as presence of outdated laws and laws that doesn't reflect local traditions or gaps in legal frameworks, thus, governments in MENA countries need to strengthen their regulatory policies in order to effectively meet the growing demand on water resources. They also confirm that although government laws usually include language to encourage governmental bodies to provide water-related information to the public, most of these provisions do not include clear definitions, criteria or implementation modalities and thus, they question government role in sharing water-related information with the public that can in turn influence the perception of government urgency and legitimacy attributes.

Additionally, Jorgensen et al. (2009) argue that although water pricing had proven to curb water demand at least in the short term, water managers should know its interaction with other factors that can affect consumer decision to conserve water like restrictions of certain water uses. Thus, the impact of pricing strategies is only captured when considering the context they are used in and with the implementation of other actions to drive water conservation. Similarly, Martínez-Espiñeira and García-Valiñas (2013) claim that although pricing policies are sometimes considered by governments, other policies (subsidies/taxes) to promote installation of water-efficient equipment are seldom considered. Thus, it can be said that assessing the action synergy can influence the salience of government stakeholder.

From a business viewpoint, Fuchs and Lorek (2005) argue that in the practical sense, business interests are against strong sustainable consumption and that "...business actors tend to reject the notion that they carry any responsibility with respect to consumption levels" (p. 279). Similarly, Roloff (2007) claims that many corporate managers believe that problems affecting vulnerable stakeholders originate from societal and structural disparities; thus, governments rather than businesses should attend to those problems. Aguilera, Rupp, Williams and Ganapathi (2007) also claim that the adoption of practices that drive sustainability is subject to management choice which only depends on individual values and perceptions.

Additionally, Pullinger et al. (2013) claim that although business sometimes develops technologies to reduce consumption patterns, innovation does not always work for sustainable consumption; for example, although water showering was introduced to replace the traditional approach of bathing to save water, the new shower technologies such as power showers and waterfall showers have actually increased water consumption. Moreover, Clarke and Brown (2006) argue that the receptivity of the community for using water-efficient devices technologies is highly related to individual capacity to acquire those technologies. Thus, business conflict between introducing new environmental-friendly technologies at convenient cost and profit realisation does not guarantee the introduction of those technologies at affordable prices, which is a key barrier to sustainability adoption (Dolnicar and Hurlimann, 2010). Therefore, the exercise of salience attributes and their proper employment to serve sustainability by business stakeholders could be questioned.

From the NGO side, McKenzie-Mohr (2000) argues that although some awareness campaigns provide information-intensive data, their actual impact in driving sustainable consumption is weightless. Additionally, in a practical sense, opening dialogue between stakeholders is a real challenge due to either limited resources (Rohitratana, 2002) or unawareness of relevant stakeholders or their claims (Belal, 2002). Moreover, Fuchs and Lorek (2005) argue that although NGOs contribute to the development of sustainable consumption governance through promoting diffusion of alternative lifestyles, their focus is strictly limited to weak sustainable consumption issues. Similarly, Gilbert and Rasche (2007, p. 756) questions the level of comprehensiveness of tools developed by NGOs and claim that "most standard- setting bodies are not very self-reflective and thus, tend to obscure the problems associated with their

standards" and although their standards are always encouraging for open dialogue, they fall short in providing information on how this dialogue should be organised. Along the same line, Roloff (2007) argues that some NGO actions, like opening dialogues, are generally informative tools rather than interactive tools between stakeholders, and claim that the presence of a noncooperative NGOs is a recent problem facing corporates. Moreover, Ison, Röling and Watson (2007) argue that although fostering dialogue is crucial for natural resource management, challenges for effective dialogue arise from differences in worldviews between and within responsible groups as well as lack of the necessary skills within certain groups and confusion over the function of technology. Similarly, Boström and Hallström, (2010) confirms that common challenges and threats facing NGOs are lack of expertise, limited financial resources, charging with side interests and more worse information trust due to NGOs' need and inclination towards dramatizing scenarios and involvement in unnecessary criticism of corporate acts and thus, NGOs are facing tradeoffs between risk dramaturgy and dissemination of truth.

Challenging media effectiveness, McKenzie-Mohr (2000) argue that although media utilises information- intensive or economic motive campaigns in fostering sustainable consumption, its actual impact is weightless, capitalizing on the previous studies done by Geller, Erickson and Buttram (1983) and Costanzo et al., (1986) who concluded that volunteers who participate in the study on water conservation and received informative booklet on water conservation, didn't change their consumption patterns and that the failure of mass-media to foster sustainable behaviour is due to inadequate design of the message and underestimation of the challenges of behaviour change respectively. In the same line, (Syme, Nancarrow & Seligman 2000) argue against the power of media and the effectiveness of save water campaigns previously launched by media. Moreover, although Sarkis et al. (2010) admits that media plays a secondary role as a secondary stakeholder in the sustainability discourse, their attributes may not induce the required change with regards to the implementation of environmental practices.

Finally Roberto Fernández Gago, Mariano Nieto Antolín (2004) argue that although consumer group owns coercive power because of their buying decisions, their legitimacy and urgency are not highly considered by the business industry. Additionally, Thompson (2010) argue that consumer purchase power is highly influenced by their environmental education, highlighting the positive influence of family and consumer science educators in promoting environmentally positive consumption behaviour and thus lacking those type of educators in the UAE could compromise consumers ability to behave friendly to the environment in terms of demanding sustainable water consumption. In the same line, Galbreth & Ghosh (2012) concluded that only when consumer's environmental concern is combined with high level of awareness on the sustainability policy of the country or the firm, consumers can then exercise their purchasing power and be profitable for environmentally friendly firms.

Moreover, Huang and Bon (2014) claim that consumer power represented in their purchase decisions is generally effective for tangible, more expensive products and products for which consumers hold higher product involvement, which unfortunately is not the case with water purchase decision in the UAE since consumer involvement is absent and the price of water in the UAE is relatively low compared to other utility costs in the country and is not expected to represent a major barrier for guests of hospitality sector in the UAE. They also highlighted that consumer knowledge is a critical factor that manipulates consumer purchase decision and by considering this factor, it can be argued that unless customers of UAE hospitality sector are knowledgeable of the UAE water scarcity problem then it is less likely that they can demand sustainable water consumption.

Therefore, based on the above mentioned prerequisites for exercising consumer power in relation to sustainable water consumption and because of the relatively cheap water prices in the UAE compared to other goods, high standard of living, lack of awareness campaigns on water scarcity, absence of family and consumer science educators it can be argued that customers of hospitality sector may not exercise their salience attributes to demand sustainable water consumption.

To conclude, since water management is affected by stakeholders (Marlow et al., 2013) and environmental management tools and since decision making process for natural resource conservation are not a neutral endeavor aims for the greater good, but rather strategies and practices that are shaped by and reflect stakeholders'' vested interests (Rodríguez-de-Franciscoand Budds, 2015), therefore, policy makers and managers who are in charge of designing and managing sustainability project initiatives should be aware of the ability and salience of involved stakeholders in driving sustainable consumption. And since there is controversy in the literature on stakeholder salience in sustainability project initiatives and a paucity in research filed that identifies relative weighting of stakeholders contribution to the project outcome or applies this question (walker and hills, 2012), thus, thesis will contribute to the body of knowledge and help in understanding the role of stakeholder salience attributes in sustainability project initiatives and more specifically in filing the gap between environmental concern, risk perception and sustainable water consumption strategies and practices in UAE hospitality sector.

3.7 Summary

This chapter explored stakeholder influence on the success of projects and introduced different views on stakeholder analysis in the literature. It highlighted the call for future research on stakeholder analysis in management literature, with a specific concern on sustainability project initiatives due to the complexity of environmental issues along with their multiple stakeholders that poses challenges for decision makers. The section further provided literature review on the critical role of stakeholder analysis in project success with an emphasis on conservation initiatives.

Different approaches to stakeholder analysis – identification and classification – were then explained in details while shedding light on the complexity of stakeholder analysis in sustainability projects. Further, stakeholder salience and salience attributes were discussed and detailed literature review on stakeholder; government, business, NGOs, media and customers actions in relation to sustainable water consumption claim were presented and summarized in table 3.2 as a framework for stakeholder actions in relation to sustainable water consumption claim. Further, the section presents authors arguments against the salience of those stakeholders' in driving sustainable consumption.

Finally, it was concluded that identification of stakeholder salience based on their attributes and examination of their influence on project outcome is a critical step in project management (Friedman and Miles, 2004, 2006; Prell et al., 2009) and that there is controversy in the literature on stakeholder salience and since the potential of salience research has yet to be realised (Neville, Bell and Whitwell (2011). Therefore, it is then important for academics to undertake empirical research to examine stakeholder salience and map the contribution of their salience attributes to project success (Steurer et al., 2005) in order to guide project managers and policy makers on successful stakeholder management approaches as well as guide academics on novel

variables influencing sustainable water consumption. Thus, thesis will contribute to the body of knowledge and help understanding the influence of stakeholder salience attributes in sustainability project initiatives.

4 Chapter Four: Conceptual Framework

4.1 Introduction

This chapter discusses the theoretical background of study and presents research conceptual framework and relationships between the dependents, moderating and independent variables. Therefore, the chapter will be divided into the following sections: theoretical background, research conceptual framework, research variables and study hypotheses sections.

4.2 Stakeholder theory

There is increasing research interest in stakeholder analysis in sustainability projects which reflects a growing recognition that stakeholders can and should influence the path and outcome of sustainability projects and that those projects can be beset by the agenda of various stakeholders due to varied and conflicting interests (Prell et al., 2009). Therefore, using stakeholder approach to connect the stakeholder attributes and believes towards water with its sustainable consumption strategies and practices is justified. Moreover, management scholars' studying social and ethical issues has previously generated an extensive body of research primarily drawn from stakeholder theory (Berrone et al., 2007).

Therefore, this thesis employs stakeholder theory introduced earlier by Freeman (1984) to analyse stakeholder salience and the influence of their attributes on the outcome of sustainability project initiatives for development of strong stakeholder management strategy that is necessary to increase the likelihood of project success (Sutterfield, Friday-Stroud & Shivers-Blackwell, 2006). The following section will explain in details the development of stakeholder theory and its contribution to the understanding of successful implementation of projects.

4.2.1 Development of stakeholder theory

Early in the literature, traditional theories of the firm asserts that the function of an organisation is to maximise return on investments to the owners of the business; shareholders (Friedman, 1970). This view was later criticized by Freeman (1984) and was the departure point for the stakeholder theory proposed in his landmark book *Strategic Management: a Stakeholder Approach*, which claims that organisations benefit from understanding the broad set of stakeholder, and introduced the notion of stakeholder theory with basic assumption that organisations typically have relations with and obligations to different groups that affect and are affected by organisation decision-making processes. Those groups have interests protected by

legislations and therefore have a legitimate claim. Freeman presented the "Hub and Spoke" model in which the corporations are represented as the hub of the wheel and stakeholders as the ends of the spokes. Thus, the focus of the firm is to identify ways to move the hub (organisation) faster within the set of given spokes (stakeholder).

In a complementing piece of work, Brenner and Cochran (1990 & 1991) introduced the stakeholder theory of the firm to describe and predict organisation behaviour. The theory introduced the stakeholder concept as an alternative to the neoclassical concept. They proposed the replacement of the concepts of neoclassical theory represented in economic value creation and shareholder value maximisation, rational decision-making and the self-interest choice dimension by the concepts of stakeholder theory of the firm represented by the multiple value creation, multiple choice processes and one or more choice dimensions. Therefore, they argue that nature, values and relative influence of an organisation's stakeholders are relevant factors that predict an organisation's behaviour.

Hosseini and Brenner (1992) explain the premises of stakeholder theory of the firm as having four propositions and a value matrix. The first proposition states that for an organisation to continue to exist, it must fulfill some of its stakeholder needs. The second proposition explains that to understand those needs, organisations must examine the values and interests of their stakeholders. The third proposition, managing the organisation, entails structuring and implementing choice processes among stakeholders. Finally, organisations need to understand stakeholder values, interests, relative importance of values and the influence of each stakeholder's value position. Thus, the value matrix of the stakeholder theory of the firm is developed to provide a simple way to organize information about stakeholders through presenting a stakeholder map that lists the possible stakeholders, their relative influence weights, value concerns and the weight each stakeholder group allocates to a specific value item.

Evan and Freeman (1993, p.255) claim that the stakeholder approach is a reformist stance towards capitalism that seeks greater equity. Similarly, in an attempt to link stakeholder theory to business ethics, Freeman (1994, p.412) argues that there is room to connect the discourses of business and ethics (normative schemes) through holding business concepts up to the light of ethical discourse; and thus, he rejected what he calls the "separation thesis" between business and ethics. Along these lines, Donaldson and Preston (1995) introduced considerable coherence to the stakeholder theory (Jones and Wicks, 1999; Freeman, 1999). They described three aspects of the stakeholder theory; normative validity, instrumental power and descriptive accuracy. Although they claim that the three aspects or approaches are interrelated, they argue that they involve different arguments and have varying implications. First, the descriptive approach provides a descriptive relationship between a certain phenomenon and its related stakeholders and thus, its application is prerequisite to providing a foundation for the other two approaches. Second, the *instrumental* approach is used to identify how decision makers and project managers can manage their stakeholders to achieve corporate/project objectives. Third is the *normative* approach to stakeholder analysis, which is categorical in nature. In contrast to the hypothetical nature of instrumental analysis, the normative approach guides the stakeholder relationship on the basis of moral principles; in other words, the normative approach guides what should be done morally regardless of its relationship to project performance.

They primarily argue that the normative approach is fundamental to stakeholder theory and that this approach accepts that stakeholders are individuals who have an interest in corporate activity and are identified on this basis regardless of the corporation's interest in them. Second, they posit that the interest of all stakeholders has intrinsic value regardless of whether this interest furthers the interests of other stakeholder groups as shareholders or not. Finally, they claim that the stakeholder theory is a managerial concept that goes beyond the descriptive observation that the organisation have stakeholders since it does not only describe the situation or define the relationship but also guides attitudes, practices and structures to shape the stakeholder management principal.

Since the evolution of the three taxonomies of the stakeholder theory, the debate around those typologies and their interrelation has continued in the literature. For example, Dyer and Singh (1998) advocate the instrumental value of stakeholder relations in the form of collaboration and alliances with other firms and highlight its normative implication, whereas Harrison and Freeman (1999) call for ways to integrate economic and social typologies and find more robust ways to measure stakeholder effects.

Similarly, Jones and Wicks (1999) proposed a mean of unification of instrumental and normative approaches in what they call "convergent stakeholder theory". Their study elaborates on the

implications of adopting any of the three approaches of stakeholder theory, explaining that the instrumental approach assumes the predominance of one stakeholder group - namely the shareholders. Therefore, profits are more likely to be realised if project managers behave in a certain way towards shareholders, whereas the normative approach considers that the interests of all stakeholder groups have intrinsic value; thus, this approach dictates that managers should behave in a certain ethical way towards all legitimate stakeholders whether shareholder or not. Finally, the descriptive approach is a reflection of a manager's activity in reality with respect to stakeholder relationships. However, they argue that a convergent approach between the instrumental (social science approach) and normative (ethics-based approach) aspects of the theory can demonstrate ways in which managers "...can create morally sound approaches and make them work"(p. 206).

In response to Jones and Wicks' (1999) work, Freeman (1999) rejects the convergent approach and argues that what is needed are narratives that are divergent, which shows different and useful ways to understand firms in stakeholder terms. Referring to their initial work, Donaldson and Preston (1999) reconfirm that the fundamental basis of the stakeholder is normative and admit that this can eventually enhance their organisation's wealth. Taking a different view of the convergent stakeholder approach, Donaldson (1999) argues that this approach is unlikely to last in the long term. Instead, he claims that the glue that can bind instrumental and normative approaches of the theory is a psychological one: when managers believe that considering stakeholders' interests has intrinsic value that achieves higher performance then they should act as if stakeholders' interests matter. In other words, if the manager is ethically responsible for the intrinsic worth of stakeholders then there are reasons for presuming that doing so will boost performance.

Furthermore, in a debate on the principles of the stakeholder theory, Sundaram and Inkpen (2004) admit that the shareholder value maximisation concept is not free of shortcomings; a firm managed on the basis of the stakeholder's view still suffers from similar problems. Thus, they believe that firms should have shareholder value as the objective function that in turn will lead to decisions that enhance outcomes for stakeholders. In response to Sundaram and Inkpen, Freeman et al. (2004) clarify misconceptions about the stakeholder theory by arguing that stakeholder theory is not "everything non-shareholder oriented" (2004, p.365). Thus, the authors claim that

stakeholder theory provides managers with resources to deal with conflicting stakeholder interests.

In order to settle the above mentioned debate, prominent authors in the field; Agle, Donaldson, Freeman, Jensen, Mitchell and Wood opened a dialogue on the stakeholder theory and published their paper in 2008: *Dialogue: towards superior stakeholder theory*. The authors argue that a superior stakeholder theory should meet the criteria of useful theory "…criteria such as growth in elegance, ease of use, explanatorily efficient, simple (compared to alternatives), and even instinctively pleasing" (Agle et al., 2008, p.182).

Aside from the above-mentioned debate on stakeholder theory, Laplume, Sonpar and Litz (2008) claim that the interest in stakeholder theory has grown over the last decades in many fields. For example, Clarson (1995) and Froman (1999) applied the theory in strategic management discipline, whereas Phillips and Reichart (2000) and Starik (1995) focused on theory implementation in the business ethics field. More recently, the theory entered the discourse on sustainability in the work of Sharma and Henriques (2005) and Steurer et al. (2005), and Steurer (2006) who introduced the triple perspective to stakeholder theory and from then the theory has been claimed to explain firm's degree of environmental proactivity as a response to stakeholders expectations, actions and claims (Garcés-Ayerbe et al. 2012).

4.2.2 Triple perspective typology of stakeholder theory

As proposed and explicated by Steurer (2006), the triple-perspective typology of stakeholder theory shows that stakeholder management can be approached similarly from conceptual and stakeholder views in addition to the prevailing corporate viewpoint in the research field. Therefore the typology presents nine-stakeholder research approaches that represent the diverse body of stakeholder theory (table 4.1). The primary dimension of the typology reflects corporate, stakeholder and conceptual taxonomies of the theory to provide a thematic breadth to the diverse body of stakeholder theories. The secondary dimension, on the other hand, reflects the normative, descriptive and instrumental aspects of the theory which presents its heuristic depth.

Steurer (2006) explained the nine -stakeholder research approaches as follows:

The corporate perspective represents the interaction between stakeholders as perceived from a management perspective where managers regard stakeholder management practices as means to

corporate ends. Within the corporate perspective of the theory, the *corporate-normative* approach interprets the role of the corporation towards the society, the *corporate-descriptive* approach describes corporate behaviour towards stakeholders, and the *corporate-instrumental* approach analyses the relations between stakeholder management approach and corporate goal achievement.

The stakeholder perspective aims to acquire a better understanding of stakeholder claims, typologies, strategies and behaviour. Its normative approach provides a foundation upon which stakeholder legitimacy and claims are shaped. The *stakeholder-descriptive* approach describes the stakeholder behaviour and claims from an organisation, while the *stakeholder-instrumental* approach analyses the relation between stakeholder strategies and their ability to achieve their claims.

The conceptual perspective aims to study business-society relations from a particular concept viewpoint like common good, human rights, sustainability, environmental protection, corporate social responsibility and others. The *conceptual-normative* approach interprets the normative characteristic of specific moral concept and its significance to the stakeholder theory. The *conceptual-descriptive* approach describes how particular moral concept is considered by stakeholders. Finally, the *conceptual-instrumental* approach analyses the relation between the stakeholder theory and moral concept achievement and questions to what extent the moral concept can be advanced by stakeholders.

	Corporate	Stakeholder	Conceptual
General research	How to corporations	How to stakeholders	How a moral concept as
question	relate to	address	sustainability relates to
	stakeholders?	corporations?	stakeholders?
NT	En an anti-mba	W/lest western	W/L - 4 in second second
Normative	From a particular	what makes	what issues of moral concept
	moral point of view	legitimate	should stakeholders take into
	why and how should	stakeholders and	account?
	firms account for	how should they try	
	stakeholder	to claim their	
	interests?	stakes?	
Descriptive	In reality how and	What are the	What issues of moral concept
	to what extent do	expectations and	(as sustainable water
	firms take into	claims of	consumption) are taken into
	account stakeholder	stakeholders and	account by stakeholders?
	interests?	how they actually	
		try to achieve their	
		claims?	
Instrumental	Is the attention to	How stakeholders	To what extent can issues of a
	stakeholder interests	attain their claims?	moral concept (sustainable
	beneficial for the		water consumption) are
	firm?		realised through stakeholder
			actions and claims?

Table 4.1 Research questions of triple perspective typology of stakeholder theory (adapted from Steurer et al., 2005 Steurer, 2006 and Gilbert and Rasche, 2007)

4.2.2.1 Previous studies on different approaches of the stakeholder theory

Studies in the literature can be positioned under any of the nine proposed stakeholder approaches with a clear dominance of the corporate perspective (Steurer, 2006). Based on review of the

literature following Donaldson and Preston's (1995) work on stakeholder theory, the following section illustrates studies that focused on one or more of the nine approaches.

4.2.2.1.1 Corporate perspective to stakeholder theory

Gibson (2000) studied the corporate-normative approach and argues that there is a moral justification for the stakeholder theory. Similarly, Wheeler et al. (2001) examined the issues facing organisations when attempting to adopt a stakeholder responsive orientation towards environmental issues and conclude that a stakeholder-responsive model should be integrated into the company strategy and that stakeholder responsiveness requires leadership capabilities and an ability to navigate complexities. Additionally, Humber (2002) adopted a corporate-normative approach and argues that moral theories should not be imposed on corporations, whereas firms should develop their own moral responsibility in an appropriate way from the firm's perspective. Similarly, Kaler (2002, p. 91) argues that "...stake-holding has to be about improving the moral conduct of businesses by directing them at serving more than just the interests of owners".

Along the same lines, Sims and Brinkmann (2003) proposed four moral typologies in which a firm can deal with its stakeholders; "moral pre-conventionalism", "window-dressing ethics", "collective moral conscience" and "moral role-modelling".

Still from a corporate perspective, a descriptive approach was addressed by Jawahar and McLaughlin (2001) who argue that certain groups of stakeholders have the potential to satisfy organisational needs; thus, organisations need to identify important stakeholders at each stage of the organisation's life cycle and develop strategies to deal with them. Similarly, from a corporate perspective, Welcomer (2002) supports both descriptive and normative approaches of the stakeholder theory through empirically examining how norms of responsiveness affect the firm's relations with its stakeholders. He further argues that firms that perceive stakeholders as powerful and those that are more socially committed develop stronger-stakeholder relationship.

The corporate-descriptive approach was also employed by Cragg and Greenbaum (2002) who, although admit that in reality stakeholder claims are partially attended to, confirm that the concepts of the stakeholder theory are grounded in management practices. In the same vein, Jamila (2007) adopted a corporate-descriptive approach; she emphasised the role of descriptive stakeholder theory as a firm's motivator for corporate social responsibility, and concluded that management prioritise their stakeholders based on an instrumental basis as well as on

stakeholder attributes of power, legitimacy and claim urgency, albeit with counter-balanced consideration to normative principles.

The corporate-instrumental approach was supported by Jones (1995) who claims that a firm gains competitive advantage if it develops trustworthy and cooperative relations with its stakeholders. This therefore explains why some altruistic behaviour turns out to be productive, leading to Jones' claim that the instrumental approach of the theory is workable. Along the same lines, a study by Berman et al. (1999) emphasises that stakeholder management (employees and customers) can have a significant impact on a firm's financial performance. Similarly, Ruf et al. assert (2001) that dominant stakeholders and shareholders financially benefit when management attends to stakeholder needs.

Furthermore, Keim (2001) come to the conclusion that stakeholder management leverage shareholder value, a view that has been confirmed by Heugens et al. (2002, p.36) who claim that firms which "…breed trust-based, cooperative ties with their stakeholders will have a competitive advantage over firms that do not". However, in an argument against the instrumental approach, Omran et al. (2002) concluded that there is no variation in shareholder returns between stakeholder and shareholder-oriented companies.

In a study that tackles the three aspects of the corporate perspective, Gilbert and Rasche (2007) explained from a normative aspect that standardized ethics initiatives helps implementing organisations to better understand why specific norms are of relevance. And from a descriptive aspect, they claim that the use of those standardized ethical initiatives helps the firm to account for its stakeholder interests and enhance the learning process. Finally, From an instrumental aspect, the authors argue that implementation of standardized initiatives increases stakeholder trust, reduces conflict, decreases chances of being penalized by governments and even more, in some cases, enhances productivity and improves quality.

4.2.2.1.2 Stakeholder perspective to stakeholder theory

Frooman (1999) states that in developing strategies to deal with stakeholders, questions of who are the stakeholders (concerning their attributes), what do they want? (Concerning their ends) and how are they going to try to get it? (Concerning their means) should be answered.

Thus, researches attempts to answer those questions, for example, from the stakeholderdescriptive approach and in an empirical exploration of stakeholder expectations, Huse and Rindova (2001) concluded that key stakeholders have different expectations of various board member roles because of their different functional relationships with the company. Within the same approach, Dawkins and Lewis (2003) examined how the prominence of ethical concerns represented by corporate social responsibility shapes the opinion stakeholders hold of the firm.

From a different perspective, Phillips and Reichart (2000) studied the stakeholder-normative approach and investigated the environment as a non-human stakeholder and argue that environment should be considered as a stakeholder and managers should be cautious about their firm's impact on the environment.

4.2.2.1.3 Conceptual perspective to stakeholder theory

Wood and Jones (1995) considered the conceptual-normative perspective in an attempt to link corporate social performance to stakeholder theory, and conclude that the social control of business is achieved through the firm's relationship with its stakeholders. On the same lines, Wijnberg (2000) calls for advancement of the normative stakeholder theory through making the non-instrumental ethical principles more explicit, and respecting what is considered good in itself. Additionally, to answer the conceptual-normative research question of what issues of moral concept (for example, sustainability) stakeholders should consider, Stead and Stead (2000, p.313) claim that,

"Within the frame- work of enterprise strategy, a value system based on sustainability can provide a sound ethical basis for developing ecologically sensitive strategic manage- ment systems which allow organisations to satisfy the demands of the myriad green stakeholders that represent the planet in the immediate business arena".

Later in the literature, Steurer et al. (2005) similarly, employed the conceptual-normative approach to identify different issues of sustainability that stakeholders should take into account.

The instrumental aspect of the conceptual perspective was applied by Céspedes et al. (2003) who conclude that organisational response to environmental demands of stakeholders depends on the stakeholder power, stakeholder use of power and the perceived economic advantage of environmental management. Within the same adopted approach, Konrad et al. (2006) conclude

that stakeholder relation management promotes sustainable development but with an emphasis on the role of government regulations.

Finally, is the last approach is the conceptual-descriptive approach that is applied early in the literature by Wood and Jones (1995) who empirically examined the factors of corporate social performance that stakeholders expect, experience and evaluate, whereas, later in the literature, Konrad et al. (2006) empirically studied the issues of sustainable development that stakeholders take into account.

4.2.2.2 Selected study theoretical approach and relevance to research question

This thesis will capitalize on the triple-perspective typology of stakeholder theory and more specifically on the instrumental dimension of the conceptual- approach for several reasons;

First, the conceptual perspective approach allows researchers to relate stakeholders to a particular moral concept like sustainable consumption (Steurer et al., 2005) and has been previously employed by researchers in the same field as Konrad et al. (2006); therefore, it is a natural selection for the thesis context. Moreover, the instrumental dimension of stakeholder theory represents an appropriate fit with the research questions that aims to identify the role of stakeholder salience attributes on the association between environmental concern , risk perception and the adoption of sustainable water consumption strategies and practices in UAE hospitality sector, therefore guides on the role of stakeholders in the attainment of goals of a moral concept; sustainable consumption and fill the gap in literature by studying an overlooked instrumental conceptual approach of stakeholder theory and thus, "... advances stakeholder research by raising awareness for research approaches that are normally neglected" (Steurer, 2006, p. 56).

Second, the conceptual perspective waives the shortcoming of stakeholder theory in two ways; first, being corporate-centred as claimed by Frooman (1999), Steurer et al. (2005) and Steurer (2006). Second, falling short in dealing with ethical and environmental schemes as claimed by Phillips and Reichart (2000), Wijnberg (2000) and Donaldson (2002 and 2003). Therefore, employing the conceptual approach will take the stakeholder theory forward from a corporate vantage point to conceptual perspectives and guide managers when dealing with sustainability issues and more specifically sustainable consumption (Steurer et al., 2005).

Third, the theory builds on the second-order theory of Donaldson and Preston which has been praised as the most influential, widely accepted and most established one in the literature (Freeman, 1999; Jones and Wicks, 1999; Crane and Matten, 2004) and offers an appropriate framework since the three dimensions emphasise fundamental questions that can guide critical assessment of ethical issues (Gilbert and Rasche, 2007).

4.3 Research conceptual framework

Since it has been claimed by González-Benito and González-Benito (2010) that the extent to which stakeholders' claims are met depends on both; characteristics of managerial values and beliefs and attributes of the stakeholder (power, legitimacy, urgency) and since the literature pointed that the achievement of sustainability goals and the change towards sustainable water consumption is a factor of managerial environmental concern and risk perception and can be influenced by actions of multiple stakeholders; governments, non-government organisations, business, customers and media stakeholders. The researcher therefore uniquely proposes a conceptual model that brings those variables into the research field and addresses the association between environmental concerns, risk perception and the adoption of sustainable water consumption strategies and practices in hospitality sector in the UAE as well the influence of stakeholders' salience on this association as shown in figure 4.1.

The justification of bringing those variables along together is that despite that the direct relation between environmental concern, risk perception and adoption of water sustainable consumption strategies and practices have been demonstrated in the literature by Pelletier et al., (1998), Corral-Verdugo (2002), Gregor and Leo (2003), Clarke and Brown (2006) and Graymore and O'Toole (2009), Bamberg (2003) recommends that environmental concern and individual factors as risk perception can no longer be assumed to have a sole direct effect on consumption, instead, other intervening processes influencing the association between environmental concern, risk perception and consumption should be considered by researchers. Within the same vein, Jorgensen, Graymore and O'Toole (2009) argue that the social models available in the literature have low explanatory power with R2 value no more than 0.30 and thus, variables that influence water consumption are yet to be discovered. For this reason, authors argue that there is lack of appropriate framework in the literature that stands between good intentions and actual behaviour especially in hospitality sector (Dief and fong, 2010).

In the same line, Carrington, Neville, & Whitwell, (2014) and Luchs, Naylor, Irwin, & Raghunathan, (2010) claim that a striking gap between one's reported level of concern, risk perception and actual consumption behaviours. Furthermore, result inconsistencies in the research field on the role of attitude in driving sustainable water consumption provide a call to action for more work to clarify this concern-consumption/risk-consumption relationships (Leary et al., 2014). Moreover, Zhang eta.al (2015) argue that since profit realisation for corporates are more important than achieving environmental gains, thus, managers believes and attitudes like environmental concern is insufficient to influence corporate environmental operations. With the focus of scholars in the literature largely on individual variables and on a limited scale on few other variables like restrictions and regulations enacted by single stakeholder; government as examined by Jorgensen, Graymore and O'Toole (2009), together with the admission of authors on the regulation insufficiency to induce the required level of sustainable consumption and that other variables like introduction of technological innovation, provision of service and infrastructure and others are still important to be examined (Bruch et al., 2007, Jones et al., 2010), it can then be concluded that the literature continues to lack a comprehensive model for determinants of water sustainable consumption.

Therefore, taking the cue from Bamberg (2003), Zhang et al. (2015) and responding to the call of Bruch et al. (2007), Jones et al.(2010) and Prothero et al. (2011) for exploration of new analytical explanations and possible remedies for the gap between environmental concern and its corresponding positive environmental behaviour, and since moderating variable is defined as an qualitative or a quantitative variable that affects the direction and/or strength of a relation between an independent and a dependent variable (Holmbeck, 1997), therefore, moving to test moderation effect on the association between environmental concern, risk perception and sustainable water consumption is required as it confirms research maturity (Frazier, Tix and Barron, 2004) and allows decision makers to focus on the effective components to drive the change (Mackinnon, 2000) and therefore introduces variables that can help the transformation of managers' environmental concern and risk perception into action (Leary et al., 2014).

However, the available research on moderating variables only explores situational variables as exposure to environmental hazards (Brechin and Kempton, 1994), psychological variables as values, predispositions, emotions (Inglehart, 1997), social structures as social networks, political and institutional frameworks (Gökşen et al., 2002), demographic variables as age, gender,

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education (Marquart-Pyatt, 2008) and economic variables as perceived environmental benefits (Park et al., 2014). Thus, it has been claimed by Vainio and Paloniemi (2014) that research on moderating variables was limited to contextual variables. And it has been recommended that management researchers should align stakeholders in the future of management research to reduce the relevance gap between business and academia (Starkey and Madan, 2001) and it was advised that the role of stakeholders in research should be optimised Franche et al. (2005). Moreover, environmental management performance in hospitality sector has been claimed to be influenced by stakeholders where firms tend to comply with regulations and generally accepted norms to remain legitimate in the eyes of its constituencies and those who fail to confirm runs into the risk of losing "license to operate" (Dief and Font 2010). Similarly, implementing successful environmental programme was argued to depend on the full co-operation and involvement of a hospitality firm's stakeholders, including employees, customers, suppliers, business partners and governments, therefore, the stakeholders' importance cannot be underestimated, however, this relationship has received less interest from hospitality researchers Therefore, hospitality scholars are encouraged to explore this issue in future research (Chan and Hsu, 2016).

Therefore, this thesis will uniquely investigate stakeholders' salience through assessing the role of salience attributes of power, urgency and legitimacy as moderating variables between environmental concern, risk perception; independent variables and adoption of sustainable water consumption strategies and practices; dependent variables as shown in figure 4.1.

4.4 Research Variables

Based on literature review in chapter two and three, the study variables are extracted and defined as follows:

4.4.1 Independent variables

- Environmental concern: as the value orientation, attitude and belief in water saving that leads to sustainable water consumption (adapted Fransson and Garling, 1999, Schulz, 2001).
- Risk perception as the likehood of current and future impact of environmental threat; water scarcity on local and global scales (adapted from Leiserowitz 2003).

4.4.2 Dependent variables

- Sustainable water consumption strategies: overall processes which includes general policy directions combined with objectives as well as action plans, detailed measures with short and medium term planning horizon through which sustainable water consumption can be delivered (adapted from Coaffee et al., 2001, Szlezak, Reichel and Reisinger, 2008).
- Sustainable water consumption practices: the detailed activities implemented by the staff and employees in order to achieve sustainable water consumption (adapted from Zhang et al., 2015).

4.4.3 Moderating variables

- Stakeholder power attribute: the ability of external stakeholders to bring change in sustainable water consumption strategies and practices in UAE hospitality sector by using coercive, utilitarian or symbolic means (adapted from Mitchell et al., 1997 and Parent and Deephouse, 2007).
- Stakeholder urgency attribute: the time priority and attention given by managers to external stakeholders' actions related to sustainable water consumption claim in UAE hospitality sector (adapted from Mitchell et al., 1997 and Eesely and Lenox, 2006).
- Stakeholder legitimacy attribute: the extent to which managers perceive external stakeholders' actions related to sustainable water consumption claim in UAE hospitality sector as appropriate (adapted from Mitchell et al., 1997 and Roberto Fernández Gago, Mariano Nieto Antolín, 2004).

4.5 Research hypotheses

The following research hypotheses are developed based on literature review and results of related studies explained in chapter two and three to answer the specified research questions.

4.5.1 Environmental concern and risk perception

To answer the Research question 1: How do environmental concern and risk perception associate with sustainable water consumption strategies and practices in the UAE hospitality sector?. Research hypotheses H1 and H2 are derived from literature and previous studies that
demonstrates the association between environmental concern, risk perception and sustainable consumption strategies and practices (Fransson and Gärling, 1999; Franzen and Meyer, 2010; Franzen and Vogl, 2013; Kollmuss and Agyeman, 2002, and Vainio and Paloniemi, 2014) as follows:

H1: Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector.

H2: Environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector.

4.5.2 Stakeholder salience

To answer research question 2: What is the role of stakeholders' salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices in UAE hospitality sector? The following hypotheses are developed based on literature review that is summarized in the proposed framework of stakeholder actions in relation to sustainable water consumption claim presented in chapter three section 3.5.6. And the hypotheses as representation of the relation between the variables are presented on the research conceptual framework (figure 4.1)

H3: stakeholders' salience attributes influence the association between environmental concern, risk perception and sustainable water consumption strategies.

H3A: stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies.

H3B: stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies.

H3C: stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies.

H4: stakeholders' salience attributes influence the association between environmental concern, risk perception and sustainable water consumption practices.

H4A: stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption practices.

H4B: stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption practices.

H4C: stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption practices.

H5: stakeholders' salience attributes moderates the relation between environmental concern, risk perception and sustainable water consumption strategies.

H5A: stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies.

H5B: stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies.

H5C: stakeholders' legitimacy attributes moderates the relation between environmental concern, risk perception and sustainable water consumption strategies.

H6: stakeholders' salience attributes moderates the relation between environmental concern, risk perception and sustainable water consumption practices.

H6A: stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices.

H6B: stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices.

H6C: stakeholders' legitimacy attributes moderates the relation between environmental concern, risk perception and sustainable water consumption practices.

Additionally, to answer research question 3: Within the hospitality sector, is there is difference in the perceived stakeholder's salience attributes in sustainability project initiatives between different Emirates in the UAE?, H7 (H7A, H7B and H7C) are derived from literature which demonstrates that stakeholder salience is variable over space and time horizon and is socially constructed (Mitchell et al. 1997, Eesley & Lenox, 2006) as follows:

H7: stakeholders' salience attributes are perceived differently in different UAE Emirates by managers within the UAE hospitality sector.

H7A: stakeholders' power attribute is perceived differently in different UAE Emirates by managers within the UAE hospitality sector.

H7B: stakeholders' urgency attribute is perceived differently in different UAE Emirates by managers within the UAE hospitality sector.

HC: stakeholders' legitimacy attribute is perceived differently in different UAE Emirates by managers within the UAE hospitality sector.



Figure 4.1 Research conceptual framework

4.6 Summary

The chapter explained the development of stakeholder theory followed by the introduction of second-order theory Donaldson and Pertson (1995) who introduced the normative, descriptive and instrumental perspectives to the stakeholder theory. Moreover the chapter highlights the debate on the three theory dimensions which led to the development of the triple-perspective typology of stakeholder theory by Steurer et al. (2005). They shed light on the thematic breadth of the stakeholder theory along with its heuristic depth to introduce nine research approaches to stakeholder theory, namely corporate-normative approach, corporate-descriptive approach, corporate-instrumental approach, stakeholder-normative approach, stakeholder-descriptive approach, stakeholder-instrumental approach, conceptual-normative approach, conceptual-

descriptive approach and, finally, a conceptual-instrumental approach. Then justification on the employing instrumental conceptual approaches of stakeholder theory in this thesis was explained in details. Further the chapter proposed and justified the research conceptual framework, explained and defined study variables and presents the development of research hypotheses.

5 Chapter Five: Research Methodology

5.1 Introduction

This chapter discusses the research methodology that was followed during the study where it highlights the adopted research philosophy, approach, methodology and method. Additionally, the chapter presents discussion on the questionnaire design, structure and questions types and the tools that were used for measuring different research variables; environmental concern, risk perception, stakeholder salience attributes and sustainable water consumption strategies and practices. Furthermore, the chapter includes feedback received from relevant academicians and practitioners from the pilot study and amendments carried out on research instrument. Moreover, the chapter includes discussion on the sample selection, composition and size as well as statistical analyses tools that were used to analyse the collected data. Finally, the layout for the applied research analysis process is presented and ethical considerations is presented.

5.2 Research philosophy

In the current literature, positivist (objectivist/ hypothetico deductive/scientific) and phenomenology (subjectivist/ inductive/interpretivist) are the dominant research epistemology (Mangan et. al, 2004). The positivist paradigm is an epistemological position that advocate the use of methods to study social reality and is based on structured research methodology to facilitate quantification of results using statistical analysis and therefor uses experimental and quantitative methods to test hypothetical-deductive generalisations (Bryman and bell, 2011) and requires the study of a large amount of literature in order to construct a hypotheses that is used to formulate a theory (Smith, 2015). Whereas the phenomenology paradigm is concerned with exploring behaviours from participant's subjective view, research methods in this case are chosen qualitatively to describe, translate and explain events from the perspective of participants (Easterby-Smith et al., 1991). Table 5.1 provides a comparison on the two research paradigms available in the literature.

	Positivist paradigm	Phenomenological paradigm
Basic beliefs	The world is external and objective	The world is socially constructed and subjective
	Observer is independent	Observer is part of what observed
	Science is value-free	Science is driven by human interests
Researcher should	Focus on facts	Focus on meanings
	Look for causality and fundamental laws	Try to understand what is happening
	Reduce phenomenon to simplest elements	Look at the totality of each situation
	Formulate hypotheses and then test them	Develop ideas through induction from data
Preferred methods include	Operationalising concepts so that they can be measured	Using multiple methods to establish different views of phenomena
	Taking large samples	Small samples investigated in depth or over time

Table 5.1 Comparison between positivism and phenomenology research paradigms (Easterby-Smith et al., 1991).

Looking at the research problem "with the current challenging situation of water scarcity and unsustainable water consumption trends in the UAE along with the lack of empirical evaluation of determinants of sustainable water consumption and paucity in research field in evaluating stakeholder salience and weighing the contribution of stakeholders to the success of sustainability project initiatives, there is a challenge in front of UAE government to pursue the goals of *Green Economy for Sustainable Development* project initiative with regards to rationalising water consumption in the UAE and thus, extravagate the water scarcity problem and hinder the countries' sustainability strategy." It appears that there is need for quantifying and weighing the contribution of different factors to the rationalization of water consumption in the UAE. Thus, that positivist approach presents the best fit with the research to waive the potential objectivity that is sometimes associated with phenomenological research approach and provide statistical evidence for policy makers on factors driving success of sustainability project initiatives. Therefore the beginning of the research was conducted by reviewing a large and varied amount of literature to develop a conceptual framework upon which the empirical examination can be based, supporting theories are detailed and hypotheses were developed in order to examine the relation between dependent, moderating and independent variable.

5.3 Research approach

Empirical research is the research approach that generates knowledge based on real-world experiment or observation; it is extremely important in theory verification as it ties management theory in with practice and provides reliable insights to management issues (Flynn et al., 1990; Filippini, 1997). Authors have described empirical research approaches as the use a variety of research methods for data collection (Thomas, 2004). For studies, the main approaches considered are qualitative/ quantitative and deductive/inductive.

Quantitative research approach is objective in nature and emphasise the collection and analysis of numerical data. Thus, this type of research although initially hard to structure is usually highly structured and easy to be interpreted (Myers, 1997 and yin, 2003) however, quantitative approach is not free of shortcoming as it limit the breadth of the responses as claimed by Hackley (2003).

Qualitative approach is useful in defining patterns of associations between factors and representing participants views, however, it tend to become subjectively immersed in the subject matter, exploring motivations between factors (Remenyi et al., 1998, Marczyk et al., 2005). Thus, some authors recommended the use of both methods; triangulation to waive the shortcoming of each approach alone, however, most researchers do either quantitative or qualitative research work (Yin, 2003, Thomas, 2004).

Deductive research approach is one in which theory and hypotheses are developed initially followed by designing a strategy to test the research hypotheses. On the other hand an inductive research approach is a one in which data is initially collected followed by theory development (Saunders et al., 2003). Therefore, a deductive approach is characterised by being a top-down approach on the contrary of inductive approach which works the other way round; bottom-up approach. The difference between two approaches are summarized by Saunders et al. (2003) as shown in table 5.2.

2	Deduction Emphasis	Induction Emphasis
•	Scientific Principles	 Gaining an understanding of the meaning human attach to events
٠	Moving from theory to data	 A close understanding of the research context
•	The need to explain casual relationship between variables	The collection of qualitative data
•	The collection of quantitative data	 A more flexible structure to permit changes of research emphasis as the research progresses
•	The application of controls to ensure validity of data	 A realization that the researcher is part of the research
•	The operationalisation of concepts to ensure clarity of definition	Less concern with the need to generalise
•	A highly structured approach	
•	Researcher independence of what is being researched	
٠	The necessity to select samples of sufficient size in order to generalise	

Table 5.2 comparison between deductive and inductive research approaches (Saunders et al., 2003).

Based on the above description of research approaches, this thesis will adapt a quantitative deductive research approach as it represents the best fit to accomplish research objectives and s has been Similarly, applied by researchers like Hillman and Keim (2001) and Konrad et al. (2006) relating stakeholder theory with sustainability and it is claimed that quantitative tools are a reliable way to assess stakeholders and draw cross-comparison scores (Brugha and Varvasovszky, 2000). Furthermore, quantitative research methodology ensures data validity and allows for result generalisation from a sample of the population (Saunders et al., 2012) and enables statistical inferences to be made about a population (Mazur and Pisarski, 2015) which is needed to answer the research questions and provide policy makers with a clear cut picture on factors influencing the success of sustainability project initiatives.

5.4 Research methodology

conclusions

Research methodology is the framework in which research methods are positioned as part of broader research strategy (Saunders et al., 2003). Various research methodologies can be applied for a quantitative research approach, what is critical is the suitability of methodology with the research questions and objectives (Thomas, 2004), the following research methodologies has

been presented by different authors; Hussey and Hussey (1997), Ghauri and Gronhaug (2001) and Hackley (2003):

Experiment research; applicable for natural and social sciences more specifically to psychology research. Case study research which investigates a specific phenomenon in relation to a real life context. Survey research; associated with deductive approach as questionnaires and structured interviews. Grounded theory; associated with inductive approach in which a theory is developed from initially collected data. Action research: aims to interactively solving a problem in order to improve the way a process is carried out. Ethnography research which provides an in depth descriptive study of culture. Exploratory research which involves seeking new insights through asking questions and seeking responses in a new light and finally a descriptive research which portraits an accurate profile on individuals, events and situations.

Based on the nature of research questions and literature review, available theory in the literature; stakeholder theory that will be employed in the study, the author will apply a survey methodology as it matches with the research approach employed and allows for answering the research questions precisely and provides a tool for collecting information from individuals about the social context they belong to (Rossi et al., 1983). At the same time, survey research can advance scientific knowledge (Kerlinger, 1986; Babbie, 1990) and the survey sampling process allows the gathering of information from a large population with known level of accuracy (Rea and Parker, 1992). Moreover, survey research allows bridging the gap between theory and practice and increases the usefulness to operation management practitioners (Froza, 2002). Additionally, Winter et al. (2006) argue call for higher need of conventional surveys and statistical analysis in management research.

5.5 Research method

Research method is a tool used for data collection and make sense of a problem (Saunders et al., 2003). In a survey research; data are generally gathered by talking to people by means of interviews or written questionnaires through different modes of communication; face to face, telephone or internet (Jankowicz, 2005). To waive the risk of interview bias (Ghauri and Gronhaug, 2001), the researcher will employ a questionnaire method in which a structured five-point Likert scale is designed with the aim to test research hypotheses and define the level of impact of factors contributing to the adoption of sustainable water consumption strategies and practices. Participants will be asked to rate their environmental concern, risk perception, salience attributes of stakeholders and the level of adopted strategies and practices for sustainable water consumption. Moreover, questionnaires are one of the most popular methods of collecting data for its time saving and cost effectiveness characteristics. However, the response rate for questionnaires highly depends on the mode of application, therefore, the author selected self-administered questionnaire mode instead of phone or internet to waive their shortcoming in low response rate (Saunders et al., 2003).

5.6 Research instrument

The questionnaire uses a five-point Likert scale; most common type of scales (Hussey and Hussey, 1997) with the highest scale "strongly agree/ very likely" 1 and lowest scale "strongly disagree/ very unlikely" 5. In addition to the demographic data the scale comprises five sections with carefully structured questions developed and derived from previous studies to measure the following variables: environemtal concern, risk perception, stakeholder slaience attributes , sustainble water consumption strategeis and sustainble water consumption practices.

5.6.1 Environmental concern scale

Early in the published research on environmental attitudes, a variety of scales have been developed that measure an individual's degree of concern for human-caused environmental problems, for example Ecological Attitude Scale was developed by Maloney and Ward (1973), however although the reliability of this scale was high, it was criticized by Fransson and Gorling (1999) for its low predictive validity.

Another scale was the willingness-to-pay survey, however it was claimed to have a limitation in its applicability as a measure for environmental concern because poor individuals may not have

the ability to pay for environmental reform, yet exhibit concern and sacrifice for the environment in other ways (Brechin and Kempton, 1997). later the New Ecological Paradigm (NEP) scale has been developed by Dunlap, Liere, Mertig, and Jones (2000), despite of the popularity of this scale, it has been claimed that it is too general to measure the environmental concern to a specific problem as it evaluates general attitudes toward the environment rather than attitudes toward specific ecological behaviour or some aspects of the environment (Fielding et al., 2008). For this reason the scale for environmental concern employed in this research consists of 32 items from which only five relevant indicators were borrowed and adapted from the revised NEP scale, the rest of the scale was adapted from different authors as Gregory and Leo. (2003), Toma and Mathijs (2007), Liu, Ouyang and Miao (2010), Willis, Stewart, Panuwatwanich (2011), Williams and Hollingsworth (2011), Vainio & Paloniemi (2014), Zhang et al. (2015), Perren and Yang (2015) and De Miranda et al. (2016) (as shown in table 5.3) as those scales are specifically tackling participants' attitude, believe and commitment towards water consumption as well as assess their perception on the implication of unsustainable water consumption on ecological deterioration and future generation welfare, thus overcome the limitations of the current available scales by focusing on specific environmental problem and its negative consquences; sustainable water consumption.

Items	Environmental concern items	Authors
code		
EC1	I am concerned on UAE current water consumption trends	Gregory and
		Leo. (2003) and
EC2	I believe water saving in UAE is critically important	Vainio &
EC3	I acknowledge water as a precious resource in the UAE	Paloniemi (2014)
EC4	I believe the so called "water crisis" is greatly exaggerated by scientists	Dunlap et al.
EC5	I believe the balance of nature will cope with any water scarcity	(2000), Liu,
EC6	I think with the current consumption trends, water supplies will not be	Ouyang and
	adequate to meet future needs in the UAE, thus, we should plan to save	Miao (2010) and
EC7	I believe that saving water helps creating sustainable future for the	Vainio and
	upcoming generations	Paloniemi (2014)

EC8	I believe that future generation has as much right as current generations in	
	water resources	
EC9	It bothers me when I see water being wasted from a water leak in my entity	Toma and
EC10	I feel guilty about any excess water consumption in my entity	Mathijs (2007),
EC11	I think that excessive water consumption in my entity can lead to	Zhang et al.
	environmental damage	(2015), and De
EC12	I believe that potential environmental damage due to excessive water	Miranda et al.
	consumption should be avoided in hospitality sector	(2016)
EC13	I think it is widely expected from hospitality sector to reduce their water	
	footprint	
EC14	I think that it is assumed that water saving in hospitality sector is joint	
	responsibility of industry, government and non-governmental organisations.	
EC15	I don't think that senior management in my entity are highly concerned	
	about saving water	
EC16	I feel upset with the lack of compliance of some of our staff with water	
	conservation policy in my entity	
EC17	I believe water saving in hospitality sector is a matter of concern to our	
	community	
EC18	I feel obliged to meet communities expectations towards saving water	Perren and Yang
EC19	I feel responsibility to protect water resources for future generations	(2015)
EC20	I believe that hospitality sector in the UAE should reduce their water	
	footprint	
EC21	I believe the circumstances in UAE is appropriate to save water	
EC22	I think hospitality sector has the means to make use of water saving	
	technologies	
EC23	I believe making use of water saving technologies facilitate curbing water	
	consumption in hospitality sector	
EC24	I think hospitality sector have the know how to save water	
EC25	I believe having the know how to save water makes it easier to reduce water	
	foot print in hospitality sector	

EC26	I think that hospitality sector owns the financial resources to save water	
EC27	I am keen to save water for future generations	
EC28	I think the government in the UAE is highly encouraging water saving n in	
	the hospitality sector	
EC29	I believe that there is high motivation from top management to save water	
EC30	I plan to reduce water footprint in my entity in the next 5 years	Willis, Stewart,
EC31	I am interested in alleviating water scarcity problem in the UAE	Panuwatwanich,
EC32	I acknowledge my future role as care tacker of water resources in the UAE	Williams and
		Hollingsworth
		(2011).

Table 5.3 Environmental concern scale

5.6.2 Risk perception scale

Risk perception scale was constructed to reflect manager's risk perception from water scarcity as a potential threat form unsustainable water consumption. The scale is adapted from Leiserowitz (2003), Toma and Mathijs (2007) and Cansu (2015) to encompass the six dimensions of risk perception mentioned earlier by Stone and Gronhaug (1993); namely, physical risk, performance risk, financial risk, time risk, psychological risk and social risk. The resulting scale consist of 13 items as shown in table 5.4.

Item	Risk perception items	Authors	Risk dimension
code			
RP1	There might be wars in the future because of water scarcity	Cansu (2015)	Physical risk
RP2	Water scarcity can lead to conflict between hospitality sector and local communities		Physical risk
RP3	Water scarcity can change the pricing structure of many commodities in hospitality sector	Leiserowitz	Physical risk
RP4	Water scarcity can lead to shortage of essential supplies as food and beverage in hospitality sector	Toma and	Physical risk
RP5	Water scarcity can affect market growth level of hospitality sector in emerging economies	Mathijs (2007).	Performance risk
RP6	Water scarcity represent a serious financial threat to hospitality sector		Financial risk

RP7	Water scarcity may affect operation lead time in hospitality sector	Time risk
RP8	In the next 5 years water scarcity will negatively affect employee spirit and activity in hospitality sector	Psychological risk
RP9	Water scarcity may negatively influence brand image and reputation of your entity	Social risk
RP10	Water scarcity can negatively influence your consumer purchase decisions	Social risk
RP11	Water scarcity can freeze future expansion plans of your entity	Performance risk
RP12	Water scarcity is damaging to your business operation	Performance risk
RP13	Water scarcity is a threat to your bottom line	Financial risk

Table 5.4 Risk perception scale

5.6.3 Stakeholder salience attributes scale

The general construct of the scale for stakeholder salience attributes is borrowed from Harvey and Schaefer (2001), Fernández Gago, R. and Nieto Antolín, M. (2004) and Álvarez-Gil et al. (2007), however the detailed items are developed by the researcher based on literature review and its validity and reliability is verified using the following process:

- a. Develop a framework of stakeholder actions in relation to water-sustainable consumption based on extensive literature review (explained and presented in chapter 3, table 3.2).
- b. Initial design of items and choice of the content that matches the three salience attributes; power, urgency and legitimacy for each stakeholder group.
- c. Pilot study to ensure clarity and understandability of scale items and then final design of scale items based on feedback from participants in pilot study.
- d. Applying Factor analysis and Cronbach's alpha test after data collection to ensure the dimensionality, validity and credibility of the scale.

The resulting scale post the pilot study consists of 95 items, 41, 29 and 25 indicators for stakeholder power, urgency and legitimacy attributes respectively as shown in Appendix 1.

5.6.4 Sustainable water consumption strategies scale

The scale for sustainable water consumption strategies were adapted from Delmas and Toffel (2004), Garcés-Ayerbe, Rivera-Torres and Murillo-Luna (2012), Zhang et al. (2012), Zhang et al. (2015) and Oliveira et al. (2015) to reflect all strategic elements; objectives, short and long term plans, policies, strategic means, indicators and investment policies as previously indicated in the literature and explained in chapter two. The resulting scale consists of 21 indicators as shown in table 5.5.

Item code	Sustainable water consumption strategies items	Authors
SS1	Complies with government regulations and legislations of water consumption	Delmas and
SS2	Seeks reduction of water footprint beyond regulatory requirements	1 offel (2004)
SS 3	Encompasses a strong policy on sustainable water consumption	
SS4	Have long term vision that aims to reduce water consumption	
SS5	Have clear and solid short term objectives for sustainable water consumption	
SS6	Have clear plan on how to conduct sustainable water consumption practices	Zhang et al. (2012).
SS7	Have concrete standard operating procedures for sustainable water consumption practices	Zhang, Wang Lai (2015).
SS8	Set appropriate water consumption targets	
SS9	Have environmental management system to achieve your water saving targets	
SS10	Have clear water performance indicators	Caraóa
SS11	Possess water usage reporting system to determine and investigate water inefficiencies	Ayerbe, Pilar Rivera-
SS12	Sets guidelines for continuous improvement of water inefficiencies	Torres, Josefina L.
SS13	Partners with environmental groups for water conservation	Murillo- Luna, (2012)
SS14	Engages with relevant stakeholders in designing water management policies	and Oliveira Neto, Godinho
SS15	Encourages investment in water efficient infrastructure	Filho, Ganga, & Costa
SS16	Invests in innovative water saving technologies	(2015)

SS17	Invests in employee environmental training focused on the reduction of water consumption
SS18	Incorporates water management in employee performance evaluation
SS19	Gives priority to procurement of water efficient products from suppliers
SS20	Prioritises suppliers based on their commitment to water sustainability
SS21	Controls water consumption along the supply chain by conducting environmental audits on suppliers

Table 5.5 Sustainable water consumption strategies scale

5.6.5 Sustainable water consumption practices scale

The scale for sustainable water consumption practices is adapted from Bohdanowicz (2006) and Mensah (2007). The resulting scale consists of 16 indicators reflecting potential practices related to sustainable water consumption in hospitality sector as shown in table 5.6

Item		
code	Sustainable water consumption practices items	Authors
SP1	Installing/ retrofitting washing equipment with water efficient technologies	
SP2	Installing/retrofitting sanitary appliances with dual flush and low flow shower heads	
SP3	Periodical check and detection for water leakage	
SP4	Implementation of textile reuse program to reduce number of washing cycles	
SP5	Consolidating wash loads and processing them in largest possible washers	
SP6	Implementing laundry water recycling system	
SP7	Using grey water from sinks for planting	
	Offering training and education programmes to staff on sustainable water	
SP8	consumption practices	
SP9	Rewarding staff to their contribution to water conservation	
SP10	Educating customers on water saving practices	
SP11	Seeking customer opinion on your water saving practices	
SP12	Encouraging customer participation in activities that reduces your establishment water footprint	
	Incorporating water saving information in your marketing materials as guest	Bohdanowicz
SP13	leaflets	(2006)
SP14	Reviewing water bills to monitor consumption	Mensah
SP15	Organizing or sponsoring water saving events	(2007)

	Demonstrating a superior commitment to water resource management
SP16	through

Table 5.6 Sustainable water consumption practices scale

5.7 Research sample

Research sampling provide a range of methods that enable collecting data from a subgroup rather than from all possible cases as shown in figure 5.1. Two tools are generally available; Probability sampling; the chance of selecting each case from the population is known and is equal for all cases and non-probability sampling in which, the chances of selecting a case from the population is unknown. Since probability sampling is commonly associated with survey research and statistical estimations can be done while employing it on the contrary of non-probability sampling which is generally useful in gain insights into a phenomenon particularly in qualitative research (Saundres et. al, 2003), therefore, probability sampling method will be selected as the best matching sampling method for the research.



Figure 5.1 Population, sample and case (adapted from Saundres et. al, 2003)

5.7.1 Population

Since one approach to choosing a population is to find a homogeneous characteristic among them (Flynn e al., 1990), senior managers in the UAE hospitality sector are specifically selected as assumed to be knowledgeable in the topic (walker and hills, 2012) to ensure sample homogeneity and to guarantee data validity.

5.7.2 Sampling method

As claimed by Saundres et al., (2003) and Thomas (2004) probability sampling method is usually associated with either random sampling, stratified random sampling systematic sampling or cluster sampling and since Flynn et al. (2009) claim that to control against bias random sample selection should be applied. Thus, a random sample selection from a population of senior managers will be selected for the study.

5.7.3 Sample size

There is a general temptation in the questionnaire survey to select the largest possible sample, which is usually not feasible and impractical and is not considered necessary since there is always seem to be an acceptance for a degree of uncertainty in the conclusion (Hussey and Hussey, 1997). The most important issue is therefore, as to what constitutes an adequate size for a sample. Although there is no clear cut figure that identifies an adequate sample (Fraenkel and Wallen, 2006, p 103), Ghasemi & Zahediasl (2012), claim that a sample of 40 is large enough and can lead to normal sampling distributions, however, since the number of sustainability managers or environmental managers and other experts in this area were unknown, based on a conservative estimate that sustainable water consumption will be known to only 5 percent of the professionals (p= 0.05), and for achieving the target of a sampling error of within 5 percent (SE= 0.05) at a confidence level of 95 percent [(1- α) = 0.95; Z $\alpha/2$ = 1.96], the minimum sample size (s) would be calculated as per the following equation (McClave et al., 2005):

$$s = \frac{(Z\alpha/2)^2 p(1-p)}{SE^2} = \frac{1.96^2(0.05)(0.95)}{0.05^2} = 73$$

Therefore, the researcher decided to invite 500 participant for the study in order to guarantee data collection from at least 73 knowledgeable participants from the population.

5.7.4 Data collection

Based on the above-mentioned selected sampling tool, method and sample size, entities are randomly selected form the database of researcher company which includes 5,000 establishments operating within the hospitality sector, an email and phone calls was sent and done to 500 entities requesting participation in research, the researcher received 106 positive responses form the targeted population who successfully completed the survey, indicating a response rate of 21.2% response rate which is considered to be acceptable response rate considering the questionnaire length (Akintoye, 1994) and at the same time satisfies the minimum required sample size initially planned by the researcher (73 participant). Following this a phone call is done to identify the most knowledgeable senior manager in the research topic and setting an appointment for self-administered questionnaires and data collection.

5.8 Pilot study

Gelsne (2011) suggested that pilot study is beneficial for testing proposed research aspects, such as: interest of participants in the research topic and clarification for research questions and

statements. Therefore, Pilot study was carried out to help verifying the clarity of questions, assess the length of the questionnaire time and language suitability. Since academics are considered to be primarily responsible for articulating theory and disseminating knowledge, it is imperative to capture their opinions when carrying out research in the field of operation management (Nie and Kellogg, 2009). Thus, a pilot survey was presented to one professor and one fellow PhD student in addition to three practitioners in order to simulate the reality and to gather feedback on survey coherence and validity.

Feedback was received form one professor, one fellow PhD student and two practitioners, feedback was mainly related to changing some statements, rephrasing and simplifying some English terms. For example, the introduction statement before the pilot was the "objective of this research is to empirically examine individual determinants of sustainable water consumption and evaluate stakeholder salience in sustainability project initiatives and assess the moderating role of ; stakeholder salience attributes of power, urgency and legitimacy on the success of such initiatives in the UAE." and was simplified to the "objective of this research is to assess the determinants of sustainable water consumption and evaluate the stakeholder influence on the success of sustainability project initiatives in the UAE through assessing their attributes of power, urgency and legitimacy."

Similarly, some statements of environmental concern scale were modified as follows: "I don't think that excessive water consumption in my entity can lead to ecological damage" was rephrased to "I don't think that excessive water consumption in my entity can lead to environmental damage", "I feel indignant at the lack of compliance of some of our staff with water conservation policy in my entity", was rephrased to "I feel upset at the lack of compliance of some of our staff with water conservation policy in my entity. And "Water scarcity can lead to conflict between hospitality sector and local communities" was changed to "Water scarcity can lead to business conflict with local communities".

Some indicators in stakeholder power attribute scale was also reported by participants in the pilot study as need clarification as "Provide easy access to low finance for investment in water specific infrastructure" and "Achieve competitive advantage by implementing strategies and practices on sustainable water consumption" which were changed to "Financial agents provide access to low cost funds for investment in water saving infrastructure" and "Competitors achieve

competitive advantage due to successful implementation of sustainable water consumption strategies and practices" respectively. Similarly, "Build credible organisation social image when lending their logos to good performers in water consumption" item on this scale was rephrased to "Build credible organisation social image when partner with good performers in water consumption" and finally one item on stakeholder legitimacy attribute was amended from "Sharing your entity water sustainable consumption strategy and practices is proper competitor demand" to "Competitors' demand to Share your entity water sustainable consumption strategy and practices is proper".

5.9 Data Analysis

5.9.1 Descriptive analysis and instrument testing

The following process (shown in figure 5.3) was followed in order to test research instrument and provide descriptive analysis of the data:

- Descriptive analysis is carried out on research data, individual mean scores for each scale is evaluated and top 25% indicators are identified. The result was used to feed factor analysis test in which factor loading and component grouping was carried out to maintain at least the top 25% important indicators in each scale.
- Factor analysis test is carried out in order to reduce number of scale items into a simpler framework that explains most of the variance that is observed in a much larger number of components (Norusis 2000). Suitability of factor analysis was checked using two statistical tests; first, Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO) which measure the proportion of variance of the variables that might be caused by underlying factors, high KMO values (close to 1.0) indicate that a factor analysis is useful for the data whereas a value is less than 0.50 indicates that the results of the factor analysis won't be very useful. Second, was Bartlett Test of Sphericity to test the presence of correlations thus, test the hypotheses that your correlation matrix is an identity matrix, the small significance level of values (less than 0.05) indicate the suitability of conducting factor analysis (Field, 2005 and Morgan et al, 2004).
- Reliability test: reliability refers to the consistency of the questionnaire items and thus, indicate the correlation of respondent's responses to each questionnaire item with other items within the same scale. Cronbach's alpha test is specifically selected as the research

reliability assessment method as it is the most common method for internal consistency and characterised by easiness of use (Rashid, 2017). Cronbach's alpha test results were assessed based on George and Mallery (2003) guidelines, who claim that internal consistency is acceptable for Cronbach's Alpha between .7 and .79, good for Cronbach's Alpha between .8 and .89 and high Cronbach's Alpha above .89.

- Checking and treatment of outliers: Many of the statistical analysis methods are sensitive to outliers; which are data values either above or below the majority of all other data and presence of outliers can distort the results, therefore, this step inspect the research data for the existence of outliers using SPSS Boxplots as it allows identification of outlier case along with code of participant contributing to this outlier case (Pallant, 2016). In case if outliers are detected, they will be checked for being genuine and confirmed that it is not due to error in data entry then data transformation method as mentioned by Field (2009) to deal with outliers will decided based on the shape of the normal distribution curves generated for the scales. Figure 5.2 shows potential transformation methods that can be applied for dealing with outliers.
- Checking Normality: Assessing the assumption of data normality is critical for making accurate conclusions about reality, normality tests are used to compare the shape of research sample distribution with the shape of normal curve and is a preassumption for parametric statistical tests (Pallant, 2016). Normality tests include histograms shapes, Skewness and Kurtosis values, the Kolmogorov-Simmov (K-S), Anscombe-Glynn Kurtosis test, D Agostino-Pearson omnibus test, Jarque-Bera test and Shapiro-Wilk tests. Skewness and kurtosis values is considered one of the most commonly used tests and can be done on SPSS, thus, will be the choice of the researcher in this thesis. the Skewness value indicates the symmetry of distribution whereas the kurtosis value indicates the "peakedness "of data, perfect normality will have zero skewness and kurtosis (Tabackhinck and Fidell , 2013) , however in reality data are often skewed and kurotic thus, a z-value for skewness and kurtosis that lies between 1.96 and -1.96 is sufficient to indicate data normality and appropriateness of parametric tests (Ghasemi and Zahediasl 2012).

Data Transformation	Can Correct For
Log transformation (log(X_i)) : Taking the logarithm of a set of numbers squashes the right tail of the distribution. As such it's a good way to reduce positive skew. However, you can't get a log value of zero or negative numbers, so if your data tend to zero or produce negative numbers you need to add a constant to all of the data before you do the transformation. For example, if you have zeros in the data then do log ($X_i + 1$), or if you have negative numbers add whatever value makes the smallest number in the data set positive.	Positive skew, unequal variances
Square root transformation $(\sqrt{X_j})$: Taking the square root of large values has more of an effect than taking the square root of small values. Consequently, taking the square root of each of your scores will bring any large scores closer to the centre – rather like the log transformation. As such, this can be a useful way to reduce positive skew; however, you still have the same problem with negative numbers (negative numbers don't have a square root).	Positive skew, unequal variances
Reciprocal transformation (1/X,) : Dividing 1 by each score also reduces the impact of large scores. The transformed variable will have a lower limit of 0 (very large numbers will become close to 0). One thing to bear in mind with this transformation is that it reverses the scores: scores that were originally large in the data set become small (close to zero) after the transformation, but scores that were originally small become big after the transformation. For example, imagine two scores of 1 and 10; after the transformation they become $1/1 = 1$, and $1/10 = 0.1$: the small score becomes bigger than the large score after the transformation. However, you can avoid this by reversing the scores before the transformation, by finding the highest score and changing each score to the highest score minus the score you're looking at. So, you do a transformation $1/(X_{Highest} - X_i)$.	Positive skew, unequal variances
Reverse score transformations : Any one of the above transformations can be used to correct negatively skewed data, but first you have to reverse the scores. To do this, subtract each score from the highest score obtained, or the highest score + 1 (depending on whether you want your lowest score to be 0 or 1). If you do this, don't forget to reverse the scores back afterwards, or to remember that the interpretation of the variable is reversed: big scores have become small and small scores have become big!	Negative skew

Figure 5.2 Data transformation method for outliers (Field, 2009)



Figure 5.3 Descriptive analysis and instrument testing process

5.9.2 Inferential statistics

5.9.2.1 Analysis process

Based on normality test results of latent clusters (discussed in chapter 7), parametric tests (shown in figure 5.4) are employed in the research to answer the research questions as follows:

 To answer the research question 1 "How do environmental concern and risk perception associates with sustainable water consumption strategies and practices in the UAE hospitality sector?": Both Pearson Correlation test and Multiple Regression Analysis carried out to identify significant association between environmental concern, risk perception and clusters sustainable water consumption strategies and practices as previously applied in similar research field by (Franzen and Meyer, 2009, Deif and Font, 2010).

Interpretation of correlation coefficient will follow George & Mallery (2003) who explained the association strength between variables based on the correlation coefficient value can be categorized into three categories; r=+/-.1 to .29 is small correlation, r=+/-.3 to .49= medium

correlation and r=+/-.5 to +/-1 is large correlation and can be used to describe the association strength in the performed tests. Furthermore, the coefficient of determination and percent of variance is calculated by squaring r value and multiplying with 100 in order to understand how much variance each two associated variables share (Pallant, 2016).

- To answer research question 2 "What is the role of the stakeholders' salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices in UAE hospitality sector?": First, Pearson Correlation test is carried out to identify significant association between stakeholder salience attributes and sustainable water consumption strategies and practices since more robust results are revealed when only significant variables are included in the analysis (Pallant, 2016). Second, influence of significantly associated stakeholder salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices is assessed using stepwise multiple regression analysis as previously applied by Roberto Fernández Gago, Mariano Nieto Antolín, (2004) in assessing influence of stakeholder salience. Third, based on results of second step, potential moderators of salience attributes; have an intensifying effect with an independent variable on a dependant variable were identified and moderation effect of salience attributes is examined using stepwise Multiple Regression Analysis as it supersedes Structural Equation Modelling method in testing moderation effect in case of having small sample size (less than 200) due to power considerations (Holmbeck, 1997).
- To answer research question 3 "Within the hospitality sector, is there is difference in the perceived stakeholder's salience attributes between different emirates in the UAE?" : Independent t-sample test will be employed as it allows the identification of statistically significant difference in the mean scores for the two groups (Pallant, 2016). Results are interpreted based on group statistics and significance of t values, moreover, for those variables in which a significant difference is demonstrated, Eta squared is calculated to determine the proportion of variance in the dependent variable values that is explained by the independent group variable (UAE Emirates) as per Equation: Eta squared =t2/t2 + (N1 + N2 - 2) (Pallant, 2016) and results are interpreted according to Cohen (1988)

guidelines for interpreting Eta squared value, where a value of .01 indicates a small effect, value of .06 indicates a moderate effect and a value of .14 indicates a large effect.



Figure 5.4 Analysis process for inferential statistics

5.9.2.2 Checking Assumptions

Assumption for Pearson Correlation test, Independent t-sample test and multiple regression tests will be evaluated as per Pallant (2016) as follows:

• Pearson Correlation test: To ensure the suitability of Pearson Correlation test, the following assumption will be taken into consideration and evaluated: *Measurement level:* measurement scale should be continuous; *Related pairs:* every respondent provided answers on all

variables. *Independence of observations:* respondents are not influenced by each other, *Normality:* normality tests were performed on all variables, *Linearity and Homoscedasticity;* scores variability for each variable was similar to scores variability to all other variables: were checked using scatterplots.

- Multiple Regression Analysis: According to Tabachnick (2013), there are many assumptions that need to be checked before doing multiple regression analysis; such as multicollinearity: referring to the relationship among predictors; high correlations between independent variables (r=.9) indicates multicollinearity which distorts the results of multiple regression analysis. To check multicollinearity, collinearity table for each model will be generated and results is reported. Outliers, multiple regression analysis is very sensitive to outliers, Tabachnick (2013) defined outliers as those with standardized residual values above 3..3 or less than -3.3 to +3.3, with only 1% of data can lie outside this range without violating the assumption (Pallant, 2016) thus, in this analysis, standardized residual values for outliers outside the mentioned range if existent from casewise diagnostic tables will be presented for each generated model. Normality (residuals normally distributed among the predicted dependent variables scores), linearity (residuals had straight lines relationship with predicted dependent variables), and homoscedasticity and interdependence (the variance of the residuals about predicted dependent variable scores should be the same for all predicted scores), Those assumptions were checked using Normal P-P plot of regression standardized residual in which points should lie in a reasonably straight diagonal line from bottom left to top right thus, suggests no deviation from normality and no violation for linearity assumptions. Residual scatterplots will be presented to check the validity of homoscedasticity and interdependence assumptions for each generated model, where a roughly rectangular distributed residuals with most scores concentrated around the center, along the 0 point indicates no violation of the assumption (Pallant, 2016).
- Independent sample t-Test: assumption of Equal variance is checked using Levene's test for equality of variances which tests whether the variation of scores for the two groups is the same and thus, determines he validity of outcome of t values provided by SPSS. If significance level of lenven's test is greater than .05 then use first line of t-test table, for sig of .5 and less use second line to assume equal variance (Pallant, 2016).

5.10 Research validity and reliability

In order to minimise the chance of getting incorrect answer, it is important to focus on research design validity and reliability (Saunders et al., 2003). Research is considered reliable if its results are repeatable in another similar research settings. Whereas, research validity is verified by the extent to which the findings accurately represent the reality and therefore, gives a true reflection of issue under study (Saunders et al., 2003, Hussey and Hussey, 1997).

In order to establish the reliability and validity of this research, the researcher ensured that the maximum time is spent in exploring the research issue and designing the research instrument in view the theoretical perspective and in simulation of previous studies to ensure the relevancy of the questions. Furthermore, pilot test is carried out and feedback was taken into consideration and corrective action was taken to confirm the understanding of research instrument by potential participants. , self-administered questionnaire method was used to ensure that respondents give enough time to answer the questionnaire items and large sample size was guaranteed to ensure data validity. Additionally, analysis process involved instrument testing and checking internal consistency of the scale as well as checking assumptions for all employed statistical tools to ensure data reliability.

5.11 Ethical consideration

Research ethics are defined by Flick (2014) as the actions that should be applied to protect the research participants'. To ensure the ethics of the research; the researcher explained the research aim to participants over the phone without exaggerating the benefits of the research to participants and confirmed voluntary participation of respondents in the research. Moreover, the researcher aimed to avoid any harm caused to research participants by keeping the identity of participant's anonymous that was clearly stated in the introduction of the research instrument as shown in Appendix 1.

5.12 Summary

The key features of this chapter includes presenting and justifying the choice of each of the research philosophy, approach, methodology and method. Further, the chapter highlights the development of research instrument with detailed description of the scales for measuring study variables. Additionally, study sampling method, size and pilot study were discussed. Following this a detailed description of analysis process is provided and finally, research validity, credibility and ethical considerations were discussed.

6 Chapter Six: Descriptive Data Analysis

6.1 Introduction

This chapter discusses the collected data descriptive statistics for both demographic variables and study variables. Additionally, it provides ranking of the collected data according to their means scores in order to decide the most appropriate indicators in the study. Furthermore, the chapter includes suggestions for grouping the data based on certain demographic variables age, years of experience, education, type of entity and Emirate group for ease of data interpretation and further analysis.

6.2 Descriptive analysis for demographic variables

This section will present collected data based on the included demographic variable; gender, age, years of experience, type of entity, position, Emirate of operation and number of employees in the entity.

6.2.1 Participants related demographic variables

The collected data indicates that out of 106 participants, 78.3% were males and 21.7% were females, and age distribution indicates that the majority of participants (62.3%) lies in the age group 25 to 35, 29.2% was between 36 and 46, 5.7% were between 47 and 57 and only 2.8% were less than 25 years old. Further, the level of education of study sample presents three groups of education level, with the bachelor qualification representing 73.6% of participants, 17% possess high school qualification and only 9.4% were post graduates. Participant's position within their organisations reflects 51.9% were facility managers, 28.3% were assistant general managers, 9.4% holds the position of environmental or sustainability managers, 3.8 were chief engineers and finally 6.6% reported other positions. The majority of the participants (46.2%) stayed from 1 to 5 years in this position, 28.3% showed experience level in the current position between 6 to 10 years, 11.3% were more stable in their current position for 11 to 16 years, 8 % reported less than one year in their current position and only 6.6% reported more than 16 years in it. Figure 6.1 provides visual presentation of demographic distribution for study participants.



Figure 6.1 Demographic distribution of study participants

6.2.2 Entity related demographic variables

In relation to the demographic variables of the entity under study, three demographic variables were investigated, type of entity, number of employees and Emirate of operation. Results indicate that 49.1% of entities were located in Dubai, 23.6% in Ajman, 8.5% in Fujairah, 7.5% in Ras Al Khaima, 5.7% in Umm AL Quwain, 2.8% were reported in each of Abu Dhabi and Sharjah Emirates of the UAE. The number of employees reflected in the study was found to be 45.3% was less than 50 employees, 25% has more than 200 employees, 17% has between 50 to 100 employees, 8.5% and 7.5% have between 151 and 200 and 101 and 150 employees respectively. And finally, the type of entities was 61.3% participating restaurants, 30.2% hotels,



4.7% were hotel apartments and 4% were health clubs. Figure 6.2 provides visual presentation of demographic distribution for study participating entities.

Figure 6.2 Demographic distribution of study participating entities

6.2.3 Grouping of demographic variables

In order to make analysis process easily understandable, details of demographic variables and their grouping into major groups based on their demographic properties are done as shown in table 6.1. and 6.2 respectively. The groups was described as follows: age of participants was grouped into two main groups; 35 and below and 36 and above, the level of education of participants is grouped into two main groups; bachelor and under or postgraduate. Similarly, the position of participants is classified into three groups, first is the technical specialist which includes chief engineers, environmental or sustainability managers and marketing managers, second were assistant managers and third was the facility manager group. Whereas their years of

experience was grouped into three main categories; 5 and below, between 6 -10 and 11 and above.

Emirates of operation was grouped into Southern Emirates which describes entities in Abu Dhabi and Dubai whereas Northern Emirate represent entities in any of Sharjah, Umm AL Quwain, Fujairah, Ras al Khaima and Ajman. Type of entity was classified into accommodational entities that represent hotels and hotel apartments and non-accommodational entities which includes restaurants and health clubs and finally, number of employees was classified into three main groups, entities with 50 or less employees, with 51-200 employee and entities employing more than 200 employees.

Demographic descriptive analysis							
Gender	Male	Female					
	78.30%	21.70%					
AGE	Less than	25 to 35	36 to 46	47 to 57	above	1	
	25				57		
	2.8	62.3	29.2	5.7	0		
Education	High school	Bachelor	Master				
	17	73.6	9.4	-			
Position	Facility manager	Assistant general manager	Environmental manager	Engineer	Other		
	51.9	28.3	9.4	3.8	6.6		

Experience	less than	1 to 5	6 to 10	11 to 16	above		
	1				16		
	7.5	46.2	28.3	11.3	6.6		
Emirate	Abu	Dubai	Sharjah	Fujairah	UMM	Ajman	Ras Al
	Dhabi				Quwain		Khaimah
	2.8	49.1	2.8	8.5	5.7	23.6	7.5
Type of	Hotel	Restaurant	Hotel	Health			
Entity			Apartment	club			
	30.2	61.3	3.8	4.7			
Number of	Less than	50-100	101-150	151-200	above		
employees	50				200		
	45.3	17	7.5	8.5	21.7		

Table 6.1 Summary table of demographic analysis

	Grouping	of demographic descrip
	Male	Female
Gender	78.3%	21.7%
	35 and below	36-57
Age	65.1%	34.9%
	Bachelor	Under/Post graduate
Education	73.6%	26.4%
		Northern Emirates
	Southern Emirates	(Sharjah, Ajman, Um
	(Dubai and Abu	Al Quwain, Fujairah,
Emirate	Dhabi)	Ras al Khaimah)

	51.9%	48.1%	
	Accommodational	Non	
	(Hotels, Hotel	Accommodational	
Type of	apartments)	(restaurants, Spa)	
entity	34%	66%	
			Technical Specialists
	Facility M	Assistant GM	(Environmental/Engineer/Marketing)
Position	51.9%	28.3%	19.8%
	5 and below	6-10	11 and above
Experience	53.7%	28.3%	17.9%
Number of	less than 50	51-200	above 200
employees	45.3%	33%	21.7%

Table 6.2 Grouping of demographic analysis

6.3 Descriptive analysis of study variables

The following section will descriptively studies research variables and provide ranking of study indicators based on mean scores and present description of most important 25% indicators.

6.3.1 Environmental concern variable

A list of 32 environmental concerns on water resources derived from the literature (as explained earlier in table 5.3) were provided to the respondents of the survey. The subjects were all asked to rate their level of concern in terms of the likelihood of the occurrence using a Likert scale 1 for very likely, 2 for likely, 3 for neutral, 4 for unlikely and 5 for very unlikely, thus, a lower mean indicates a more likely concern item in this scale. Figure 6.3 and the ranking table 6.3 shown below indicate that the descriptive analysis of environmental concern variable reveals that EC7, EC8, EC9, EC3, EC2, EC19, EC10 and EC32 are the top ranked 25% indicators. The factor concerned with the EC7 'I believe that saving water helps creating sustainable future for upcoming generations ' is found to be very likely environmental concern to 72.6 percent of the respondents, 22.6 percent of them think that it is a likely concern. The neutrality is observed for 4.7 percent of them. The mean score is 1.3208 (rank = 1) with .56141 SD, meaning it has been

deduced that this environmental concern has a pivotal impact that might appear (median = 1) on the sustainable water consumption strategies and practices.

It is likely for the EC8 'I believe that future generations has as much right as current generations in water resources' that an impact will result on sustainable water consumption strategies and practices as shown by 21.7 percent of the respondents and then the impact is more likely to become higher (very likely) according to 68.9 percent of them. According to resulting mean score, which is 1.3962 (rank = 2) with .67159 SD, there is an impact from this environmental concern, which might emerge (median = 1) on the sustainable water consumption strategies and practices.

According to more than half of the respondents (64.2 percent) which is a high percentage, the EC9 'It bothers me when I see water being wasted from a water leak in my entity' is very likely to be a concern whilst, according to 30.2 percent of them, the concern is likely to arise. The average score of the likelihood of concern of this risk factor is 1.4340 (rank = 3) with .66216 SD, which means that the underlying factor has quite important effect that might occur (median = 1) on sustainable water consumption strategies and practices.

The EC3 'I acknowledge water as a precious resource in the UAE that I should conserve' and EC2 'I believe water saving in the UAE is critically important' were noted to probably have an impact on the sustainable water consumption strategies and practices where above 60 percent of respondents has rated those concerns as a very likely ones and above 30 percent of the respondents considered them as likely concerns. The resulting average scores of their likelihood concern is 1.4811 and 1.5283 with .72020 and .81891 SD respectively (rank = 4 and 5), and hence this environmental concern has likely emergence (median = 1 for both of them) on the sustainable water consumption strategies and practices.

The statement concerned with EC19 I feel responsibility to protect water resources for future generations, EC 10 "I feel guilty about any excess water consumption in my entity", EC 32 "I acknowledge my future role as caretaker of water resources in the UAE, were all rated highly by the respondents where at least 46 percent of the respondents agreed to be very likely concerned on this factor and at least 35 percent are likely to be concerned their respective mean scores were 1.5472, 1.5849 and 1.6038 with SD , .67798, .74153 and .72610. Thus, their rank position were the sixth, seventh, eighth with median score for EC19, EC 10 and EC 32 of 1. Thus, it can

be estimated that those factors will emerge as influential ones on the adoption of sustainable water consumption strategies and practices.

S.F	Environmental concern items		Percent of scores (%)						Í	
Code			Likolu	Neutr	Unlik	Very	Moor	Medi	St.	Darl.
				al	ely	Unlikely	Mean	an	on	Kank
		1	2	3	4	5			on	
EC1	I am concerned on UAE current water consumption trends	54.7	33	3.8	5.7	2.8	1.689	1	0.9891	11
EC2	I believe water saving in the UAE is critically important	61.3	30.2	3.8	3.8	0.9	1.528	1	0.8189	5
EC3	I acknowledge water as a precious resource in the UAE that I should conserve	61.3	32.1	4.7	0.9	0.9	1.481	1	0.7202	4
EC4	I believe the so called "water crisis" is greatly exaggerated by scientists	11.3	21.7	17	27.4	22.6	3.283	3.5	1.3363	31
EC5	I believe the balance of nature will cope with any water scarcity	6.6	17.9	26.4	25.5	23.6	3.415	3	1.2179	32
EC6	I think that with the current water consumption trends, water supplies will not be adequate to meet future needs of UAE	19.8	40.6	21.7	15.1	2.8	2.406	2	1.0581	29
EC7	I believe that saving water helps creating sustainable future for upcoming generations	72.6	22.6	4.7			1.321	1	0.5614	1
EC8	I believe that future generations has as much right as current generations in water resources	69.8	21.7	7.5	0.9		1.396	1	0.6716	2
EC9	It bothers me when I see water being wasted from a water leak in my entity	64.2	30.2	3.8	1.9		1.434	1	0.6622	3
EC10	I feel guilty about any excess water consumption in my entity	53.8	35.8	9.4	0.9		1.585	1	0.7415	7
EC11	I think that excessive water consumption in my entity can lead to environmental damage	36.8	37.7	19.8	4.7	0.9	1.953	2	0.9194	22
EC12	I believe that potential environmental damage due to excessive water consumption should be avoided in hospitality sector	47.2	39.6	9.4	3.8		1.698	2	0.7949	15
EC13	I think it is widely expected form the hospitality sector to reduce their water footprint	35.8	36.8	19.8	7.5		1.991	2	0.9309	24
EC14	I think that it is assumed that water saving in hospitality sector is joint responsibility of industry, government and non- governmental organizations.	48.1	39.6	9.4	0.9	1.9	1.689	2	0.8323	12
EC15	I don't think that senior management in my entity are highly concerned about saving water	21.7	20.8	21.7	19.8	###	2.877	3	1.385	30
EC16	I feel upset with the lack of compliance of some of our staff with water conservation policy in my entity.	37.7	13.2	13.2	0.9		2.076	2	1.0483	26
EC17	I believe that water saving in hospitality sector is a matter of concern to the community	35.8	27.4	14.2	16	6.6	2.302	2	1.2886	27
EC18	I feel obliged to meet communities expectations towards saving water in my entity	39.6	43.4	10.4	6.6		1.84	2	0.8634	20
EC19	I feel responsibility to protect water resources for future generations	54.7	36.8	7.5	0.9		1.547	1	0.678	6
EC20	I believe that hospitality sector in the UAE should reduce their water footprint	37.7	38.7	14.2	9.4		1.953	2	0.95	23
EC21	I believe the circumstances in the UAE are appropriate to save water	39.6	40.6	16	3.8		1.84	2	0.8297	21
EC22	I think Hospitality sector have the means to make use of water saving technologies	45.3	42.5	10.4	1.9		1.689	2	0.735	13
EC23	I believe that making use of water saving technologies facilitate curbing water consumption in hospitality sector	46.2	42.5	11.3			1.651	2	0.6767	10
EC24	I think hospitality sector have the know how to save water	43.4	40.6	12.3	3.8		1.764	2	0.8113	18
EC25	I believe having the know how to save water makes it easier to reduce water footprint in hospitality sector	47.2	46.2	4.7	0.9	0.9	1.623	2	0.7098	9
EC26	I think that hospitality sector owns financial resources to save water	26.4	30.2	32.1	8.5	2.8	2.311	2	1.0453	28
EC27	I am keen to save water for future generations	41.5	43.4	13.2	1.9		1.755	2	0.7536	17
EC28	I think the government in the UAE is highly encouraging water saving n in the hospitality sector	39.6	28.3	18.9	12.3	0.9	2.066	2	1.0803	25
EC29	I believe that there is high motivation from top management to save water	45.3	39.6	11.3	2.8	0.9	1.745	2	0.8402	16
EC30	I plan to reduce water footprint in my entity in the next 5 years	44.3	39.6	11.3	2.8	1.9	1.783	2	0.8945	19
EC31	I am interested in alleviating water scarcity problem in the UAE	46.2	40.6	11.3	1.9)	1.689	2	0.7479	14
EC32	I acknowledge my future role as caretaker of water resources in the UAE	51.9	37.7	8.5	1.9		1.604	1	0.7261	8

Table 6.3 Descriptive statistics of environmental concern



Figure 6.3 Descriptive statistics of environmental concern

6.3.2 Risk perception variable

A list of emerging risks from water scarcity derived from the literature was provided to the respondents of the survey. The subjects were all asked to rate their level of perceived risk in terms of the likelihood of the occurrence using a Likert scale 1 for very likely, 2 for likely, 3 for neutral, 4 for unlikely and 5 for very unlikely, thus, a lower mean indicates a more likely
perception of the risk item in this scale. The factor of risk perception is based on 13 questionnaire items as shown in table 6.4 and figure 6.4.

Although all of the scale items has a median of 2, the mean score and standard deviation of the items show variability thus, indicating that some items are perceived as a very likely risk to emerge where as others are less likely to happen. The highest 25% risky items were RP3, RP13, RP4 and RP11.

The first important risk as shown in the Table 6.4 and figure 6.4, is RP3 'water scarcity can change pricing structure of many commodities', where the majority of respondents 82.08 percent found that this risk is at least likely to emerge due to water scarcity and none of them found it as very unlikely to happen. Whereas; 16 percent of respondents showed neutral perception to this risk compared to 1.9 percent who consider this risk as unlikely to happen. The statistics using mean risk score, which is 1.8585 (rank = 1) with low standard deviation of .74882, indicates strong evidence of perceiving this risk as likely to happen due to water scarcity.

In the same line, a large number of the respondents, represented by 44.3% and 29.3%, find RP13 'water scarcity is a financial threat to your bottom line' as very likely and likely emerging risk respectively. The mean perceived risk score 1.8868 (rank 2) with SD as low as .95937 indicates that this risk is well perceived by respondents as high risk item of water scarcity.

RP4 'water scarcity can lead to shortage of essential supplies as food and beverage in hospitality sector' is still one of the top scored perceived risks as per its mean score of 1.9245 (rank 3) and SD of 0.92271, where 37.7 percent of participants rated this risk as very likely to happen with the likely risk as well arise to 40.6 percent of them, meaning that the underlying risk item has a high potential of occurrence with water scarcity. Similarly, respondents agree that RP11 "WS can freeze future expansion plans of your entity" is a strong risk item where 34.9 percent of respondents perceive it as very likely to happen and 43.4 percent as likely to happen whereas; only 5.7 and .9 percent of participants considered it as unlikely and very unlikely risk respectively. The mean risk score of 1.9434 (rank= 4) and SD .90322 of is a strong evidence that this risk is perceived as well associated with water scarcity in the respondents view.

S.F]	Percent	of sco	res (%)				
Code	Risk perception of water scarcity (WS) items	Very Likely	Likely	Neutr al	Unlik ely	Very Unlike ly	Mean	Medi an	St. Deviati	Rank
		1	2	3	4	5			UI	
RP1	There might be wars in the future because of WS	25.5	32.1	19.8	17.9	4.7	2.4434	2	1.18788	13
RP2	WS can lead to conflict between hospitality sector and local communities	23.6	42.5	15.1	17	1.9	2.3113	2	1.07228	10
RP3	WS can change in pricing structure of many commodities	34	48.1	16	1.9		1.8585	2	0.74882	1
RP4	WS can lead to shortage of essential supplies as food an beverage in hospitality sector	37.7	40.6	13.2	8.5		1.9245	2	0.92271	3
RP5	WS can affect market growth level of hospitality sector in emerging economies	26.4	45.3	20.8	6.6	0.9	2.1038	2	0.90427	7
RP6	WS is a serious financial threat to hospitality sector	34	44.3	13.2	8.5		1.9623	2	0.90422	5
RP7	WS may affect operation lead time in hospitality sector	32.1	36.8	11.3	17	2.8	2.217	2	1.1547	9
RP8	In next 5 years WS will negatively affect employee spirit and activity in hospitality sector	22.6	36.8	20.8	15.1	4.7	2.4245	2	1.13765	12
RP9	WS may negatively influence brand image and reputation of your entity	29.2	35.8	20.8	13.2	0.9	2.2075	2	1.03939	8
RP10	WS can negatively influence consumer purchase decisions	24.5	34.9	19.8	17	3.8	2.4057	2	1.14458	11
RP11	WS can freeze Future expansion plans of your entity	34.9	43.4	15.1	5.7	0.9	1.9434	2	0.90322	4
RP12	WS is damaging to your business operation	36.8	33	20.8	8.5	0.9	2.0377	2	1.00403	6
RP13	WS is a threat to your bottom line	44.3	29.2	20.8	4.7	0.9	1.8868	2	0.95937	2

Table 6.4 Descriptive statistics of risk perception



Figure 6.4 Descriptive statistics of risk perception

6.3.3 Stakeholder power attribute

For the purpose of highlighting the important indicators of power attribute for each stakeholder, this section will explain power attribute in relation to each stakeholder group. The subjects were all asked to rate the level of influence of each power item on their sustainable consumption strategies and practices in terms of the likelihood of influence using a Likert scale 1 for very likely, 2 for likely, 3 for neutral, 4 for unlikely and 5 for very unlikely, thus, a lower mean indicates higher influence of stakeholder power in this scale.

6.3.3.1 Government Power factor

A list of 13 government power items derived from the literature was presented to the respondents of the survey as shown in table 6.5 and figure 6.5. Ranking results indicate that GP6, GP7, G8 and GP10 were the top ranked 25% indicators.

GP 6 "Provide green infrastructure that helps your establishment to save water" is the government power item of highest influence where 91.5 percent of respondents nominate it as very likely and likely to affect their sustainable water consumption strategies and practices while none of the 106 respondents consider it as being unlikely or very unlikely influential factor. The mean influence score of 1.5849 (Rank=1) along with low SD of .64539 is a powerful indication of the importance of this government power item (median=1.5). In the same line GP 7 "Provide effective water consumption feedback/alerts to your entity" was indicated by the respondents as highly influential power item with very likely and likely ratings of 44.3 and 48.1 percents respectively, whereas, unlikely and very unlikely responses were represented by 6.6 and .9 percent respectively. The mean influence score was 1.6415 (rank=2) and SD of .65011 is a proof of the strength of this power item (median = 2) in influencing strategies and practices for sustainable water consumption. Similarly, GP8 "Provide environmental education to hospitality sector" was also rated highly by the participants where 50.9 percent agree on the very likely influence of this item along with 34.9 percent consider it to have likely influence, 12.3 percent were neutrally responding, 1.9 percent agree on the unlikely influence of this item and none of the respondents consider it as very unlikely to influence their strategies and practices for sustainable water consumption. The mean sore of this item was recorded to be 1.6509 rank=3 with SD as low as .76895, therefore it can be considered to be an important government power item (median=1) that can influence sustainable water consumption practices and strategies. Based on 44.3 percent of the respondents, the statement concerned with GP 10 'Communicate the necessity of sustainable water consumption and the importance of water consumption autoregulation within the hospitality sector' is very likely to have an influence on sustainable water consumption strategies and practices, whilst the impact is likely to occur according to 43.4 percent of them. On the other hand, approximately one-tenth of the respondents (10.4 percent) show neutrally towards having any influence and less than 1 percent (.9 percent) responded by either unlikely or very unlikely to have an influence. The average influence is 1.7075 (rank = 4) with .77682 SD, leading to an influential government power (median = 2) that could have an impact on sustainable water consumption strategies and practices.

S.F		Perce	nt of sc	ores (%)					
Code	Government power items	Very Likel	Likely	Neut ral	Unlik elv	Very Unlikely	Mean	Median	St. Deviation	Rank
		<u> </u>	2	3	4	5				
GP1	Set water tariffs at rate that discourages excessive water consumption in hospitality sector	32.1	34.9	12.3	17.9	2.8	2.2453	2	1.16954	11
GP2	Set environmentally based tax reform with subsidies and reduced taxes on positive water consumption attitude in hospitality sector	32.1	28.3	18.9	17	3.8	2.3208	2	1.19958	13
GP3	Set progressive penalties or fines for activities associated with water misuse in hospitality sector.	33	33	12.3	17.9	3.8	2.2642	2	1.20556	12
GP4	Set permits and caps on specific water use in hospitality sector	32.1	41.5	17.9	6.6	1.9	2.0472	2	0.96985	10
GP5	Inspect and evaluate water consumption in hospitality sector	34.9	49.1	12.3	3.8		1.8491	2	0.77818	6
GP6	Provide green infrastructure that helps your establishment to save water	50	41.5	8.5			1.5849	1.5	0.64539	1
GP7	Provide effective water consumption feedback/alerts to your entity	44.3	48.1	6.6	0.9		1.6415	2	0.65011	2
GP8	Provide environmental education to hospitality sector	50.9	34.9	12.3	1.9		1.6509	1	0.76895	3
GP9	Disseminate information related to the impact of the water scarcity and its effect on the future of humanity to hospitality sector.	37.7	37.7	20.8	2.8	0.9	1.9151	2	0.88499	8
GP10	Communicate the necessity of sustainable water consumption and the importance of water consumption auto-regulation within hospitality sector	44.3	43.4	10.4	0.9	0.9	1.7075	2	0.76802	4
GP11	Possesses efficient procedures for managing water resources	44.3	40.6	11.3	2.8	0.9	1.7547	2	0.83736	5
GP12	Present transparent control of water resources by public administrators.	42.5	35.8	13.2	7.5	0.9	1.8868	2	0.96925	7
GP13	Represent a role model in adopting strategies and practices for sustainable water consumption	38.7	37.7	17.9	4.7	0.9	1.9151	2	0.9167	9

Table 6.5 Descriptive statistics government power



Figure 6.5 Descriptive statistics government power

6.3.3.2 Business power factor

A list of 9 business power items derived from the literature was presented to the respondents of the survey. as shown in table 6.6 and figure 6.6. Ranking results indicate that BP2 and BP4 were the top ranked 25% indicators. where BP2 "Competitors achieve competitive advantage due to successful implementation of sustainable water consumption strategies and practices" comes as very likely and likely to influence sustianble water consumtion strategies (SS) and sustianble water consumption practices (SP) as perceived by 34.9 and 37.7 percent of respondents respectively, showing a mean risk score of 2.018 (rank=1) and SD .975. Similarly, and BP4 "Suppliers provide innovative water efficient products" was perceived by 33% and 41.5% of participants as very likely and likely to influence SS and SP with a mean score 2.075 (rank=2) and SD 1.066. thus, it can be said that power influence of those items are considered the strongest.

S.F			Perce	nt of so	cores (%)				
Code		Very	T · 1 1	Neutr	Unlik	Very			St.	D 1
	Business power items	Like	Likely	al	ely	Unlikely	Mean	Median	deviatio	Rank
		1	2	3	4	5			n	
DD1	Suppliers/industrial associations impose	10.0	22.1	27.4	10.0	0.4	0 (10		1 10077	0
BPI	sanctions (e.g. boycott) on poor environmental water performers	18.9	32.1	27.4	12.3	9.4	2.613	2	1.19977	9
BP2	Competitors achieve competitive advantage due to successful implementation of sustainable water consumption strategies and practices	34.9	37.7	19.8	5.7	1.9	2.019	2	0.97572	1
BP3	Financial agents provide access to low cost funds for investment in water saving infrastructure	30.2	38.7	12.3	12.3	6.6	2.264	2	1.20556	5
BP4	Suppliers provide innovative water efficient products	33	41.5	15.1	5.7	4.7	2.076	2	1.06635	2
BP5	Suppliers offer water efficient devices at reduced prices	34	34.9	11.3	11.3	8.5	2.255	2	1.27288	4
BP6	Suppliers/industrial associations promote installation of water efficient devices through various marketing activities	22.6	32.1	19.8	15.1	10.4	2.585	2	1.2789	8
BP7	Industrial associations offer training programs on sustainable water consumption strategies and practices	29.2	37.7	17.9	10.4	4.7	2.236	2	1.1259	3
BP8	Industrial associations share trustful information on successful water management practices	26.4	30.2	23.6	11.3	8.5	2.453	2	1.23545	7
BP9	Competitors/suppliers/ agents lead by example in adopting strategies and practices for water sustainable consumption	30.2	30.2	17	10.4	12.3	2.443	2	1.34575	6

Table 6.6 Descriptive statistics business power



Figure 6.6 Descriptive statistics business power

6.3.3.3 NGO power factor

A list of 8 NGO power items derived from the literature was presented to the respondents of the survey as shown in table 6.7 and figure 6.7. Ranking results indicate that NP7 and NP3 were the top ranked 25% indicators. where NP7 "Promote good environmental water performers" comes as very likely and likely to influence SS and SP as perceived by 37.7% and 46.2% of respondents (rank=1) with mean score 1.85 and SD .877 Similarly, and NP3"Efficiently guide you on the performance of water saving products" was perceived by 31.1% and 45.3% of participants as very likely and likely to influence SS and SP with a mean score 2.028 (rank=2) and SD .960. Thus, it can be said that power influence of those items are considered the strongest.

S.F			Percent	of scor	es (%)					
Code	NGO power items	Very Likely	Likely	Neutra 1	Unlike ly	Very Unlike	Mean	Media n	St. deviation	Rank
		1	2	3	4	5				
NP1	Mobilize customer demand for more conservative water performance from the hospitality sector	33	40.6	16	8.5	1.9	2.0566	2	1.00314	3
NP2	Publicize lapses/file lawsuits on poor environmental water performance within hospitality sector	23.6	48.1	17.9	8.5	1.9	2.1698	2	0.95091	8
NP3	Efficiently guide you on the performance of water saving products	31.1	45.3	16	4.7	2.8	2.0283	2	0.96073	2
NP4	Develop Comprehensive labels for water efficient products	29.2	45.3	14.2	9.4	1.9	2.0943	2	0.9907	5
NP5	Release trustworthy information on water efficient product testing	27.4	50	11.3	8.5	2.8	2.0943	2	0.9907	6
NP6	Open dialogue between relevant stakeholders on best practices on sustainable water consumption	29.2	42.5	20.8	6.6	0.9	2.0755	2	0.92271	4
NP7	Promote good environmental water performers	37.7	46.2	9.4	5.7	0.9	1.8585	2	0.87764	1
NP8	Build credible organization social image when partner with good performers in water consumption	33	34	22.6	8.5	1.9	2.1226	2	1.03005	7

Table 6.7 Descriptive statistics NGO power





6.3.3.4 Media power factor

A list of 6 media power items derived from the literature was presented to the respondents of the survey as shown in table 6.8 and figure 6.8. Ranking results indicate that MP1 and MP4 were the top ranked 25% indicators. where MP1 "Provide awareness campaigns on water scarcity" comes as very likely and likely to influence SS and SP as perceived by 47.2 % and 46.2 % of respondents respectively (rank=1) with mean score 1.62 and SD .696 Similarly, and MP4"Release trustworthy information on good environmental water performer" was perceived by 37.7 and 52.8% of participants as very likely and likely to influence SS and SP as derived influence SS and SP with a mean score 1.83 (rank=2) and SD .863. Thus, it can be said that power influence of those items are considered the strongest.

S.F			Percen	t of sco	res (%)					
Code	Media power items	Very Likely	Likely	Neutral	Unlikel y	Very Unlikely	Mean	Media n	St. Deviation	Rank
		1	2	3	4	5				
MP1	Provide awareness campaigns on water scarcity	47.2	46.2	3.8	2.8		1.6226	2	0.69629	1
MP2	Disseminate credible information about best practices on sustainable water consumption	34.9	47.2	13.2	3.8	0.9	1.8868	2	0.84313	4
MP3	Release trustworthy information on good environmental water performers	38.7	45.3	10.4	4.7	0.9	1.8396	2	0.8634	3
MP4	Promote discussion forums on water sustainability	37.7	52.8	4.7	3.8	0.9	1.7736	2	0.78416	2
MP5	Convey to community clearly the environmental cost of excessive water consumption in hospitality sector	31.1	55.7	7.5	4.7	0.9	1.8868	2	0.80853	5
MP6	Publicly condemned unsustainable water practices in hospitality sector	29.2	49.1	17.9	2.8	0.9	1.9717	2	0.82182	6

Table 6.8 Descriptive analysis media power



Figure 6.8 Descriptive analysis media power

6.3.3.5 Customer power factor

A list of 5 customer power items derived from the literature was presented to the respondents of the survey as shown in table 6.9 and figure 6.9. Ranking results indicate that CP1 is the top ranked indicator. Where CP1 "increased loyalty for good environmental performers" comes as

very likely and likely to influence SS and SP as perceived by 47.2 and 40.6 % percent of respondents respectively (rank=1) with mean score 1.66 and SD .739.

S.F			Percer	nt of sco	ores (%))				
Code	Customer power items	Very Likel	Likely	Neutra 1	Unlike ly	Very Unlikel	Mean	Media n	St. Deviation	Rank
		1	2	3	4	5				
CP1	Increased loyalty for good environmental water performers	47.2	40.6	10.4	1.9		1.6698	2	0.73965	1
CP2	Impose sanctions (boycott) on poor environmental water performers	38.7	26.4	24.5	9.4	0.9	2.0755	2	1.04834	5
СРЗ	Consider environmental water performance in their buying and consumption pattern	36.8	41.5	16	5.7		1.9057	2	0.86771	2
CP4	Use their expert power to disseminate transparent information on entities' water performance through the internet	39.6	34	20.8	3.8	1.9	1.9434	2	0.96442	3
CP5	Promote good water performers through word of mouth	31.1	40.6	26.4	1.9		1.9906	2	0.81059	4

Table 6.9 Descriptive analysis customer power



Figure 6.9 Descriptive analysis customer power

6.3.4 Stakeholder urgency attribute

For the purpose of highlighting the important indicators of urgency attribute for each stakeholder, this section will explain urgency attribute in relation to each stakeholder group. The subjects were all asked to rate the likelihood of their response to stakeholders using a Likert scale 1 for very likely, 2 for likely, 3 for neutral, 4 for unlikely and 5 for very unlikely, thus, a lower mean indicates more likely response to stakeholder group in this scale.

6.3.4.1 Government urgency Factor

A list of 7 government urgency items derived from the literature was presented to the respondents of the survey as shown in table 6.10 and figure 6.10. Ranking results indicate that GU1 and GU3 were the top ranked 25% indicators.

GU1 "your entity gives attention to government request on SWC" is the government urgencyr item of highest response where 95.3 percent of respondents nominate it as very likely and likely response to government while none of the 106 respondents consider it as being unlikely or very unlikely to happen. The mean influence score of 1.41 (Rank=1) along with low SD of .583 is a powerful indication of the importance of this government urgency item (median=1). In the same line GU3 "your entity fully comply with government legislations on SWC" was indicated by the respondents as highly response item with very likely and likely ratings of 55.7 and 39.6 percent respectively, whereas, unlikely and very unlikely responses were represented by 6.6 and .9

percent respectively. The mean influence score was 1.49 (rank=2) and SD of .589 is a proof of the strength of this urgency item (median = 2).

S.F			Percer	nt of scor	es (%)					
Code	Government urgency items	Very Likely	Likely	Neutral	Unlikel y	Very Unlikely	Mean	Median	St. Deviation	Rank
		1	2	3	4	5				
GU1	Your entity gives attention to government requests on sustainable water consumption	63.2	32.1	4.7			1.415	1	0.58339	1
GU2	Your entity provide immediate response to government claims on sustainable water consumption	54.7	40.6	2.8	0.9	0.9	1.528	1	0.69292	3
GU3	Your entity fully comply with government legislations on sustainable water consumption	55.7	39.6	4.7			1.491	1	0.58952	2
GU4	Your entity consider that late response to government claims on sustainable water consumption will incur incompliance costs	42.5	42.5	12.3	2.8		1.755	2	0.77842	6
GU5	Your entity gives attention to familiarize with water consumption legislations and government released information on water consumption	40.6	49.1	9.4	0.9		1.708	2	0.67566	5
GU6	Your entity actively participates in government forums on sustainable water consumption	40.6	35.8	18.9	4.7		1.877	2	0.88051	7
GU7	Your entity gives priority to engage in government initiative's on water sustainability	48.1	41.5	9.4	0.9		1.632	2	0.69454	4

Table 6.10 Descriptive analysis government urgency



Figure 6.10 Descriptive analysis government urgency

6.3.4.2 Business urgency factor

A list of 5 business urgency items derived from the literature was presented to the respondents of the survey as shown in table 6.11 and figure 6.11. Ranking results indicate that BU1 is the top ranked indicator

BU1 "your entity gives attention to business stakeholder request on SWC" is the business urgency item of highest response where 66.1 percent of respondents nominate it as very likely and likely response to business stakeholders. The mean influence score of 2.27 (Rank=1) along with low SD of 1.21 is a powerful indication of the importance of this business urgency item (median=2).

S.F			Percen	t of sco	res (%)					
Code	Business urgency items	Very Likely	Likely	Neutra 1	Unlikel y	Very Unlike ly	Mean	Median	St. Deviatio n	Rank
		1	2	3	4	5				
BU1	Your entity gives attention to business stakeholders' requests on sustainable water consumption	32.1	34	14.2	14.2	5.7	2.274	2	1.21524	1
BU2	Your entity provides timely response to business stakeholders' claims on sustainable water consumption	30.2	34	18.9	9.4	7.5	2.302	2	1.21239	3
BU3	Your entity works actively to satisfy sustainable water consumption requirements of environmentally oriented suppliers/agents	28.3	37.7	16	12.3	5.7	2.293	2	1.17081	2
BU4	Your entity considers that ignorance of business stakeholder's claims on sustainable water consumption will adversely affect your operation	25.5	32.1	18.9	18.9	4.7	2.453	2	1.19628	5
BU5	Your entity gives priority to mimic competitors/suppliers successful sustainable water consumption strategies and practices	25.5	37.7	22.6	7.5	6.6	2.321	2	1.13429	4

Table 6.11 Descriptive analysis business urgency



Figure 6.11 Descriptive analysis business urgency

6.3.4.3 NGO urgency factor

A list of 6 NGO urgency items derived from the literature was presented to the respondents of the survey as shown in table 6.12 and figure 6.12. Ranking results indicate that NU6 and NU1 are the top ranked indicator

NU6 "your entity immediate response to NGO communications on SWC" and NU1 "Your entity gives attention to NGO requests on sustainable water consumption"

Are the NGO urgency items of highest response where 73.6, 81.4percent of respondents nominate it as very likely and likely response to NGO stakeholders respectively. The mean influence score of 2.03 (Rank=1) and 2.103 along with low SD of .954 and .925 respectively are powerful indication of the importance of those NGO urgency items (median=2).

S.F		Pe	ercent	of scor	es (%)				~	
Code		Very	Likel	Neutra	Unlik	Very	Маан	Madian	St.	Damla
	NGO Urgency items	Likely	У	1	ely	Unlik	Mean	Median	deviatio	капк
		1	2	3	4	5			11	
NU1	Your entity gives attention to NGO requests on sustainable water consumption	21.7	60.4	5.7	10.4	1.9	2.1038	2	0.92509	2
NU2	Your entity provide immediate response to NGO communications on sustainable water consumption	20.8	48.1	21.7	7.5	1.9	2.217	2	0.92587	4
NU3	Your entity considers ignorance of NGO sustainable water consumption claims will adversely affect your future development plans	26.4	33	21.7	16	2.8	2.3585	2	1.12283	6
NU4	Your entity engage in negotiations and open timely dialogues with NGO on water sustainability	28.3	34.9	24.5	10.4	1.9	2.2264	2	1.0354	5
NU5	Your entity gives attention to NGO requests on sustainable water consumption	29.2	36.8	21.7	10.4	1.9	2.1887	2	1.03384	3
NU6	Your entity provide immediate response to NGO communications on sustainable water consumption	30.2	43.4	19.8	3.8	2.8	2.0566	2	0.95449	1

Table 6.12 Descriptive analysis of NGO urgency



Figure 6.12 Descriptive analysis of NGO urgency

6.3.4.4 Media urgency factor

A list of 5 media urgency items derived from the literature was presented to the respondents of the survey as shown in table 6.13 and figure 6.13. Ranking results indicate that MU1 is the top ranked indicator. MU1 "water issues of media concern gains the attention of your entity" is the media urgency item of highest response where 79.3 percent of respondents nominate it as very likely and likely response to media stakeholders. The mean influence score of 2.009 (Rank=1) along with low SD of .999 is a powerful indication of the importance of this media urgency item (median=2).

S.F	Media urgency]	Percent	of sco	res (%)					
Code	items	Very Likely	Likely	Neutr al	Unlike ly	Very Unlikel	Mean	Median	St. deviatio	Rank
		1	2	3	4	5			St. deviatio de viatio n 2 0.999996 2 0.92563 2 1.03666 2 0.9924 2 0.92509	
MU1	Water issues of media concern gain the attention of your entity	34	45.3	7.5	12.3	0.9	2.0094	2	0.99996	1
MU2	Your entity gives immediate response to media requests on sustainable water consumption	30.2	46.2	17.9	2.8	2.8	2.0189	2	0.92563	3
MU3	Your entity considers detachment from media to shield from their water conservation claims may adversely affect your reputation	29.2	36.8	19.8	13.2	0.9	2.1981	2	1.03666	5
MU4	Your entity gives priority to communicate its water saving efforts to the media	27.4	46.2	16	7.5	2.8	2.123	2	0.9924	4
MU5	Your entity gives attention to get familiar with water related media campaigns	26.4	47.2	17	8.5	0.9	2.1038	2	0.92509	2

Table 6.13 Descriptive analysis media urgency



Figure 6.13 Descriptive analysis media urgency

6.3.4.5 Customer urgency factor

A list of 6 customer urgency items derived from the literature was presented to the respondents of the survey as shown in table 6.14 and figure 6.14. Ranking results indicate that CU1 and CU2 are the top ranked indicator. CU1 "customers' requests on sustainable water are attended to by your entity" and CU2 "your entity actively responds to customer request on sustainable water consumption " are the customers" urgency items of highest response where 79.3 and 78.3 percent of respondents nominate it as very likely and likely response respectively to customers stakeholders. The mean influence score of 1.92 (Rank=1) and 1.86 (rank=2) along with low SD of .931 and .828respectively are powerful indication of the importance of those customer urgency items (median=2).

S.F			Percent	t of score	es (%)				C (
Code	Customer urgency items	Very Likely	Likely	Neutral	Unlikel y	Very Unlikely	Mean	Median	St. deviatio n	Rank
		1	2	3	4	5				
CU1	Customers' requests on sustainable water consumption are attended to by your entity	37.7	41.5	13.2	5.7	1.9	1.925	2	0.95317	1
CU2	Your entity actively responds to customers' requests on sustainable water consumption	37.7	40.6	19.8	0.9	0.9	1.868	2	0.82895	2
CU3	Your entity consider ignorance of customer claims on sustainable water sustainable consumption will adversely affect your bottom line	31.1	44.3	15.1	7.5	1.9	2.047	2	0.96985	6
CU4	Proactively shaping customer's values on water saving is important to your entity	43.4	41.5	12.3	1.9	0.9	1.755	2	0.81429	3
CU5	Your entity gives timely attention to communicate its water saving efforts to its customers	31.1	50.9	10.4	5.7	1.9	1.962	2	0.90422	5
CU6	Your entity gives priority to listen to customers complaints on excessive water consumption	40.6	40.6	15.1	2.8	0.9	1.83	2	0.85603	4

Table 6.14 Descriptive analysis customer urgency



Figure 6.14 Descriptive analysis customer urgency

6.3.5 Stakeholder legitimacy attribute

For the purpose of highlighting the important indicators of legitimacy attribute for each stakeholder, this section will explain legitimacy attribute in relation to each stakeholder groups. The subjects were all asked to rate their agreement on stakeholder claim or action appropriateness stakeholders using a Likert scale 1 for strongly agree, 2 for agree, 3 for neutral, 4 for disagree and 5 for strongly disagree, thus, a lower mean indicates more agreement with the claim appropriateness.

6.3.5.1 Government legitimacy factor

A list of 7 government legitimacy items derived from the literature was presented to the respondents of the survey as shown in table 6.15 and figure 6.15. Ranking results indicate that GL1 and GL2 were the top ranked 25% indicators.

GL1 "Setting water sustainability regulations and guidelines for hospitality sector is a legitimate government action" is the government legitimacy item of highest response where 89.7 percent of respondents nominate it strongly agree and agree to government while none of the 106 respondents strongly disagree with it. The mean influence score of 1.65 (Rank=1) along with low SD of .717 is a powerful indication of the importance of this government legitimacy item (median=2). In the same line GL2 "Calling for reduction of water footprint in hospitality sector is legitimate government request" was indicated by the respondents as highly response item with strongly agree and agree ratings of 50 and 41.5 percent respectively. The mean influence score was 1.61 (rank=2) and SD of .737 is a proof of the strength of this legitimacy item (median = 2).

S.F			Perce	nt of sco	ores (%)				~	
Code	Government legitimacy items	Very Likely	Likely	Neutral	Unlikel y	Very Unlikely	Mean	Median	St. deviatio	Rank
		1	2	3	4	5			п	
GL1	Setting water sustainability regulations and guidelines for hospitality sector is a legitimate government action	47.2	42.5	8.5	1.9		1.6509	2	0.7177	1
GL2	Calling for reduction of water footprint in hospitality sector is legitimate government request	50	41.5	6.6	0.9	0.9	1.6132	1.5	0.7377	2
GL3	Imposing environmentally based tax reform on water consumption in hospitality sector is a proper government action	30.2	29.2	18.9	13.2	8.5	2.4057	2	1.27823	6
GL4	Establishment of progressive penalties for activities resulting in excessive water use in hospitality sector is appropriate government claim	32.1	23.6	16	12.3	16	2.566	2	1.45418	8
GL5	Imposing mandatory disclosure of water performance in hospitality sector is appropriate government legislation	33	39.6	21.7	2.8	2.8	2.0283	2	0.96073	5
GL6	Compulsory implementation of sustainable water consumption practices in hospitality sector is appropriate government regulation	39.6	43.4	16	0.9		1.7925	2	0.77726	4
GL7	Regulatory inspection on water usage in hospitality sector is proper government action	50.9	39.6	7.5	1.9		1.6038	1	0.71286	3
GL8	Setting permits and caps on certain water usage in hospitality sector is appropriate government action	35.8	31.1	2.8	17	13.2	2.4057	2	1.45261	7

Table 6.15 Descriptive analysis government legitimacy



Figure 6.15 Descriptive analysis government legitimacy

6.3.5.2 Business legitimacy factor

A list of 5 business legitimacy items derived from the literature was presented to the respondents of the survey as shown in table 6.16 and figure 6.16. Ranking results indicate that BL1 was the top ranked indicator. BL1 "Business stakeholder request to reduce your water footprint is a proper claim" is the business legitimacy item of highest response where 67 percent of respondents nominate it strongly agree and agree to this business claim legitimacy. The mean influence score of 2.33 (Rank=1) along with low SD of 1.170 is a powerful indication of the importance of this business legitimacy item (median=2).

S.F			Percer	t of sco	res (%)				a.				
Code	Business legitimacy items	Very Likely	Likely	Neutral	Unlikely	Very Unlikely	Mean	Mean Media		Mean Media n		St. deviatio n	Rank
		1	2	3	4	5							
BL1	Business stakeholders' request to reduce your water footprint is a proper claim	25.5	41.5	11.3	17	4.7	2.34	2	1.17016	1			
BL2	Suppliers' evaluation of your entity water performance is a desirable action	19.8	38.7	17	14.2	10.4	2.566	2	1.24991	2			
BL3	Suppliers' request to comply with voluntary environmental standards with regards to water consumption is appropriate	17.9	39.6	18.9	16	7.5	2.557	2	1.17983	4			
BL4	Suppliers'/ agents' boycott to poor water performers in hospitality sector is a proper action	15.1	32.1	15.1	20.8	17	2.925	3	1.35012	3			
BL5	Business stakeholders' request to reduce your water footprint is a proper claim	22.6	50	17	9.4	0.9	2.16	2	0.9169	5			

Table 6.16 Descriptive analysis business legitimacy



Figure 6.16 Descriptive analysis business legitimacy

6.3.5.3 NGO legitimacy factor

A list of 5 NGO legitimacy items derived from the literature was presented to the respondents of the survey as shown in table 6.17 and figure 6.17. Ranking results indicate that NL1 was the top ranked indicator. NL1 "NGO requests to adopt sustainable water consumption practices are legitimate" is the NGO legitimacy item of highest response where 79.2 percent of respondents nominate it strongly agree and agree to this NGO claim legitimacy. The mean influence score of 2 (Rank=1) along with low SD of .99 is a powerful indication of the importance of this NGO legitimacy item (median=2).

S.F			Percer	nt of sco	res (%)				G.	
Code	NGO Legitimacy items	Very Likely	Likely	Neutral	Unlikely	Very Unlikely	Mean	Median	Viedian deviati	
		1	2	3	4	5			-	
NL1	NGO requests to adopt sustainable water consumption practices sector are legitimate	31.1	48.1	14.2	4.7	1.9	2.009	2	1	1
NL2	Environmental site inspection by NGO on your water consumption is welcomed	31.1	55.7	2.8	7.5	2.8	2.019	2	0.9256	5
NL3	NGO condemnation of unsustainable water practices in hospitality sector is proper action	34	44.3	13.2	6.6	1.9	2.198	2	1.0367	3
NL4	Filing lawsuits against poor water performers in hospitality sector is appropriate action by NGO	21.7	29.2	17.9	22.6	8.5	2.123	2	0.9924	4
NL5	Lobbying for more stringent regulations for sustainable water consumption in hospitality sector is a desirable action by NGO	21.7	46.2	18.9	10.4	2.8	2.104	2	0.9251	2

Table 6.17 Descriptive analysis of NGO legitimacy



Figure 6.17 Descriptive analysis of NGO legitimacy

6.3.5.4 Media legitimacy factor

A list of 3 media legitimacy items derived from the literature was presented to the respondents of the survey as shown in table 6.18 and figure 6.18. Although ranking results indicate that ML1 was the top ranked indicator. ML1 "Media requests on sustainable water consumption in hospitality sector are not suitable", its mean score is reverted as the item is negatively worded and thus, ML2 "Media condemnation of unsustainable water practices to public is proper action" is considered is the media legitimacy item of highest response where 68.9 percent of respondents nominate it strongly agree and agree to this media claim legitimacy. The mean influence score of 2.207 (Rank=2) along with low SD of .7579 is a powerful indication of the importance of this media legitimacy item (median=2).

S.F			Percent	t of scor	es (%)			~		
Code	Media legitimacy items	Very Likely	Likely	Neutral	Unlikel y	Very Unlikel	Mean	Median	Median deviatio	
		1	2	3	4	5			11	
ML1	Media requests on sustainable water consumption in hospitality sector are not suitable	15.1	56.6	22.6	5.7		2.189	2	0.75735	1
ML2	Media condemnation of unsustainable water practices to public is proper action	20.8	48.1	20.8	10.4		2.208	2	0.89141	2
ML3	Media free access to information on the water performance of your entity is appropriate claim	22.6	36.8	16	18.9	5.7	2.481	2	1.19707	3

Table 6.18 Descriptive analysis of media legitimacy



Figure 6.18 descriptive analysis of media legitimacy

6.3.5.5 Customer legitimacy factor

A list of 4 customer legitimacy items derived from the literature was presented to the respondents of the survey as shown in table 6.19 and figure 6.19. Ranking results indicate that CL3 was the top ranked indicator. CL3 "Customers' refute and denounce of unsustainable water consumption in hospitality sector is proper action" is the customer legitimacy item of highest response where 63.2.2 percent of respondents nominate it strongly agree and agree to this customer claim legitimacy. The mean influence score of 1.98 (Rank=1) along with low SD of .904 is a powerful indication of the importance of this customer legitimacy item (median=2).

S.F		Pe	ercent	of scor	es (%)						
Code	Customer legitimacy items	Very Likely	Likel y	Neutr al	Unlik ely	Very Unlik	Mean	Median	St. deviation	Rank	
		1	2	3	4	5					
CL1	Customers' request to curb your water consumption is suitable	30.2	43.4	20.8	4.7	0.9	2.0283	2	0.88863	2	
CL2	Customers' free access to information on the water performance of your entity is appropriate claim	29.2	34	10.4	21.7	4.7	2.3868	2	1.24649	4	
CL3	Customers' refute and denounce of unsustainable water consumption in hospitality sector is proper action	32.1	45.3	17	3.8	1.9	1.9811	2	0.90481	1	
CL4	Customers' boycott to poor water performers in hospitality sector is a desirable action	30.2	32.1	17.9	17	2.8	2.3019	2	1.1561	3	

Table 6.19 Descriptive analysis of customer legitimacy



Figure 6.19 Descriptive analysis of customer legitimacy

6.3.6 Sustainable water consumption strategies variable

A list of 21 sustainable water consumption strategies were derived from the literature was provided to the respondents of the survey. The subjects were all asked to rate their level of strategy adoption in terms of the likelihood of the occurrence using a Likert scale 1 for very likely, 2 for likely,3 for neutral, 4 for unlikely and 5 for very unlikely, thus, a lower mean indicates a more likely to adopt the strategy in this scale. Figure 6.20 and the ranking table 6.20 shown below indicate that the descriptive analysis of sustainable consumption strategies variable reveals that SS1, SS4, SS15, SS8 and SS3 are the top 25% ranked indicators.

According to 95.3 percent of SS1 'Complies with government regulations and legislations of water consumption" is very likely and likely to be adopted, the resulting mean score, which is 1.41 (rank = 1) with .583 SD, indicates a potential strategy for adoption in the hospitality sector. According to three quarters of the respondents (75.5 percent), the SS4 'Have long term vision that aims to reduce water consumption' is very likely and likely to be adopted strategy whilst, the average score of the likelihood of adoption if this strategy factor is 1.76 (rank = 2) with .878SD, which means that the underlying factor has quite important item that might be adopted (median = 1).

The SS15 'Encourages investment in water efficient infrastructure' and SS8 set appropriate water consumption targets' and SS3 "Encompasses a strong policy on sustainable water consumption" were noted to probably have be adopted strategies where above 80 percent of respondents has rated those strategy as a very likely and likely to be adopted. The resulting average scores of their likelihood of adoption is1.76, 1.77 and 1.5283 with 0.699, 0.796 and .828SD respectively (rank = 3,4and 5).

S.F			Per	cent of sco	ores (%)					
Code	SWC strategies items	Very Likely	Likely	Neutral	Unlikely	Very Unlikely	Mean	Median	St. deviation	Rank
		1	2	3	4	5				
SS1	Complies with government regulations and legislations of water consumption	63.2	32.1	4.7			1.4	1	0.58339	1
SS2	Seeks reduction of water foot print beyond regulatory requirements	41.5	34	18.9	4.7	0.9	1.9	2	0.93533	10
SS3	Encompasses a strong policy on sustainable water consumption	43.4	38.7	14.2	3.8		1.8	2	0.82813	5
SS4	Have long term vision that aims to reduce water consumption	45.3	39.6	9.4	4.7	0.9	1.8	2	0.87887	2
SS5	Have clear and solid short term objectives for sustainable water consumption	35.8	48.1	12.3	3.8		1.8	2	0.78239	7
SS6	Have clear plan on how to conduct sustainable water consumption practices	35.8	50.9	11.3	1.9		1.8	2	0.71337	6
SS7	Have concrete standard operating procedures for sustainable water consumption practices	30.2	48.1	16	5.7		2.0	2	0.83332	12
SS8	Sets appropriate water consumption targets	40.6	46.2	8.5	4.7		1.8	2	0.79622	4
SS9	Have environmental management system to achieve water saving targets	29.2	47.2	12.3	10.4	0.9	2.1	2	0.95886	14
SS10	Have clear water performance indicators	34	36.8	15.1	13.2	0.9	2.1	2	1.05044	15
SS11	Possess water usage reporting system to determine and investigate water inefficiencies	27.4	45.3	14.2	9.4	3.8	2.2	2	1.05534	16
SS12	Sets guidelines for continuous improvement of water inefficiencies	31.1	52.8	13.2	1.9	0.9	1.9	2	0.77239	9
SS13	Partners with environmental groups for water conservation	24.5	37.7	18.9	14.2	4.7	2.4	2	1.14081	18
SS14	Engages with relevant stakeholders for designing water management policies	30.2	28.3	27.4	11.3	2.8	2.3	2	1.10199	17
SS15	Encourages investment in water efficient infrastructure	35.8	52.8	10.4	0.9		1.8	2	0.66978	3
SS16	Invests in innovative water saving technologies	39.6	41.5	13.2	4.7	0.9	1.9	2	0.88843	8
SS17	Invests in employee environmental training focused on the reduction of water consumption	35.8	45.3	13.2	3.8	1.9	1.9	2	0.90003	11
SS18	Incorporates water management in employee performance evaluation	25.5	30.2	19.8	17.9	6.6	2.5	2	1.23635	19
SS19	Gives priority for procurement of water efficient products from suppliers	32.1	43.4	15.1	7.5	1.9	2.0	2	0.97516	13
SS20	Prioritizes suppliers based on their commitment to water sustainability	28.3	29.2	15.1	16	11.3	2.5	2	1.35371	20
SS21	Controls water consumption along the supply chain by conducting environmental audits on suppliers	17	43.4	9.4	12.3	17.9	2.7	2	1.37298	21

Table 6.20 Descriptiv	e analysis o	f sustainable	water	consumption	strategies



Figure 6.20 Descriptive analysis of sustainable water consumption strategies

6.3.7 Sustainable water consumption practices variable

A list of 16 sustainable water consumption practices on water resources derived from the literature was provided to the respondents of the survey. The subjects were all asked to rate their level of practice adoption in terms of the likelihood of the occurrence using a Likert scale 1 for very likely, 2 for likely,3 for neutral, 4 for unlikely and 5 for very unlikely, thus, a lower mean indicates a more likely adopted practice in this scale. Figure 6.21 and the ranking table 6.21 shown below indicate that the descriptive analysis of sustainable consumption practices variable reveals that SP14 SP3 SP2 and SP8 were the top ranked 25% indicators.

According to nearly 84 percent of SP14 'Reviewing water bills to monitor consumption" is very likely and likely to be adopted practice, the resulting mean score, which is 1.48 (rank = 1) with .650 SD, indicates a potential strategy for adoption in the hospitality sector.

According to three quarters of the respondents (75.5 percent), the SP3 'Periodical check and detection for water leakage' is very likely and likely to be adopted practice whilst the average score of the likelihood of adoption if this practice factor is 1.5 (rank = 2) with .759SD, which means that the underlying factor has quite important item that might be adopted (median = 1). The SP2 'Installing/retrofitting sanitary appliances with dual flush and low flow shower heads" and SP8 "Offering training and education programmes to staff on sustainable water consumption practices" were noted to probably have be adopted practices where above 80 percent of respondents has rated those strategy as a very likely and likely to be adopted. The resulting average scores of their likelihood of adoption is1.87 and 1.5283 with, 0.950 and 0.891 SD respectively (rank = 3 and 4).

S.F		Percent of scores (%)							_	
Code	- SWC practices items		Likely	Neutra 1	Unlikel y	Very Unlikely	Mean	Media n	St. deviatio	Rank
		1	2	3	4	5			п	
SP1	Installing/ retrofitting washing equipment with water efficient technologies	41.5	40.6	5.7	11.3	0.9	1.896	2	1.00408	5
SP2	Installing/retrofitting sanitary appliances with dual flush and low flow shower heads	42.5	37.7	13.2	4.7	1.9	1.859	2	0.95058	3
SP3	Periodical check and detection for water leakage	61.3	31.1	4.7	1.9	0.9	1.5	1	0.75907	2
SP4	Implementation of textile reuse program to reduce number of washing cycles	37.7	35.8	22.6	2.8	0.9	1.934	2	0.89729	6
SP5	Consolidating wash loads and processing them in largest possible washers	28.3	39.6	17	12.3	2.8	2.217	2	1.07796	9
SP6	Implementing laundry water recycling system	27.4	27.4	22.6	17	5.7	2.462	2	1.22026	14
SP7	Using grey water from sinks for planting	18.9	31.1	25.5	15.1	9.4	2.651	2.5	1.21923	16
SP8	Offering training and education programs to staff on sustainable water consumption practices	40.6	35.8	19.8	2.8	0.9	1.877	2	0.89126	4
SP9	Rewarding staff to their contribution to water conservation	20.8	38.7	21.7	17	1.9	2.406	2	1.05811	13
SP10	Educating customers on water saving practices	28.3	37.7	17.9	15.1	0.9	2.226	2	1.05364	10
SP11	Seeking customer opinion on your water saving practices	24.5	41.5	14.2	15.1	4.7	2.34	2	1.14548	12
SP12	Encouraging customer participation in activities that reduces your establishment water footprint	30.2	41.5	13.2	12.3	2.8	2.16	2	1.07912	8
SP13	Incorporating water saving information in your marketing materials as guest leaflets	32.1	31.1	19.8	14.2	2.8	2.245	2	1.13651	11
SP14	Reviewing water bills to monitor consumption	59.4	34	5.7	0.9		1.481	1	0.65073	1
SP15	Organizing or sponsoring water saving events	20	30.5	23.8	23.8	1.9	2.571	2	1.1168	15
SP16	Demonstrating a superior commitment to water resource management through	35.8	34	17	10.4	2.8	2.104	2	1.09483	7

Table 6.21 Descriptive analysis of sustainable water consumption practices



Figure 6.21 Descriptive analysis of sustainable water consumption practices

6.4 Summary

The chapter provide descriptive analysis of both demographic variables and study variables, demographic variables are grouped into more comprehensive groups and study variables are analysis based on their mean scores and top 25% indicators in each variable were highlighted for and presented in table 6.22 and 6.23 below. This chapter therefore provides descriptive foundation of the study items for further analysis in the upcoming chapters.
	Demographic descriptive analysis								
Gender	Male	Female							
	78.30%	21.70%				-			
AGE	Less than	25 to 35	36 to 46	47 to 57	above 57	-			
	25								
	2.8	62.3	29.2	5.7	0				
Education	High	Bachelor	Master						
	school								
	17	73.6	9.4						
Position	Facility	Assistant	Environmental	Engineer	Other	-			
	manager	general	manager						
		manager							
	51.9	28.3	9.4	3.8	6.6				
Experience	less than 1	1 to 5	6 to 10	11 to 16	above 16	-			
	7.5	46.2	28.3	11.3	6.6	-			
Emirate	Abu Dhabi	Dubai	Sharjah	Fujairah	UMM	Ajman	Ras Al		
					Quwain		Khaimah		
	2.8	49.1	2.8	8.5	5.7	23.6	7.5		
Type of	Hotel	Restaurant	Hotel Apartment	Health					
Entity				club					
	30.2	61.3	3.8	4.7	-				
Number of	Less than	50-100	101-150	151-200	above	-			
employees	50				200				
	45.3	17	7.5	8.5	21.7				

Table 6.22 Grouping of demographic variables

	Top 25%	% ranked indica	tors
	Original	Number of	
	Number	to 25%	
	of	important	
Variable	indicators	indicators	Code of indicators
Environmental concern	32	8	EC7 EC8 EC9 EC19 EC10
Risk perception	13	3	R3 RP13 RP4
Government power	13	3	GP6 GP7 GP8
Business power	9	2	BP2 BP4
NGO power	8	2	NP7 NP3
Media power	6	2	MP1 MP4
Customer power	5	1	CP1
Government urgency	7	2	GU1 GU3
Business urgency	5	1	BU1
NGO urgency	6	2	NU6 NU1
Media urgency	5	1	MU1
Customer urgency	6	2	CU1 CU2
Government legitimacy	7	2	GL1 GL2
Business legitimacy	5	1	BL1
NGO legitimacy	5	1	NL1
Media Legitimacy	3	1	ML2
Customer legitimacy	4	1	CL3
SWC strategies	21	5	SS1 SS4 SS15 SS8 SS3
SWC practices	16	4	SP14 SP3 SP2 SP8

Table 6.23 Summary of top 25% ranked indicators

7 Chapter Seven: Factor Analysis and Reliability Test

7.1 Introduction

The chapter aims to undergo factor analysis and data reduction processes in order to reduce number of components into a simpler framework that explains most of the variance that is observed in a much larger number of components (Norusis 2000). Thus, SPSS software was used for data reduction to remove redundant data from the list of risk perception, environmental concern, stakeholder salience attributes of power, urgency and legitimacy and sustainable water consumption strategies as well as practices factors in order to achieve a manageable subset of the variables that present the majority of those factors. A number of factors with the highest degree of importance might be considered as representative of whole set of data. Therefore, the most significant indicators are extracted and treated as representative of the variables. Based on the relationship between the indicators, the outcome of the data reduction is presented in a few components and then clusters that consist of the most important factors of the larger groups (here the group is referred to environmental concern factors; 32 item, 13 risk perception items, 21 items for sustainable water consumption strategies, 16 item for sustainable water consumption practices, 41 item for power attribute, 29 items for urgency attribute and 25 item for legitimacy attribute).

7.2 KMO and Bartlett Test

Two statistical tests were carried out on the factors to confirm the suitability of the data for structure detection by factor analysis. First, was Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO) which measure the proportion of variance of the variables that might be caused by underlying factors, high KMO values (close to 1.0) indicate that a factor analysis is useful for the data whereas a value is less than 0.50 indicates that the results of the factor analysis won't be very useful. Second, was Bartlett Test of Sphericity to test the presence of correlations thus, test the hypotheses that your correlation matrix is an identity matrix, the small significance level of values (less than 0.05) indicate the suitability of conducting factor analysis (Field, 2005 and Morgan et al, 2004).

The following table (7.1) shows the tests result of KMO and Bartlett for all study variables in order to find out the sample is adequate to conduct factor analysis or not. Results indicate that all the values of KMO is close to 1 which means that the factor analysis is likely to be suitable as per Field (2009) who claim that value close to 1 indicates the patterns of correlations that are relatively

compact for which factor analysis will have distinct and reliable factors and Kaiser (1974) who argue that KMO values between 0.7 and 0.8 are great which is the case with environmental concern, power and urgency factors and values above 0.8 are superb which is the case with all the remaining factors.

Bartlett's test measures the null hypotheses (H0 > 0.05) which indicates that the original correlation matrix is an identity matrix. To undergo factor analysis the significance value should be less than .05 to indicate relationships between variables. Table 7.1 shows Bartlett's test results for all variables which indicates a highly significant correlation among factors (p<.001) for all factors under study. Therefore, the correlation matrix is not an identity matrix and there are some relationships between the variables. Thus, the result of both of KMO and Bartlett test for all variables demonstrated that factor analysis is appropriate for the mentioned variables.

Environmental concern, Risk perception, Sustainable water consumption strategies and practices factors	Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy	Bartlett's Test of Sphericity (Significance value)
Environmental concern	0.778	0.000
Risk perception	0.871	0.000
Stakeholder power attribute	.735	0.000
Stakeholder urgency attribute	.785	0.000
Stakeholder legitimacy attribute	.809	0.000
Sustainable water consumption strategies	0.902	0.000
Sustainable water consumption practices	0.854	0.000

Table 7.1 KMO and Bartlett test

7.3 Factor analysis process

The following three step process (as shown in figure 7.1) is carried out for all the variables employed in the study:

1-Component extraction: variables are extracted by matrix of correlation that is based on principal component analysis, components of the variable are identified by extracting matrix of correlation coefficient that carries Eigen value of one or higher (Punch, 2005).

2- Factor loading: Rotated component matrix is generated to find out the level of contribution of each indicator to each of the generated components based on the matrix loading score. Only factors loadings with an absolute value greater than 0.45 is interpreted as it explains around 16% of the variance in the variable (Morgan et al, 2004; Field, 2009).

3-Latent cluster identification and reliability: relation between factors within the components are identified to generate the latent clusters and percent of variance explained by each cluster is calculated and reliability of scales of the latent clusters are checked using Cronbach's alpha test and results were assessed based on George and Mallery (2003) guidelines, who claim that internal consistency is acceptable for Cronbach's Alpha between .7 and .79, good for Cronbach's Alpha between .8 and .89 and high Cronbach's Alpha above .89.



Figure 7.1 Factor analysis and data reduction process

7.3.1 Environmental concern variable

7.3.1.1 Component extraction of environmental concern

Table 7.2 show the components of environmental concern extracted by principle component analysis. It indicates how correlated specific environmental concern to another concern. The table indicates the Initial Eigenvalues for each component of the correlation matrix and thus, indicates which components can be remained in analysis. As per Punch (2005) and Field (2009), factor

analysis should be considered for the components that have Eigen values of one or more. The results indicates that just 8 components carry eigenvalue of more than 1 and account for nearly 65.652% of the variance as shown in the cumulative % column. Consequently, the 8 components can be considered as the representative of 32 environmental concerns employed in this study.

	Initial Eigenvalues		Extraction	Sums of Square	d Loadings	Rotation Sums of Squared Loadings			
		% of	Cumulative		% of	Cumulative		% of	Cumulative
Component	Total	Variance	%	Total	Variance	%	Total	Variance	%
1	8.498	26.558	26.558	8.498	26.558	26.558	3.721	11.629	11.629
2	2.566	8.018	34.575	2.566	8.018	34.575	3.656	11.425	23.054
3	2.178	6.806	41.381	2.178	6.806	41.381	2.941	9.192	32.245
4	1.908	5.963	47.345	1.908	5.963	47.345	2.783	8.697	40.943
5	1.669	5.216	52.561	1.669	5.216	52.561	2.378	7.433	48.375
6	1.542	4.820	57.381	1.542	4.820	57.381	2.175	6.797	55.172
7	1.448	4.525	61.906	1.448	4.525	61.906	1.878	5.869	61.041
8	1.199	3.747	65.652	1.199	3.747	65.652	1.476	4.611	65.652
9	.993	3.103	68.756						
	•								
31	.148	.462	99.655						
32	.110	.345	100.000						

Table 7.2 Extracted component matrix for environmental concern factor

7.3.1.2 Factor loading of environmental concern

The rotated component matrix shown in table 7.3 indicates that all items of environmental concern successfully loads under the 8 components except for EC19 that did not load under any of the 8 components, thus, this item will be deleted from the rest of the study. Also results shows that EC25 loaded in both component 1 and 5, and EC31 loaded in both components 3 and 4 however, EC25 and EC31 has got greater influence on component 1 and 4 respectively and thus, were included in those components. Table 7.4 shows the factor loading scores, percentages of variance of each component, Eiganvalue, which are extracted from Table 7.2 and 7.3 as well as environmental concern items for each component.

					Componer	nt		
	1	2	3	4	5	6	7	8
EC22	0.791							
EC21	0.686							
EC25	0.603				0.46			
EC23	0.584							
EC26	0.58							
EC24	0.466							
EC12	0.459							
EC2		0.846						
EC1		0.762						
EC20		0.693						
EC3		0.657						
EC13		0.561						
EC18		0.529						
EC16			0.749					
EC10			0.739					
EC11			0.626					
EC19								
EC30				0.782				
EC32				0.637				
EC27				0.629				
EC6				0.613				
EC31			0.483	0.511				
EC17				0.488				
EC7					0.788			
EC8					0.726			
EC9					0.489			
EC28						0.808		
EC29						0.807		
EC5							0.819	
EC4							0.764	
EC15								0.797
EC14								0.489

Rotated Component Matrix^a

Table 7.3 Rotated component matrix for the environmental concern variable

Environment al concern Components	Extracted eigenvalu e	Extractio n sum of squared loadings: variance %	Rotation sum of squared loadings: variance %	Environ mental concern Loading Score	Environ mental concern Code	Item
				0.791	EC22	I think hospitality sector has the means to make use of water saving technologies
				0.686	EC21	I believe the circumstances in UAE is appropriate to save water
				0.603	EC25	I believe having the know how to save water makes it easier to reduce water foot print in hospitality sector
1	8.498	26.558	11.629	0.584	EC23	I believe making use of water saving technologies facilitate curbing water consumption in hospitality sector
				0.58	EC26	I think that hospitality sector owns the financial resources to save water
				0.466	EC24	I think hospitality sector have the know how to save water
				0.459	EC12	I believe that potential environmental damage due to excessive water consumption should be avoided in hospitality sector
				0.846	EC2	I believe water saving in UAE is critically important
				0.762	EC1	I am concerned on UAE current water consumption trends
	2500	8.018	11.425	0.693	EC20	I believe that hospitality sector in the UAE should reduce their water footprint
2	2.500			0.657	EC3	I acknowledge water as a precious resource in the UAE
				0.561	EC13	I think it is widely expected from hospitality sector to reduce their water footprint
				0.529	EC18	I feel obliged to meet communities expectations towards saving water
				0.749	EC16	I feel upset with the lack of compliance of some of our staff with water conservation policy in my entity
3	2.178	6.806	9.192	0.739	EC10	I feel guilty about any excess water consumption in my entity
				0.626	EC11	I think that excessive water consumption in my entity can lead to environmental damage
				0.782	EC30	I plan to reduce water footprint in my entity in the next 5 years
				0.637	EC32	I acknowledge my future role as care tacker of water resources in the UAE
				0.629	EC27	I am keen to save water for future generations
4	1.908	5.963	8.697	0.613	EC6	I think with the current consumption trends, water supplies will not be adequate to meet future needs in the UAE, thus, we should plan to save
				0.511	EC31	I am interested in alleviating water scarcity problem in the UAE
				0.488	EC17	I believe water saving in hospitality sector is a matter of concern to our community

				0.788	EC7	I believe that saving water helps creating sustainable future for the upcoming generations
5	1.669	5.216	7.433	0.726	EC8	I believe that future generation has as much right as current generations in water resources
				0.489	EC9	It bothers me when I see water being wasted from a water leak in my entity
6	1.542	4.82	6.797	0.808	EC28	I think the government in the UAE is highly encouraging water saving n in the hospitality sector
				0.807	EC29	I believe that there is high motivation from top management to save water
7	1.448	8 4.525	5.869	0.819	EC5	I believe the balance of nature will cope with any water scarcity
7				0.764	EC4	I believe the so called "water crisis" is greatly exaggerated by scientists
				0.797	EC15	I don't think that senior management in my entity are highly concerned about saving water
8	1.199	3.747	4.611	0.489	EC14	I think that it is assumed that water saving in hospitality sector is joint responsibility of industry, government and non-governmental organisations.

 Table 7.4 Components of environmental concern variable

7.3.1.3 Latent clusters for environmental concern variable

Since environmental concern is defined as value orientation, attitude and belief in environmental protection issues that leads to a pro-environmental behaviour (Fransson and Garling, 1999, Schulz, 2001), therefore the generated component is best interpreted in light of the early proposed theory of planned behaviour by Ajzen (1991) which explains a believe-behaviour relationship as shown in figure 7.3. Ajzen (1991) defined the four constructs that can lead to a behaviour as follows: attitude, as the feeling of an individual towards a behaviour, the second, social norm represents person's believe about a behaviour based on the perception of how others believe and their motivation to comply with such believe, third, perceived behavioural control which reflects how easy is to perform a behaviour and finally the intention as the commitment to perform the behaviour.



Figure 7.2 Theory of planned behaviour model (adapted from Perren and Yang, 2015)

Thus, the 8 components are classified and grouped according to those mentioned variables as follows and shown below in table 7.5; cluster 1; named attitude (ATT) includes all items loaded under component 2, 3, 5, and 7 as there is no clear distinction between the generated components and they best reflect the feeling of an individual towards saving water, cluster 2 named perceived behavioural control (PBC); reflects the degree of easiness to save water and includes all items loaded under component 1 except EC12 which was excluded from the scale as it has the lowest loading score (.459), doesn't match the context of the cluster and was not ranked in the top 25% important environmental concern items explained earlier in the descriptive analysis section (table 5.2.20). Cluster 3 matches the definition of social norm (SN); believe about saving water based on the perception and motivation of others and include all items loaded in component 6 and 8 and finally cluster 4 which best describes and intention (INT); commitment to save water and includes all items loaded under component 4 with the exclusion of EC17 as it scored the least loading score (.488), was not ranked in the top 25% important environmental concern items explained earlier in the descriptive analysis section and doesn't match the context of the cluster.

The results of Cronbach's alpha test for the four latent clusters indicates that internal consistency is acceptable with the exception of cluster 4 which was only consistent after deleting items of component 8 (14 and 15) therefore this component was excluded from the upcoming analysis due to insufficient scale consistency and low variance caused by this component (3.747) as indicated in table 7.2 as well as both of its indicators were not ranked in the top 25% important environmental concern items explained earlier in the descriptive analysis section.

Finally, the variance percentage of each cluster is calculated by summation of each component's variance on the same generated cluster. Therefore, the percentage of variance for attitude cluster is computed from components 2, 3, 5 and 7, and the percentage of variance for perceived behavioural control is accounted as component 1, percentage of variance for social norm is computed from component 6 and finally percentage of variance of the intention cluster is computed from component 4. For example, the percentage of variance for attitude cluster is computed; 8.08+ 6.806+5.216+4.525= 24.627 %. Therefore, the resulting 4 clusters explains 61.968% of variance, thus, the factor analysis for the environmental concern variable had reduced the data into 4 fundamental latent clusters without compromising much of the data. Table 7.5 shows generated latent clusters, definitions, variance percent of each cluster, items of cluster and reliability of cluster scale.

	Cluster name and definition	Variance %	Component	Code	Item	Cronbach's alpha result	
				EC2 I believe water saving in the UA critically important		I believe water saving in the UAE is critically important	
				EC1	I am concerned on UAE current water consumption trends		
cem			EC20	I believe that hospitality sector in the UAE should reduce their water footprint			
ıtal con	Attitude (ATT): feeling of an	ng 24.627 ng	2	EC3	I acknowledge water as a precious resource in the UAE that I should conserve	0.734	
ironmen	individual towards saving water			EC13	I think it is widely expected form the hospitality sector to reduce their water footprint	0.754	
Envi				EC18	I feel obliged to meet communities expectations towards saving water in my entity		
			3	EC16	I feel upset with the lack of compliance of some of our staff with water conservation policy in my entity.		

			EC10	I feel guilty about any excess water consumption in my entity	
			EC11	I think that excessive water consumption in my entity can lead to environmental damage	
			EC7	I believe that saving water helps creating sustainable future for upcoming generations	
		5	EC8	I believe that future generations has as much right as current generations in water resources	
			EC9	It bothers me when I see water being wasted from a water leak in my entity	
		7	EC5	I believe the balance of nature will cope with any water scarcity	
		1	EC4	I believe the so called "water crisis" is greatly exaggerated by scientists	
			EC22	I think Hospitality sector have the means to make use of water saving technologies	
Perceived	26.558	1	EC21	I believe the circumstances in the UAE are appropriate to save water in hospitality sector	0.797
behavioural control (PBC): degree of			EC25	I believe having the know how to save water makes it easier to reduce water footprint in hospitality sector	
easiness/ difficulty to save water			EC23	I believe making use of water saving technologies facilitate curbing water consumption in hospitality sector	
			EC26	I think that hospitality sector owns financial resources to save water	
			EC24	I think hospitality sector have the know how to save water	
Social norm (SN): believe about saving			EC28	I think the government in the UAE is highly encouraging water saving n in the hospitality sector	
water based on the perception and motivation	4.82	6	EC29	I believe that there is high motivation from top management to save water	0.764
			EC30	I plan to reduce water footprint in my entity in the next 5 years	
	on itment to vater		EC32	I acknowledge my future role as caretaker of water resources in the UAE	
Intention (INT):		4	EC27	I am keen to save water for future generations	0.729
commitment to save water			EC6	I think that with the current water consumption trends, water supplies will not be adequate to meet our future needs of UAE thus, we should save	
			EC31	I am interested in alleviating water scarcity problem in the UAE	

Table 7.5 Environmental concern latent clusters

7.3.2 Risk perception variable

7.3.2.1 Component extraction of risk perception

Table 7.6 show the components of risk perception extracted by principle component analysis. It indicates how correlated specific risk perception to another risk. The results indicates that just 3 components carry eigenvalue of more than 1 and account for nearly 69.411% of the variance as shown in the cumulative % column. Consequently, the 3 components can be considered as the representative of 13 environmental concerns employed in this study.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.506	50.044	50.044	6.506	50.044	50.044	3.39	26.098	26.098
2	1.478	11.368	61.412	1.478	11.368	61.412	3.03	23.342	49.44
3	1.04	7.999	69.411	1.04	7.999	69.411	2.6	19.971	69.411
4	0.801	6.161	75.572						
5									
13	0.152	1.167	100						

Table7.6 Extracted component matrix for risk perception factor

7.3.2.2 Factor loading of risk perception

The rotated component matrix shown in table 7.7 indicates that all items of risk perception successfully loads under the 3 components. Also results shows that RP5 and RP6 loaded in both component 1 and 2, however, both of them have got greater influence on component 1 and thus, were included in this components. Table 7.8 shows the factor loading scores, percentages of variance of each component, Eiganvalue, which are extracted from Table 7.6 and 7.7 as well as risk perception items for each component.

	Component							
	1	2	3					
RP12	0.836							
RP13	0.822							
RP11	0.816							
RP6	0.593	0.455						
RP5	0.583	0.454						
RP2		0.785						
RP1		0.745						
RP3		0.726						

RP4	0.706	
RP7	0.478	
RP8		0.829
RP9		0.824
		0.788

Table 7.7 Rotated component matrix for risk perception variable

Risk percepti on Compon ents	Extra cted eigen value	Extraction sum of squared loadings: variance %	Rotation sum of squared loadings: variance %	Risk percep tion Loadin g Score	Risk percept ion code	Item
				0.836	RP12	Water scarcity is damaging to your business operation
	1 6.506 50.044 26.098		0.822	RP13	Water scarcity is a threat to your bottom line	
1		26.098	0.816	RP11	Water scarcity can freeze future expansion plans of your entity	
				0.593	RP6	Water scarcity represent a serious financial threat to hospitality sector
				0.593	RP5	Water scarcity can affect market growth level of hospitality sector in emerging economies
				0.785	RP2	Water scarcity can lead to conflict between hospitality sector and local communities
		11.368	23.342	0.745	RP1	There might be wars in the future because of water scarcity
2	1.478			0.726	RP3	Water scarcity can change the pricing structure of many commodities in hospitality sector
				0.706	RP4	Water scarcity can lead to shortage of essential supplies as food and beverage in hospitality sector
				0.478	RP7	Water scarcity may affect operation lead time in hospitality sector
		7.999	19.971	0.829	RP8	In the next 5 years water scarcity will negatively affect employee spirit and activity in hospitality sector
3	1.04			0.824	RP9	Water scarcity may negatively influence brand image and reputation of your entity
		0.788	RP10	Water scarcity can negatively influence your consumer purchase decisions		

Table 7.8 Components of risk perception variable

7.3.2.3 Latent clusters for Risk perception variable

The result of rotated component matrix has reduced the items that originally relates to six dimensions of risk perception; financial, physical, time, social, psychological and performance into 3 components as follows:

Component one reflects indicators from both financial and performance risks, thus, the latent cluster for these components will be given the name of operation risk perception (OPR) and defined as the "risk on corporate performance and revenue". Component two reflects indicators form both physical and time risk perception, thus, the latent cluster for these components will be named physical and time risk perception (PRP) and defined as the risk of physical impact and time losses". Component three reflects indicators from psychological and social risks thus, the latent clusters will be given a name of reputational risk perception (RRP) and is defined as the "risk on corporate image and employee moral".

To ensure consistency between the items of the 3 generated clusters, Cronbach's alpha test is done on the clusters and results indicates good consistency of all cluster scales. finally, it can be seen from table 7.9 that the resulting 3 clusters explains 69.411% of variance, thus, the factor analysis for the risk perception variable had reduced the data into 3 fundamental clusters without compromising much of the data.

	Cluster name and definition	Variance %	Component	Code	Item	Cronbach's alpha result	
	Operation			RP12	Water scarcity is damaging to your business operation		
	risk perception			RP13	Water scarcity is a threat to your bottom line		
ion	(OPR): "risk on	R): on 50.044	1	RP11	Water scarcity can freeze future expansion plans of your entity	0.89	
	corporate performanc			RP6	Water scarcity represent a serious financial threat to hospitality sector		
k percept	e and revenue			RP5	Water scarcity can affect market growth level of hospitality sector in emerging economies		
Risi	Physical and time risk			RP2	Water scarcity can lead to conflict between hospitality sector and local communities		
	perception (PRP): "risk	11.37	2	RP1	There might be wars in the future because of water scarcity	0.803	
	of physical impact and time losses"			RP3	Water scarcity can change the pricing structure of many commodities in hospitality sector		

				RP4	Water scarcity can lead to shortage of essential supplies as food and beverage in hospitality sector	
				RP7	Water scarcity may affect operation lead time in hospitality sector	
	Reputationa l risk perception			RP8	In the next 5 years water scarcity will negatively affect employee spirit and activity in hospitality sector	
(. 0 c	(RRP) risk on corporate image and employee moral"	sk 7.999 e	3	RP9	Water scarcity may negatively influence brand image and reputation of your entity	0.875
				RP10	Water scarcity can negatively influence your consumer purchase decisions	

Table 7.9 Risk perception latent clusters

7.3.3 Sustainable water consumption strategies (SS) variable

7.3.3.1 Component extraction of SS

Table 7.10 show the components of SS extracted by principle component analysis. It indicates how correlated specific strategy to another. The results indicates that just 4 components carry eigenvalue of more than 1 and account for nearly 66.504% of the variance as shown in the cumulative % column. Consequently, the 4 components can be considered as the representative of 21 SS items employed in this study.

Component	Initial Eigenvalues			Extrac	tion Sums Loading	of Squared	Rotation Sums of Squared Loadings		
component	Total	% of Varianc e	Cumulativ e %	Total	% of Varianc e	Cumulativ e %	Tota 1	% of Varianc e	Cumulativ e %
1	9.318	44.369	44.369	9.318	44.369	44.369	5	23.697	23.697
2	2.392	11.391	55.761	2.392	11.391	55.761	3.7	17.473	41.17
3	1.233	5.872	61.632	1.233	5.872	61.632	3.1	14.564	55.734
4	1.023	4.872	66.504	1.023	4.872	66.504	2.3	10.77	66.504
5									
21	0.113	0.54	100						

Table 7.10 Extracted component matrix for sustainable water consumption strategies

7.3.3.2 Factor loading of SS

The rotated component matrix shown in table 7.11 indicates that 19 out of the 21 items of SS successfully loads under the 4 components, only 2 indicators SS8 and SS12 didn't load under any component, thus, those two indicators were deleted for the rest of the study. SS1 and SS19

loads on both components 1 and 4, thus, SS1 was considered in component 1 whereas SS19 was merged to component 4 as they load with higher scores in components 1 and 4 respectively. Table 7.12 shows the factor loading scores, percentages of variance of each component, Eiganvalue, which are extracted from Table 7.10 and 7.11 as well as SS items for each component.

			Componen	t
	1	2	3	4
SS21	.868			
SS20	.814			
SS13	.747			
SS18	.732			
SS14	.722			
SS1	546			.515
SS9	.531			
SS11	.455			
SS10	.451			
SS4		.720		
SS3		.690		
SS7		.658		
SS5		.640		
SS6		.615		
SS17			.870	
SS16			.832	
SS15			.548	
SS8				
SS12				
SS2				.773
SS19	.480			.645

Table 7.11 Rotated component matrix for sustainable water consumption strategies

SS Components	Extracted eigenvalue	Extraction sum of squared loadings: variance %	Rotation sum of squared loadingsva riance %	SS Loadin g Score	SS code	Item
				0.868	SS21	Controls water consumption along the supply chain by conducting environmental audits on suppliers
				0.814	SS20	Prioritises suppliers based on their commitment to water sustainability
				0.747	SS13	Partners with environmental groups for water conservation
				0.732	SS18	Incorporates water management in employee performance evaluation
1	9318	44 36	23 697	0.722	SS14	Engages with relevant stakeholders in designing water management policies
1	1 9.318 44.30	.30	25.077	-0.546	SS1	Complies with government regulations and legislations of water consumption
				0.531	SS9	Have environmental management system to achieve your water saving targets
				0.455	SS11	Possess water usage reporting system to determine and investigate water inefficiencies
				0.451	SS10	Have clear water performance indicators
				0.72	SS4	Have long term vision that aims to reduce water consumption
	2.392	11.39	17.473	0.69	SS3	Encompasses a strong policy on sustainable water consumption n
2				0.658	SS7	Have concrete standard operating procedures for sustainable water consumption practices
				0.64	SS5	Have clear and solid short term objectives for sustainable water consumption
				0.615	SS6	Have clear plan on how to conduct sustainable water consumption practices
			0.87	SS17	Invests in employee environmental training focused on the reduction of water consumption	
3	1.233	5.872	14.564	0.832	SS16	Invests in innovative water saving technologies
				0.548	SS15	Encourages investment in water efficient infrastructure
	1 023	1 870	10.77	0.773	SS2	Seeks reduction of water footprint beyond regulatory requirements
4	1.025	4.072	10.77	0.645	SS19	Gives priority to procurement of water efficient products from suppliers

rable 7.112 components of sustainable water consumption strategies	Table 7.12 Com	ponents of	sustainable	water	consumption	strategies
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7.3.3.3 Latent clusters for SS

The 3 new clusters presented in Table 7.13 are formed based on the 4 extracted components of sustainable water consumption strategies, there is clear distinction between the extracted components, first component relates to different means for implementing and indicators for monitoring sustainable water consumption and thus, is given name of operation strategies (OS), defined as the "strategic means and indicators to implement and monitor sustainable water consumption". second component is highly defined by the long and short term vision, objectives and plans thus, is named as corporate strategies (CS) ; defined as "corporate objectives, policies and plans for sustainable water consumption" and third component uniquely represents investment decisions thus, is named as investment strategies (IS) and defined as "strategic investment proposals for sustainable water consumption", the fourth component is not well defined and the reliability of its scale was low (.539) thus, its two factors are distributed as follows: SS19 was considered in component 1 as it also load with sufficient score in this component and SS2 was deleted from study since it was not ranked in the top 25% important SWC strategies items explained earlier in the descriptive analysis section.

Cronbach's alpha test results for the 3 clusters indicates good and acceptable consistency of all cluster scales. finally, it can be seen from table 7.13 that the resulting 3 clusters explains 61.632 % of variance, thus, the factor analysis for the SS variable had reduced the data into 3 fundamental clusters without compromising much of the data.

	Cluster name and definition	Variance %	Component	code	Item	Cronbach's alpha result
ısumption	operational strategies (OS): strategic			SS21	Controls water consumption along the supply chain by conducting environmental audits on suppliers Prioritises suppliers based on their	
COV. ies	means and			5520	commitment to water sustainability	
ater	indicators to	44.369	1	\$\$13	Partners with environmental groups for	0.903
e Wa	implement			5515	water conservation	
uabl	and monitor			\$\$18	Incorporates water management in	
tair	sustainable			5510	employee performance evaluation	
Sus	water			\$\$14	Engages with relevant stakeholders in	
	consumption			5514	designing water management policies	

	SS1		SS1	Complies with government regulations and legislations of water consumption			
					Have environmental control system to		
				SS9	achieve water saving targets		
					Descases water saving targets		
				SS11	Possess water reporting system to determine		
					and investigate water inefficiencies		
				SS10	Have clear water performance indicators		
					Gives priority to procurement of water		
				SS19	efficient products from suppliers		
	Corporata			SS 4	Have long term vision that aims to reduce		
	corporate			551	water consumption		
	strategies				Encompasses a strong policy on sustainable		
	(CS):			555	water consumption		
	objectives ,				Have concrete standard operating		
		11.391 2		SS7	procedures for sustainable water	0.837	
	policies and				consumption practices		
	plans for	is for cainable er sumption		SS5	Have clear and solid short term objectives		
	sustainable				for sustainable water consumption		
	water				Have clear plan on how to conduct		
	consumption			SS6	sustainable water consumption practices		
	Investment				Invests in employee environmental training		
	strategies			SS17	focused on the reduction of water		
	(IS):			5517	consumption		
	Strategic				Invests in innovative water serving		
	investment proposals			SS16	tashnologios		
		5.872	3			0.787	
	ustoinable			SS15	Encourages investment in water efficient infrastructure		
	sustamable						
	water						
	consumption						

Table 7.13 Sustainable water consumption strategies latent clusters

7.3.4 Sustainable water consumption practices (SP) variable

7.3.4.1 Component extraction of SP

Table 7.14 show the components of SP extracted by principle component analysis. It indicates how correlated practice to another. The results indicates that 4 components carry eigenvalue of more

than 1 and account for nearly 70.226% of the variance as shown in the cumulative % column. Consequently, the 4 components can be considered as the representative of 16 SP employed in this study.

Compone	Ini	tial Eigenv	alues	Extract	ion Sums o Loadings	f Squared	Rotation Sums of Squared Loadings		
nt	Total	% of Varianc e	Cumulativ e %	Total	% of Varianc e	Cumulativ e %	Tota 1	% of Varianc e	Cumulativ e %
1	6.84	42.749	42.749	6.84	42.749	42.749	3.8	24.002	24.002
2	1.874	11.711	54.461	1.874	11.711	54.461	3.5	22.142	46.144
3	1.42	8.877	63.337	1.42	8.877	63.337	2.6	16.159	62.302
4	1.102	6.889	70.226	1.102	6.889	70.226	1.3	7.924	70.226
5									
16	0.114	0.712	100						

Total Variance Explained

Table 7.14 Extracted component matrix for sustainable water consumption practices

7.3.4.2 Factor loading of SP

The rotated component matrix shown in table 7.15 indicates that all items of SP successfully loads under the 4 components, SP11 load on both components 1 and 2, and was considered to belong to component 2 where it loads with higher score. Table 7.16 shows the factor loading scores, percentages of variance of each component, Eiganvalue, which are extracted from Table 7.14 and 7.15 as well as SP items for each component.

	Component							
	1	2	3	4				
SP15	.805							
SP5	.788							
SP9	.698							
SP6	.654							
SP7	.629							
SP4	.601							
SP16	.461							
SP10		.836						
SP12		.798						

Rotated Component Matrix^a

SP13		.766		
SP11	.509	.661		
SP8		.600		
SP2			.805	
SP3			.766	
SP1			.709	
SP14				.928

 Table 7.15 Rotated component matrix for sustainable water consumption practices

SP Components	Extracted eigenvalue	Extraction sum of squared loadings: variance %	Rotation sum of squared loadings: variance %	SP Loading Score	SP code	Item
				0.805	SP15	Organizing or sponsoring water saving events
				0.788	SP5	Consolidating wash loads and processing them in largest possible washers
				0.698	SP9	Rewarding staff to their contribution to water conservation
1	6.84	42.749	24.002	0.654	SP6	Implementing laundry water recycling system
				0.629	SP7	Using grey water from sinks for planting
				0.601	SP4	Implementation of textile reuse program to reduce number of washing cycles
				0.461	SP16	Demonstrating a superior commitment to water resource management through
	1.874	11.711	22.142	0.836	SP10	Educating customers on water saving practices
				0.798	SP12	Encouraging customer participation in activities that reduces your establishment water footprint
2				0.766	SP13	Incorporating water saving information in your marketing materials as guest leaflets
				0.661	SP11	Seeking customer opinion on your water saving practices
				0.6	SP8	Offering training and education programmes to staff on sustainable water consumption practices
				0.805	SP2	Installing/retrofitting sanitary appliances with dual flush and low flow shower heads
3	1.42	8.877	16.159	0.766	SP3	Periodical check and detection for water leakage
				0.709	SP1	Installing/ retrofitting washing equipment with water efficient technologies
4	1.102	6.889	7.924	0.928	SP14	Reviewing water bills to monitor consumption

 Table 7.16 Components of sustainable water consumption practices

7.3.4.3 Latent clusters for SP

The 3 new clusters presented in Table 7.17 are formed based on the 4 extracted components of sustainable water consumption practices, there is clear distinction between the extracted components , first component relates to the operating processes as machine loading, using grey water, laundry recycling and is named operation practices (OP) and defined as "process related activities for sustainable water consumption" second component is highly defined practices related to guests thus, named as guest practices (GP) and defined as "guest related activities for sustainable water consumption" and third component uniquely represents practices for facility maintenance and equipment thus, is named as facility practice (FP) and defined as "facility related activities for sustainable water consumption", the fourth component includes only one component, however this component was ranked number 1 in the descriptive statistics thus, the component was merged with the most matching component number 1 since it is related to operational activity and the percentage of variance of the two components were extracted from table 7.14 and summed up to as shown in table 7.17.

Cronbach's alpha test results for 3 clusters indicates good and acceptable consistency of all cluster scales. finally, it can be seen from table 7.17 that the resulting 3 clusters explains 70.226 % of variance, thus, the factor analysis for the SP variable had reduced the data into 3 fundamental clusters without compromising much of the data.

		Cluster name and definition	Variance %	Component	Code	Item	Cronbach's alpha result
1		0			SP15	Organizing or sponsoring water saving events	
ter consumption tices	practices	49.638	1	SP5	Consolidating wash loads and processing them in largest possible washers		
	process related			SP9	Rewarding staff to their contribution to water conservation		
ble wa	nrac	activities for			SP6	Implementing laundry water recycling system	0.873
ıstainal	water			SP7	Using grey water from sinks for planting		
Sus		consumption			SP4	Implementation of textile reuse program to reduce number of washing cycles	

			SP16	Demonstrating a superior commitment to water resource management through	
		4	SP14	Reviewing water bills to monitor consumption	
			SP10	Educating customers on water saving practices	
Guest practices (GP): guest			SP12	Encouraging customer participation in activities that reduces your establishment water footprint	
related activities for	11.711	2	SP13	Incorporating water saving information in your marketing materials as guest leaflets	0.863
sustainable water			SP11	Seeking customer opinion on your water saving practices	
consumption	n		SP8	Offering training and education programmes to staff on sustainable water consumption practices	
Facility practices			SP2	Installing/retrofitting sanitary appliances with dual flush and low flow shower heads	
(FP): facility related	8.877	3	SP3	Periodical check and detection for water leakage	0.752
activities for sustainable water consumption			SP1	Installing/ retrofitting washing equipment with water efficient technologies	0.702

Table 7.17 Sustainable water consumption practices latent clusters

7.3.5 Stakeholder power attribute

7.3.5.1 Component extraction of power attribute

Table 7.18 show the components of stakeholder power extracted by principle component analysis. It indicates how correlated one type of power to another. The results indicates that 9 components carry eigenvalue of more than 1 and account for nearly 71.955% of the variance as shown in the cumulative % column. Consequently, the 9 components can be considered as the representative of 41 power indicators employed in this study.

Component	In	itial Eigenva	alues	Extraction Sums of Squared Loadings				Rotation Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulati %	ve	Total	% of Variance	Cumul ative %	
1	9.673	23.592	23.592	9.673	23.592	23.	592	5.034	12.278	12.278	
2	4.199	10.242	33.835	4.199	10.242	33.	835	4.918	11.995	24.272	
3	4.008	9.775	43.61	4.008	9.775	43	3.61	4.437	10.822	35.094	
4	3.514	8.57	52.18	3.514	8.57	52	2.18	3.391	8.27	43.364	
5	2.692	6.567	58.747	2.692	6.567	58.	747	3.308	8.068	51.432	
6	1.915	4.672	63.418	1.915	4.672	63.	418	2.931	7.148	58.58	
7	1.27	3.097	66.516	1.27	3.097	66.	516	2.902	7.079	65.659	
8	1.201	2.928	69.444	1.201	2.928	69.	444	1.306	3.186	68.845	
9	1.03	2.511	71.955	1.03	2.511	71.	955	1.275	3.11	71.955	
10	0.993	2.421	74.376								
11											
41	0.047	0.114	100								

Table 7.18 Extracted component matrix for stakeholder power attribute

7.3.5.2 Factor loading of power attribute

The rotated component matrix shown in table 7.19 indicates that all items of stakeholder power successfully loads under the 9 components, NP2 load on both components 2 and 5, and was considered to belong to component 2 where it loads with higher score. Table 7.20 shows the factor loading scores, percentages of variance of each component, Eiganvalue, which are extracted from Table 7.18 and 7.19 as well as stakeholder power items for each component.

	Component									
	1	2	3	4	5	6	7	8	9	
BP8	.866									
BP9	.830									
BP6	.827									
BP5	.776									
BP3	.757									
BP4	.748									
BP7	.678									
NP5		.813								
NP6		.802								
NP4		.780								

Rotated Component Matrix^a

NP8	.766							
NP1	.739							
NP2	.717			.459				
NP7	.698							
NP3	.667							
MP4		.875						
MP5		.868						
MP3		.864						
MP2		.832						
MP6		.815						
MP1		.595						
CP3			.854					
CP4			.814					
CP5			.764					
CP1			.634					
CP2			.634					
GP2				.805				
GP3				.706				
GP4				.625				
BP1				.620				
GP1				.518				
GP11					.867			
GP12					.802			
GP13					.637			
GP10					.521			
GP8						.779		
GP6						.711		
GP7						.629		
GP5						.536		
BP2							.697	
GP9								.516

Table 7.19 Rotated component matrix for stakeholder power attribute

Stakeholder power Components	Extracted eigenvalue	Extraction sum of squared loadings: variance %	Rotation sum of squared loadings: variance %	Stakeholder power Loading Score	Stakeholder code	Item
	9.673	23.592	12.278	0.866	BP8	Industrial associations share trustful information on successful water management practices
				0.83	BP9	Competitors/suppliers/ agents lead by example in adopting strategies and practices for water sustainable consumption
1				0.827	BP6	Suppliers/industrial associations promote installation of water efficient devices through various marketing activities
				0.776	BP5	Suppliers offer water efficient devices at reduced prices
				0.757	BP3	Financial agents provide access to low cost funds for investment in water saving infrastructure
				0.748	BP4	Suppliers provide innovative water efficient products
				0.678	BP7	Industrial associations offer training programmes on sustainable water consumption strategies and practices
	4.199	10.242	11.995	0.813	NP5	Release trustworthy information on water efficient product testing
				0.802	NP6	Open dialogue between relevant stakeholders on best practices on sustainable water consumption
				0.78	NP4	Develop Comprehensive labels for water efficient products
2				0.766	NP8	Build credible organisation social image when partner with good performers in water consumption
				0.739	NP1	Mobilise customer demand for more conservative water performance from the hospitality sector
				0.717	NP2	Publicise lapses/file lawsuits on poor environmental water performance within the hospitality sector
				0.698	NP7	Promote good environmental water performers
				0.667	NP3	Efficiently guide you on the performance of water saving products
3	4.008	9.775	10.822	0.875	MP4	Promote discussion forums on water sustainability

				0.868	MP5	Convey to community clearly the environmental cost of excessive water consumption in hospitality sector
				0.864	MP3	Release trustworthy information on good environmental water performers
				0.832	MP2	Disseminate credible information about best practices on sustainable water consumption
				0.815	MP1	Provide awareness campaigns on water scarcity
				0.595	MP6	Publicly condemned unsustainable water practices in hospitality sector
	3.514	8.57	8.27	0.854	CP3	Consider environmental water performance in their buying and consumption pattern
4				0.814	CP4	Use their expert power to disseminate transparent information on entities' water performance through the internet
				0.764	CP5	Promote good water performers through word of mouth
				0.634	CP1	Increased loyalty for good environmental water performers
				0.634	CP2	Impose sanctions (boycott) on poor environmental water performers
	2.692	6.567	8.068	0.805	GP2	Set environmentally based tax reform with subsidies and reduced taxes on positive water consumption attitude in hospitality sector
				0.706	GP3	Set progressive penalties or fines for activities associated with water misuse in hospitality sector.
5				0.625	GP4	Set permits and caps on specific water use in hospitality sector
				0.62	BP1	Suppliers/industrial associations impose sanctions (e.g. boycott) on poor environmental water performers
				0.518	GP1	Set water tariffs at rate that discourages excessive water consumption in hospitality sector
	1.915	4.672	7.148	0.867	GP11	Possesses efficient procedures for managing water resources
				0.802	GP12	Present transparent control of water resources by public administrators.
6				0.637	GP13	Represent a role model in adopting strategies and practices for sustainable water consumption
				0.521	GP10	Communicate the necessity of sustainable water consumption and the importance of water consumption auto- regulation within the hospitality sector
7	1.27		7.079		GP8	Provide environmental education to hospitality sector

		3.097		0.779		
				0.711	GP6	Provide green infrastructure that helps your establishment to save water
				0.629	GP7	Provide effective water consumption feedback/alerts to your entity
				0.536	GP5	Inspect and evaluate water consumption in hospitality sector
8	1.201	2.928	3.186	0.697	BP2	Competitors achieve competitive advantage due to successful implementation of sustainable water consumption strategies and practices
9	1.03	2.511	3.11	516	GP9	Disseminate information related to the impact of the water scarcity and its effect on the future of humanity to hospitality sector.

Table 7.20 Components of stakeholder power attribute

7.3.5.3 Latent clusters for stakeholder power

The 7 new clusters presented in Table 7.21 are formed based on the 9 extracted components of stakeholder power, there is clear distinction between the extracted components based on both the stakeholder group and type of power, first component relates to business power however all types of power included represent both utilitarian power, based on the use of material resources (provision of good and services) and symbolic power, based on the use of nonmaterial means (logos, symbols) (Mitchell et al., 1997) thus, this type of power is named business utilitarian and symbolic power (BUSP) and is defined as the business use of material or non-material means to impose will.

Second component is highly defined by the stakeholder group; NGO with no power types differentiated thus, this cluster is named as NGO power (NP) and is defined as NGO use of force, material and non-material means to impose will. Third and fourth components similarly, represent undifferentiated power types of two distinct stakeholders and is named media power (MP) and customer power (CP) respectively and defined as media use of force, material and non-material means to impose will and customer use of force, material and non-material means to impose will and customer use of force, material and non-material means to impose will respectively. The fifth component is a mix of the coercive power, defined as the power of using force to impose own will (Mitchell et al., 1997) for two stakeholder groups thus, this cluster is named government and business coercive power (GBCP) and is defined as government and business use of force to impose will. The sixth and seventh components are clearly defined by both stakeholder group and type of power thus, it is categorized as government utilitarian power (GSP), defined as government use of non-material means to impose will and government utilitarian power

(GUP), government use of material means to impose will respectively. The eighth component includes only one factor that is ranked as the first important factor as per the descriptive analysis thus, this component is merged with the most relevant component number 5 and the percentage of variance of the two components were extracted from table 7.18 and summed up to as shown in table 7.21. Finally, the ninth component include only one factor; GP9 that is not ranked in the top 25% of important factors as per the descriptive analysis, thus, this component is deleted from the rest of study.

Cronbach's alpha test results for 7 clusters shown in table 7.21 indicates excellent, good and acceptable consistency of all cluster scales. finally, it can be seen from table 7.21 that the resulting 7 clusters explains 69.443 % of variance, thus, the factor analysis for the stakeholder power attribute had reduced the data into 7 fundamental clusters without compromising much of the data.

	Cluster	Variance %	Component	Code	Item	Cronbach's alpha result
Stakeholder power attribute	Business utilitarian and symbolic power (BUSP): business use of material or non- material means to impose will	23.592		BP8 BP9 BP6 BP5 BP3	Industrial associations share trustful information on successful water management practicesCompetitors/suppliers/ agents lead by example in adopting strategies and practices for water sustainable consumptionSuppliers/industrial associations promote installation of water efficient devices through various marketing activitiesSuppliers offer water efficient devices at reduced pricesFinancial agents provide access to low cost funds for investment in water saving infrastructure	0.917
				BP4	Suppliers provide innovative water efficient products	

			BP7	Industrial associations offer training programmes on sustainable water consumption strategies and practices	
			NP5	Release trustworthy information on water efficient product testing	
			NP6	Open dialogue between relevant stakeholders on best practices on sustainable water consumption	
NGO			NP4	Develop Comprehensive labels for water efficient products	
NGO power (NP): NGO use of force, material and	10.242	2	NP8	Build credible organisation social image when partner with good performers in water consumption	0.902
non- material means to impose will			NP1	Mobilise customer demand for more conservative water performance from the hospitality sector	
			NP2	Publicise lapses/file lawsuits on poor environmental water performance within the hospitality sector	
			NP7	Promote good environmental water performers	
			NP3	Efficiently guide you on the performance of water saving products	
Media power	9 775		MP4	Promote discussion forums on water sustainability	
(MP): media use of force, material and	2.113		MP5	Convey to community clearly the environmental cost of excessive water consumption in hospitality sector	0.913

non- material			MP3	Release trustworthy information on good environmental water performers	
means to impose will			MP2	Disseminate credible information about best practices on sustainable water consumption	-
			MP1	Provide awareness campaigns on water scarcity	-
			MP6	Publicly condemned unsustainable water practices in hospitality sector	-
			CP3	Consider environmental water performance in their buying and consumption pattern	
Customer power (CP): customer			CP4	Use their expert power to disseminate transparent information on entities' water performance through the internet	
material and non-	8.570	4	CP5	Promote good water performers through word of mouth	0.837
material means to impose will			CP1	Increased loyalty for good environmental water performers	
			CP2	Impose sanctions (boycott) on poor environmental water performers	
Government and business			GP2	Set environmentally based tax reform with subsidies and reduced taxes on positive water consumption attitude in hospitality sector	
coercive power (GBCP):	9.495	5	GP3	Set progressive penalties or fines for activities associated with water misuse in hospitality sector.	0.823
and business use			GP4	Set permits and caps on specific water use in hospitality sector	

of force to			BP1	Suppliers/industrial associations impose]
impose will				sanctions (e.g. boycott) on poor environmental	
				water performers	
			GP1	Set water tariffs at rate that discourages	-
				excessive water consumption in hospitality	
				sector	
				Competitors achieve competitive advantage	
				due to successful implementation of	
		8	BP2	sustainable water consumption strategies and	
				practices	
			GP11	Possesses efficient procedures for managing	
				water resources	
Government			GP12	Present transparent control of water resources	4
symbolic			0112	by public administrators	
power					
(GSP):	4.672		GP13	Represent a role model in adopting strategies	
government		6		and practices for sustainable water	0.830
use of non-				consumption	
material			CD10		
means to			GP10	Communicate the necessity of sustainable	
impose will				water consumption and the importance of	
				water consumption auto-regulation within the	
				hospitality sector	
Government			GP8	Provide environmental education to hospitality	
utilitarian				sector	
power			CD6	Provide green infrastructure that halve your	-
(GUP):			Uru	establishment to save water	
government	3.097	7	CD7	Dravida affactive water concurrentian	0.746
use of			Ur/	foodback/alorte to your artity	_
material				reeuback/aierts to your entity	
means to			GP5	Inspect and evaluate water consumption in	4
impose will				hospitality sector	

7.3.6 Stakeholder urgency attribute

7.3.6.1 Component extraction of urgency attribute

Table 7.22 show the components of stakeholder urgency attribute extracted by principle component analysis. It indicates how correlated one attribute of urgency to another. The results indicates that 6 components carry eigenvalue of more than 1 and account for nearly 71.368% of the variance as shown in the cumulative % column. Consequently, the 6 components can be considered as the representative of 29 urgency indicators employed in this study. Similarly, figure 7.8 of scree plot shows the place where a sharp change in angle occurs which were considered the point that Eigenvalues has less than one (Morgan et al, 2004). The chart line shows that as the line approaches the component with Eigenvalue less than 1, the slope is reducing, it can be seen that the figure curve starting to be horizontal after component 6.

Compone	Ini	tial Eigenv	alues	Extract	ion Sums o Loadings	f Squared	Rotation Sums of Squared Loadings		
nt	Total	% of Varianc e	Cumulativ e %	Total	% of Varianc e	Cumulativ e %	Tota 1	% of Varianc e	Cumulativ e %
1	8.766	30.229	30.229	8.766	30.229	30.229	4.2	14.514	14.514
2	3.973	13.7	43.929	3.973	13.7	43.929	4	13.912	28.426
3	3.022	10.42	54.349	3.022	10.42	54.349	3.7	12.846	41.272
4	2.072	7.146	61.494	2.072	7.146	61.494	3.6	12.479	53.752
5	1.708	5.89	67.384	1.708	5.89	67.384	3.3	11.438	65.19
6	1.155	3.984	71.368	1.155	3.984	71.368	1.8	6.178	71.368
7									
29	0.051	0.175	100						

Table 7.22 Extracted component matrix for stakeholder urgency attribute

7.3.6.2 Factor loading of urgency attribute

The rotated component matrix shown in table 7.23 indicates that all items of stakeholder urgency successfully loads under the 6 components, NU4 load on both components 2 and 6, and was considered to belong to component 2 where it loads with higher score. Table 7.24 shows the factor loading scores, percentages of variance of each component, Eiganvalue, which are extracted from Table 7.22 and 7.23 as well as stakeholder urgency items for each component.

	Component							
	1	2	3	4	5	6		
CU6	.857							
CU1	.798							
CU4	.791							
CU5	.786							
CU3	.750							
CU2	.712							
NU2		.881						
NU1		.849						
NU3		.756						
NU5		.743						
NU6		.735						
NU4		.597				.538		
BU1			.894					
BU2			.893					
BU4			.802					
BU3			.750					
BU5			.609					
MU3				.831				
MU2				.818				
MU4				.767				
MU5				.740				
MU1				.691				
GU3					.784			
GU1					.739			
GU2					.731			
GU7					.725			
GU4					.638			
GU6						.671		
GU5						.669		

Rotated Component Matrix^a

Table 7.23 Rotated component matrix for stakeholder urgency attribute

Stakeh older urgenc y Compo nents	Extrac ted eigenv alue	Extraction sum of squared loadings: variance %	Rotation sum of squared loadings : variance %	Stakehol der urgency loading score	Stakehol der code	Item
			14.514	0.857	CU6	Your entity gives priority to listen to customers complaints on excessive water consumption
				0.798	CU1	Customers' requests on sustainable water consumption are attended to by your entity
				0.791	CU4	Proactively shaping customer's values on water saving is important to your entity
1	8.766	30.229		0.786	CU5	Your entity gives timely attention to communicate its water saving efforts to its customers
				0.75	CU3	Your entity consider ignorance of customer claims on sustainable water sustainable consumption will adversely affect your bottom line
				0.712	CU2	Your entity actively responds to customers' requests on sustainable water consumption
	3.973	13.7	13.912	0.881	NU2	Your entity provide immediate response to NGO communications on sustainable water consumption
				0.849	NU1	Your entity gives attention to NGO requests on sustainable water consumption
2				0.756	NU3	Your entity considers ignorance of NGO sustainable water consumption claims will adversely affect your future development plans
2				0.743	NU5	Your entity gives priority to attend workshops on sustainable water consumption organised by NGO
				0.735	NU6	Your entity gives priority to familiarize with new water saving labels and information on best water saving practices released by NGO
				.597.	NU4	Your entity engage in negotiations and open timely dialogues with NGO on water sustainability
3	2.072	7.146	12.479	0.894	BU1	Your entity gives attention to business stakeholders' requests on sustainable water consumption
				0.893	BU2	Your entity provides timely response to business stakeholders' claims on sustainable water consumption
				0.802	BU4	Your entity considers that ignorance of business stakeholder's claims on
						sustainable water consumption will
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						Your entity works actively to satisfy
				0.75	BU3	sustainable water consumption
				0.75	005	requirements of environmentally
						oriented suppliers/agents
						Your entity gives priority to mimic
				0.609	BU5	sustainable water consumption strategies
						and practices
						Your entity considers detachment from
				0.831	MU3	media to shield from their water
						conservation claims may adversely affect
						Your entity gives immediate response to
				0.818	MU2	media requests on sustainable water
4	1 708	5 80	11 /29			consumption
4	1.708	5.89	11.430			Your entity gives priority to
				0.767	MU4	communicate its water saving efforts to
						the media
				0.74	MU5	with water related media campaigns
				0.601		Water issues of media concern gain the
				0.691	MUI	attention of your entity
						Your entity fully comply with
				0.784	GU3	government legislations on sustainable
						Water consumption
	1 708	5 89	11 438	0 739	GU1	government requests on sustainable
	1.700	5.69	11.150	0.757	001	water consumption
						Your entity provide immediate response
5				0.731	GU2	to government claims on sustainable
-						water consumption
				0.725	GU7	Your entity gives priority to engage in government initiative's on water
				0.725	007	sustainability
						Your entity consider that late response to
				0.638	GUA	government claims on sustainable water
				0.058	004	consumption will incur incompliance
						costs
				0.671	GU6	rour entity actively participates in government forums on sustainable water
				0.071	000	consumption
6	1.155	3.984	6.178			Your entity gives attention to familiarize
				0.669	GU5	with water consumption legislations and
				0.007	005	government released information on
						water consumption

Table 7.24 Components of stakeholder	r urgency attribute
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7.3.6.3 Latent clusters for stakeholder urgency

The 5 new clusters presented in Table 7.25 are formed based on the 6 extracted components of stakeholder urgency, there is clear distinction between the extracted components based on stakeholder group, first component relates to customer urgency (CU), defined as the degree to

which a customer's claim calls for instant attention. The second component is highly defined by the stakeholder group and is named as NGO urgency (NU), defined as the degree to which NGO's claim calls for instant attention. Third and fourth components Similarly, represent two groups of stakeholder urgency and are named business urgency (BU) and media urgency (MU), defined as the as the degree to which business's claim calls for instant attention and the degree to which a media's claim calls for instant attention respectively. The fifth and sixth components are both related to government urgency and thus, are merged in one cluster named government urgency (GU), defined as the degree to which government's claim calls for instant attention and the percentage of variance of the two components were extracted from table 7.22 and summed up to as shown in table 7.25.

Cronbach's alpha test results for 5 clusters shown in table 7.25 indicates excellent, good and acceptable consistency of all cluster scales. finally, it can be seen from table 7.25 that the resulting 5 clusters explains 71.37 % of variance, thus, the factor analysis for the stakeholder urgency attribute had reduced the data into 5 fundamental clusters without compromising much of the data.

	Cluster	Variance %	Component	Code	Item	Cronbach's alpha result
oute	Customer urgency			CU6 CU1	Your entity gives priority to listen to customers complaints on excessive water consumption Customers' requests on sustainable water	
Stakeholder urgency attrib	(CU): the degree to which customer's	30.23	1	CU4	consumption are attended to by your entity Proactively shaping customer's values on water saving is important to your entity	0.899
	claim calls for instant attention.			CU5	Your entity gives timely attention to communicate its water saving efforts to its customers	
				CU3	Your entity consider ignorance of customer claims on sustainable water sustainable	

				consumption will adversely affect your bottom line	
			CU2	Your entity actively responds to customers' requests on sustainable water consumption	
			NU2	Your entity provide immediate response to NGO communications on sustainable water consumption	
			NU1	Your entity gives attention to NGO requests on sustainable water consumption	
NGO urgency (NU): the degree to			NU3	Your entity considers ignorance of NGO sustainable water consumption claims will adversely affect your future development plans	
which NGO's claim calls for instant	13.7	2	NU5	Your entity gives priority to attend workshops on sustainable water consumption organised by NGO	0.901
attention.			NU6	Your entity gives priority to familiarize with new water saving labels and information on best water saving practices released by NGO	
			NU4	Your entity engage in negotiations and open timely dialogues with NGO on water sustainability	
Business urgency (BU): the			BU1	Your entity gives attention to business stakeholders' requests on sustainable water consumption	
which business's claim calls	10.42	3	BU2	Your entity provides timely response to business stakeholders' claims on sustainable water consumption	0.897
for instant attention.			BU4	Your entity considers that ignorance of business stakeholder's claims on sustainable	

				water consumption will adversely affect your operation	
			BU3	Your entity works actively to satisfy sustainable water consumption requirements of environmentally oriented suppliers/agents	
			BU5	Your entity gives priority to mimic competitors/suppliers successful sustainable water consumption strategies and practices	
Media			MU3	Your entity considers detachment from media to shield from their water conservation claims may adversely affect your reputation	
urgency (MU): the degree to			MU2	Your entity gives immediate response to media requests on sustainable water consumption	
which media's claim calls	7.146	4	MU4	Your entity gives priority to communicate its water saving efforts to the media	0.888
for instant attention.			MU5	Your entity gives attention to get familiar with water related media campaigns	
			MU1	Water issues of media concern gain the attention of your entity	
Government			GU3	Your entity fully comply with government legislations on sustainable water consumption	
(GU): the degree to			GU1	Your entity gives attention to government requests on sustainable water consumption	
which government's claim calls	9.874	5	GU2	Your entity provide immediate response to government claims on sustainable water consumption	0.838
attention.			GU7	Your entity gives priority to engage in government initiative's on water sustainability	

	GU4	Your entity consider that late response to government claims on sustainable water consumption will incur incompliance costs
	GU6	Your entity actively participates in government forums on sustainable water consumption
6	GU5	Your entity gives attention to familiarize with water consumption legislations and government released information on water consumption

Table 7.2	25 Stakeholder	urgency attribute	e latent clusters
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7.3.7 Stakeholder legitimacy attribute

7.3.7.1 Component Extraction of legitimacy attribute

Table 7.26 show the components of stakeholder legitimacy extracted by principle component analysis. It indicates how correlated a legitimacy attribute to another. The results indicates that 6 components carry eigenvalue of more than 1 and account for nearly 71.363% of the variance as shown in the cumulative % column. Consequently, the 6 components can be considered as the representative of 25 legitimacy attributes employed in this study.

Component	In	itial Eigenva	alues	Extrac	tion Sums of Loadings	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance
1	8.952	35.807	35.807	8.952	35.807	35.807	5.27	21.079
2	3.273	13.092	48.899	3.273	13.092	48.899	3.43	13.72
3	1.902	7.607	56.506	1.902	7.607	56.506	2.99	11.961
4	1.414	5.656	62.162	1.414	5.656	62.162	2.616	10.464
5	1.274	5.094	67.256	1.274	5.094	67.256	1.898	7.592
6	1.027	4.106	71.363	1.027	4.106	71.363	1.637	6.547
7	0.875	3.502	74.864					
25	0.064	0.254	100					

Table 7.26 Extracted component matrix for stakeholder legitimacy attribute

7.3.7.2 Factor loading of legitimacy attribute

The rotated component matrix shown in table 7.27 indicates that all items of stakeholder legitimacy successfully loads under the 6 components, NL4 load on both components 1 and 3, and was considered to belong to component 3 where it loads with higher score, GL2 load on both components 4 and 6, and was considered to belong to component 4 where it loads with higher score and ML2 load on both components 2 and 6, and was considered to belong to component 6 where it loads with higher score. Table 7.28 shows the factor loading scores, percentages of variance of each component, Eiganvalue, which are extracted from Table 7.26 and 7.27 as well as stakeholder legitimacy items for each component.

	Component										
	1	2	3	4	5	6					
GL8	.894										
GL4	.874										
BL3	.836										
BL1	.753										
GL3	.742										
BL2	.727										
BL4	.727										
CL2		.825									
CL3		.767									
CL4		.704									
CL1		.673									
ML3		.634									
NL2			.837								
NL3			.787								
NL1			.647								
NL4	.510		.545								
BL5			.520								
GL7				.711							
GL6				.688							
GL5				.665							
GL2				.537		.483					
NL5					.749						
GL1					.748						
ML1						.760					
ML2		.458				.627					

Rotated Component Matrix^a

Table 7.27 Rotated component matrix for stakeholder legitimacy attribute

Stakeholder legitimacy Component	Extracte d eigenval ue	Extracti on sum of squared loadings: variance %	Rotatio n sum of square d loading s: varianc e %	Stakehold er legitimacy Loading Score	Stakehold er code	Item	
				0.857	GL8	Setting permits and caps on certain water usage in hospitality sector is appropriate government action	
				0.798	GL4	Establishment of progressive penalties for activities resulting in excessive water use in hospitality sector is appropriate government claim	
		8.952 35.807	21.079	0.791	BL3	Suppliers' request to comply with voluntary environmental standards with regards to water consumption is appropriate	
1	8.952			21.079	0.786	BL1	Business stakeholders' request to reduce your water footprint is a proper claim
					0.75	GL3	Imposing environmentally based tax reform on water consumption in hospitality sector is a proper government action
				0.712	BL2	Suppliers' evaluation of your entity water performance is a desirable action	
				0.727	BL4	Suppliers'/ agents' boycott to poor water performers in hospitality sector is a proper action	
				0.825	CL2	Customers' free access to information on the water performance of your entity is appropriate claim	
2	3 273	13 092	13 72	0.767	CL3	Customers' refute and denounce of unsustainable water consumption in hospitality sector is proper action	
	5.215	3.273 13.092	13.72	0.704	CL4	Customers' boycott to poor water performers in hospitality sector is a desirable action	
				0.673	CL1	Customers' request to curb your water consumption is suitable	
				0.634	ML3	Media free access to information on the water performance of your entity is appropriate claim	

				0.837	NL2	Environmental site inspection by NGO on your water consumption is welcomed
	1.902	7.607		0.787	NL3	NGO condemnation of unsustainable water practices in hospitality sector is proper action
3				0.647	NL1	NGO requests to adopt sustainable water consumption practices sector are legitimate
			11.961	0.545	NL4	Filing lawsuits against poor water performers in hospitality sector is appropriate action by NGO
				0.52	BL5	Competitors' demand to share your entity water sustainable consumption strategy and practices is appropriate
				0.711	GL7	Regulatory inspection on water usage in hospitality sector is proper government action
4	1.414	414 5.656	10.464	0.688	GL6	Compulsory implementation of sustainable water consumption practices in hospitality sector is appropriate government regulation
				0.665	GL5	Imposing mandatory disclosure of water performance in hospitality sector is appropriate government legislation
				0.537	GL2	Calling for reduction of water footprint in hospitality sector is legitimate government request
5	1 274	5.094	7.592	0.749	NL5	Lobbying for more stringent regulations for sustainable water consumption in hospitality sector is a desirable action by NGO
5	1.274			0.748	GL1	Setting water sustainability regulations and guidelines for hospitality sector is a legitimate government action
6	1 027	1 106	6 5 17	0.76	ML1	Media requests on sustainable water consumption in hospitality sector are not suitable
U	1.027	4.100	0.347	0.627	ML2	Media condemnation of unsustainable water practices to public is proper action

Table 7.28 Components of stakeholder legitimacy attribute

7.3.7.3 Latent clusters for stakeholder legitimacy

The 5 new clusters presented in Table 7.29 are formed based on the 6 extracted components of stakeholder legitimacy, there is distinction between the extracted components based on stakeholder

group and type of legitimacy, first component relates to business legitimacy and government legitimacy related to financial policies thus, this cluster is named business and fiscal government legitimacy (BFGL), defined as the degree to which business and fiscal government actions are perceived as appropriate.

Second component is highly defined by the stakeholder group and is named as customer legitimacy (CL), defined as the degree to which customers actions are considered appropriate. However this component has one factor from media legitimacy (ML3) but loaded with the least score and since this factor was not ranked in the top 25% important items explained earlier in the descriptive analysis section, it will be deleted from the rest of the study. Third component similarly, represent NGO legitimacy (NL), defined as the degree to which NGO actions are considered appropriate. However, has one factor from business legitimacy that loaded with the least score and is not within the top 25% of important factors as per descriptive analysis, thus, will be deleted from the rest of the study. Fourth and fifth components explains regulatory government legitimacy with only one indicator related to NGO legitimacy, however this indicator has an indirect effect on government regulatory legitimacy thus, both components are merged and named government regulatory legitimacy (GL), defined as the degree to which government regulatory actions are perceived as appropriate by the firm. The percentage of variance of the two components were extracted from table 7.26 and summed up to as shown in table 7.29. Finally the sixth component is a differentiated media legitimacy (ML), defined as the degree to which media actions are perceived as appropriate by the firm.

Cronbach's alpha test results for the 5 clusters shown in table 7.29 indicates excellent, good and acceptable consistency of all cluster scales except the sixth cluster where the alpha score was below acceptable level (.690). Therefore, this cluster was merged with customer legitimacy cluster and renamed as customer and media legitimacy (CML), defined as the degree to which customer and media actions are considered appropriate by the firm and the Cronbach's alpha score showed good consistency as shown in table 7.30 and the percentage of variance of the two components were extracted from table 7.26 and summed up. finally, it can be seen from table 7.30 that the resulting 4 clusters explains 72.172% of variance, thus, the factor analysis for the stakeholder legitimacy attribute had reduced the data into 4 fundamental clusters without compromising much of the data.

		Variance				Cronbach's
	Cluster	variance	Component	Code	Item	alpha
		70				result
Stakeholder legitimacy	Business and government fiscal legitimacy (BFGL): the degree to which business and fiscal government actions are perceived as appropriate by the firm.	35.807	1	GL8 GL4 BL3	Setting permits and caps on certain water usage in hospitality sector is appropriate government action Establishment of progressive penalties for activities resulting in excessive water use in hospitality sector is appropriate government claim Suppliers' request to comply with voluntary environmental standards with regards to water consumption is appropriate	0.920
				BL1 GL3 BL2 BL4	Business stakeholders' request to reduce your water footprint is a proper claim Imposing environmentally based tax reform on water consumption in hospitality sector is a proper government action Suppliers' evaluation of your entity water performance is a desirable action Suppliers'/ agents' boycott to poor water performers in hospitality sector is a proper action	
	Customer legitimacy (CL): the	13.092	2	CL2	Customers' free access to information on the water performance of your entity is appropriate claim	0.843

degree to which customer actions are perceived as appropriate by the firm.			CL3 CL4 CL1	Customers' refute and denounce of unsustainable water consumption in hospitality sector is proper action Customers' boycott to poor water performers in hospitality sector is a desirable action Customers' request to curb your water consumption is suitable	
NGO legitimacy (NL): the degree to which NGO actions are perceived as appropriate by the firm.	7.607	3	NL2 NL3 NL1 NL4	Environmental site inspection by NGO on your water consumption is welcomed NGO condemnation of unsustainable water practices in hospitality sector is proper action NGO requests to adopt sustainable water consumption practices sector are legitimate Filing lawsuits against poor water performers in hospitality sector is appropriate action by NGO	0.814
Government Regulatory legitimacy (GRL): the degree to which government regulatory actions are perceived as	10.75	4	GL7 GL6 GL5	Regulatory inspection on water usage in hospitality sector is proper government action Compulsory implementation of sustainable water consumption practices in hospitality sector is appropriate government regulation Imposing mandatory disclosure of water performance in hospitality sector is appropriate government legislation	0.75

appropriate			GL2	Calling for reduction of water footprint in]
by the firm.				hospitality sector is legitimate government	
				request	
					-
			NL5	Lobbying for more stringent regulations for	
				sustainable water consumption in	
				hospitality sector is a desirable action by	
		5		NGO	
		5	GL1	Setting water sustainability regulations and	-
			0L1	guidelines for hospitality sector is a	
				legitimate government action	
				legitimate government action	
Media			ML1	Media requests on sustainable water	
legitimacy	4.106			consumption in hospitality sector are not	
(ML): the				suitable	
degree to					-
which		C	ML2		0.600
media		0			0.090
actions are					
perceived as				Modia condemnation of unsustainable	
appropriate				water practices to public is proper action	
by the firm				water practices to public is proper action	

Table 7.29 Stakeholder legitimacy attribute latent clusters: 5 new clusters

		Variance				Cronbach's
	Cluster		Component	Code	Item	alpha
		/0				result
	Business and government fiscal			GL8	Setting permits and caps on certain water usage in hospitality sector is appropriate government action	
	legitimacy (BFGL): the degree to which			GL4	Establishment of progressive penalties for activities resulting in excessive water use in hospitality sector is appropriate government claim	
Stakeholder legitimacy	business and fiscal government actions are perceived as appropriate by the firm	35.807	1	BL3	Suppliers' request to comply with voluntary environmental standards with regards to water consumption is appropriate	0.92
				BL1	Business stakeholders' request to reduce your water footprint is a proper claim	
				GL3	Imposing environmentally based tax reform on water consumption in hospitality sector is a proper government action	
				BL2	Suppliers' evaluation of your entity water performance is a desirable action	
				BL4	Suppliers'/ agents' boycott to poor water performers in hospitality sector is a proper action	
	Customer and media legitimacy	17.192	2	CL2	Customers' free access to information on the water performance of your entity is appropriate claim	0.845
	(CML): the degree to which			CL3	Customers' refute and denounce of unsustainable water consumption in hospitality sector is proper action	

customer and media actions are perceived as appropriate			CL4 CL1	Customers' boycott to poor water performers in hospitality sector is a desirable action Customers' request to curb your water consumption is suitable	
by the firm.		6	ML1	Media requests on sustainable water consumption in hospitality sector are not suitable	
		0	ML2	Media condemnation of unsustainable water practices to public is proper action	
NGO			NL2	Environmental site inspection by NGO on your water consumption is welcomed	
(NL): the degree to	7.607	3	NL3	NGO condemnation of unsustainable water practices in hospitality sector is proper action	0.814
actions are perceived as	1.007	5	NL1	NGO requests to adopt sustainable water consumption practices sector are legitimate	0.014
by the firm			NL4	Filing lawsuits against poor water performers in hospitality sector is appropriate action by NGO	
Government Regulatory legitimacy			GL7	Regulatory inspection on water usage in hospitality sector is proper government action	
(GRL): the degree to which government regulatory		4	GL6	Compulsory implementation of sustainable water consumption practices in hospitality sector is appropriate government regulation	0.75
actions are perceived as appropriate by the firm			GL5	Imposing mandatory disclosure of water performance in hospitality sector is appropriate government legislation	

		GL2	Calling for reduction of water footprint in hospitality sector is legitimate government request	
	5	NL5	Lobbying for more stringent regulations for sustainable water consumption in hospitality sector is a desirable action by NGO	
		GL1	Setting water sustainability regulations and guidelines for hospitality sector is a legitimate government action	

Table 7.30 Stakeholder legitimacy attribute latent clusters: 4 new clusters

7.4 Descriptive analysis of generated latent clusters

7.4.1 Latent clusters outliers

According to Pallant (2016), outliers tend to skew the data and distort the result of certain analysis such as correlation test and multiple regression tests, thus, outliers for the generated clusters are checked using Boxplot chart builder in SPSS Software, the results summarized in table 7.31 below indicate that there is lot of outlier cases (34 case).

Since transformation of data is one of the best methods in dealing with and mitigating the effect of outliers as it does not change the relationships between variables (the relative differences between people for a given variable stay the same) and since the data in this research tends to be positively skewed due to the effect of outliers, thus, square root transformation had been selected as it was indicated to be the remedy for positively skewed data due to the presence of outliers (Field, 2009). After transformation, clusters are recoded as per table 7.31.

Cluster code before transformation	Number of outlier cases	Cluster code after transformation
PBC	1	SQPBC
ATT	1	SQATT
SN	1	SQSN
IN	0	SQIN
OPR	1	SQOPR
PRP	1	SQPRP
RRP	0	SQRRP

CS	2	SQCS
OS	0	SQOS
IS	4	SQIS
OP	0	SQOP
GP	2	SQGP
FP	3	SQFP
BUSP	0	SQBUSP
NP	3	SQNP
MP	4	SQMP
СР	0	SQCP
GBCP	0	SQGBCP
GSP	1	SQGSP
GUP	1	SQGUP
CU	2	SQCU
NU	2	SQNU
MU	2	SQMU
BU	0	SQBU
GU	1	SQGU
BFGL	0	SQBFGL
CML	0	SQCML
NL	1	SQNL
GRL	1	SQGRL
	34	

Table 7.31 Outliers of latent clusters

7.4.2 Checking cluster normality

According to (Field, 2009) who claim that upon transforming data, normality of transformed variables should be checked, therefore, data normality for the transformed clusters will be checked for the generated clusters to select appropriate analysis tool and ensure result robustness.

Assessing the assumption of data normality is critical for making accurate conclusions about reality, normality tests are used to compare the shape of research sample distribution with the shape of normal curve. Normality tests include histograms shapes, Skewness and Kurtosis values, the Kolmogorov-Simmov (K-S), Anscombe-Glynn Kurtosis test, D Agostino-Pearson omnibus test, Jarque-Bera test and Shapiro-Wilk tests. Skewness and kurtosis values is considered one of the most commonly used tests and can be done on SPSS, thus, will be the choice of the researcher in this thesis. the Skewness value indicates the symmetry of distribution

whereas the kurtosis value indicates the "peakedness" of data, perfect normality will have zero skewness and kurtosis (Tabackhinck and Fidell , 2013), however in reality data are often skewed and kurotic thus, a z-value for skewness and kurtosis that lies between 1.96 and -1.96 is sufficient to indicate data normality and appropriateness of parametric tests (Ghasemi and Zahediasl 2012).

Results of normality tests for all the clusters are demonstrated in the 7.32, 7.33, 7.34, 7.35 and 7.36 where z-value for skewness and z-value for kurtosis are calculated as follows:

Z-skewness= skewness/SE skewness

Z-kurtosis= kurtosis/SE kurtosis

The results indicates that 23 clusters have Z-skewness and Z-kurtosis values within the accepted range (1.96 to -1.96) thus, satisfy normality assumption, whereas, three clusters namely SQFP, SQCU and SQMP are slightly positively skewed and three clusters are slightly kurotic namely SQRRP, SQBU and SQBFGL, however since majority of variables proofs normality, data will be considered normal and parametric tests will be adopted for this research and the impact of those clusters that lie outside the normal range will be rechecked in Multiple Regression test using Normal P-P plot of regression standardized residual to ensure that the normality assumption is not violated and didn't affect result robustness.

		SQPBC	SQATT	SQINT	SQSN	SQOPR	SQPRP	SQRRP
Ν	Valid	106	106	106	106	106	106	106
	Missing	0	0	0	0	0	0	0
Skewness		.189	.258	.109	.448	.349	.279	.043
Std. Error	of Skewness	.235	.235	.235	.235	.235	.235	.235
Z-Skewn	ess	.806	1.098	.464	1.908	1.487	1.190	.182
Kurtosis		734	117	856	629	435	571	970
Std. Error	of Kurtosis	.465	.465	.465	.465	.465	.465	.465
Z-kurtosis	8							
		-1.57768	-0.2519	-1.83979	-1.3521	-0.93496	-1.22664	-2.08521

Table 7.32 Skewness and I	<pre>Kurtosis values for</pre>	environmental	concern and risk	perception clusters

		SQOS	SQCS	SQIS	SQOP	SQGP	SQFP
Ν	Valid	106	106	106	106	106	106
	Missing	0	0	0	0	0	0
Skewne	SS	.187	.445	.272	.109	.271	.512
Std. Erro	or of Skewness	.235	.235	.235	.235	.235	.235
Z-Skew	ness	.797	1.899	1.158	.465	1.154	2.180
Kurtosis	5	638	196	547	326	690	541
Std. Erro	or of Kurtosis	.465	.465	.465	.465	.465	.465
Z-kurto	osis	-1.37237	-0.42163	-1.17652	-0.70104	-1.48234	-1.162

Table 7.33 Skewness and Kurtosis values for SS and SP

		SQFBUSP	SQNP	SQMP	SQCP	SQGBCP	SQGSP	SQGUP
Ν	Valid	106	106	106	106	106	106	106
	Missing	0	0	0	0	0	0	0
Skewnes	S	.319	.449	.539	.226	034	.436	.191
Std. Erro	r of Skewness	.235	.235	.235	.235	.235	.235	.235
Z-Skewn	ess	1.361	1.913	2.296	.962	144	1.857	.812
Kurtosis		629	.055	.583	787	863	516	888
Std. Erro	r of Kurtosis	.465	.465	.465	.465	.465	.465	.465
Z-kurtosi	is						-	
		-1.35244	0.118138	1.254161	-1.69253	-1.85468	1.10893	-1.90847

Table 7.34 Skewness and Kurtosis values for stakeholder power clusters

		SQGUP	SQCU	SQNU	SQBU	SQMU	SQGU
Ν	Valid	106	106	106	106	106	106
	Missing	0	0	0	0	0	0
Skewnes	SS	.191	.576	.373	.230	.322	.361
Std. Erro	or of Skewness	.235	.235	.235	.235	.235	.235
Z-Skewi	ness	.812	2.457	1.589	.981	1.373	1.539
Kurtosis		888	.463	038	969	106	624
Std. Erro	or of Kurtosis	.465	.465	.465	.465	.465	.465
z-kurtos	is						
		-1.90847	0.994282	-0.08233	-2.08403	-0.22831	-1.34053

Table 7.35 Skewness and Kurtosis values for stakeholder urgency clusters

		SQBFGL	SQCML	SQNL	SQGRL
Ν	Valid	106	106	106	106
	Missing	0	0	0	0
Skewness		.202	101	.221	.103
Std. Error of Skewness		.235	.235	.235	.235
Z-Skewness		.859	429	.941	.440
Kurtosis		943	821	176	590
Std. Error of Kurtosis		.465	.465	.465	.465
Z-kurtosis		-2.02695	-1.7648	-0.37753	-1.2686

Table 7.36 Skewness and Kurtosis values for stakeholder legitimacy clusters

7.5 Updated research conceptual model

Based on results of factor analysis and the generated clusters, research conceptual model is updates as shown below in figure 7.10



Figure 7.3 Updated research conceptual model

7.6 Summary

This chapter has applied factor analysis test for the research instruments, the results of factor analysis on study variables has generated latent clusters that were interpreted and defined according to the literature. Further, the latent clusters are checked for reliability, outliers and normality and then recoded after data transformation. Finally, the research conceptual model is updated as per the generated latent clusters that is summarized in table 7.37 below.

Variable	Number of indicato rs within variable	Cluster name	Cluster definition	Cluster code after data transform ation	Numb er of indicat ors within cluster	% of varianc e explain ed	Cronbach 's Alpha
oncern		Perceived behavioural control (PBC)	Feeling of an individual towards saving water	SQPBC	6	26.58	0.797
ental c	32	Attitude (ATT)	Degree of easiness/ difficulty to save water	SQATT	14	24.627	0.734
ıme		Intention (INT)	Commitment to save water	SQSN	5	5.963	0.729
Environ		Social norm (SN)	Believe about saving water based on the perception and motivation of others	SQIN	2	4.82	0.764
						61.99	
Risk Perception	13	Operational risk perception (ORP)	Risk on corporate performance and revenue	SQOPR	5	50.044	0.89
		Physical and time risk perception (PRP)	Risk on physical impact and time losses	SQPRP	5	11.368	0.803
		Reputational risk perception (RRP)	Risk on corporate image and employee moral SQRRP		3	7.999	0.875
						69.411	
e water ption gies	21	Operational strategies (OS)	Strategic means and indicators to implement and monitor SWC	SQCS	10	44.369	0.903
uinabl nsum] strateg		Corporate Strategies (CS)	Corporate objectives, policies and plans for SWC	SQOS	5	11.391	0.837
Susta co s		Investment strategies (IS)	Strategic investment proposals for SWC	SQIS	3	5.872	0.787
						61.632	
water ion s	16	Operational practices (OP)	Process related activities for SWC	SQOP	8	49.638	0.873
nable v umpti actices		Guest practices (GP)	Guest related activities for SWC	SQGP	5	11.711	0.863
Sustai con: pr		Facility practices (FP)		Facility related activities for SWC	SQFP	3	8.877

						70.226			
r attribute		Business utilitarian and symbolic power (BUSP)	Business use of material or non-material means to impose will	SQBUSP	7	23.592	0.917		
		NGO power (NP)	NGO use of force, material and non-material means to impose will	SQNP	8	10.242	0.902		
		Media power (MP)	Media use of force, material and non-material means to impose will	SQMP	6	9.775	0.913		
der powe	41	Customer power (CP)	Customer use of force, material and non-material means to impose will	SQCP	5	8.57	0.837		
Stakehol		government and business coercive power (GBCP)	government and business use of force to impose will	SQGBCP	6	9.495	0.823		
			Government symbolic power (GSP)	Government use of non- material means to impose will	SQGSP	4	4.672	0.83	
		Government utilitarian power (GUP)	Government use of material means to impose will	SQUP	4	3.097	0.746		
						69.443			
y attribute	29	Customer urgency (CU)	Degree to which customer's claim calls for instant attention.	SQCU	6	30.23	0.899		
		NGO urgency (NU)	Degree to which NGO's claim calls for instant attention	SQNU	6	13.7	0.901		
er urgene		29	Business urgency (BU)	Degree to which business's claim calls for instant attention	SQMU	5	10.42	0.897	
akeholde				Media urgency (MU)	Degree to which media's claim calls for instant attention	SQBU	5	7.146	0.888
Sta		Government urgency (GU)	Degree to which government's claim calls for instant attention	SQGU	7	9.874	0.838		
						71.37			
Stakeholder legitimacy attribute		Business and fiscal government legitimacy (BFGL)	Degree to which business and government actions are perceived as appropriate by the firm	SQBFGL	7	35.807	0.92		
	25	25	25	Customer and media legitimacy (CML)	Degree to which customer and media actions are perceived as appropriate by the firm	SQCML	6	18.008	0.845
		NGO legitimacy (NL)	Degree to which NGO actions are perceived as appropriate by the firm	SQNL	4	12.701	0.814		

	Government Regulatory legitimacy (GRL)	Degree to which government regulatory actions are perceived as appropriate by the firm	SQGRL	6	5.666	0.75
					72.182	

Table 7.37 Summary of generated latent clusters

8 Chapter 8: Pearson Correlation Test

8.1 Introduction

This chapter present and interprets the results of Pearson Correlation test for the association between the study variables. The results are presented after verifying the list of assumptions that is necessary for performing the test.

Furthermore, the chapter explains the relation between Pearson Correlation test and the research hypotheses. Detailed correlation results are discussed between each of the dependent sustainable water consumption variables (Operational strategies, investment strategies, corporate strategies, operational practices, guest practices and facility practices) and the independent variables; environmental concern and risk perception. Thus, the research hypothesis H1: Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector and H2: Environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector. will be verified based on the test results.

Moreover, Person Correlation test is carried out between moderating variables; stakeholder salience attributes (power, urgency and legitimacy) and the dependent variables (Operational strategies, investment strategies, corporate strategies, operational practices, guest practices and facility practices) in order to identify the significant moderating variables to be included in the next phase of analysis; Multiple regression analysis since more robust results are obtained when only significant variables are included in the Multiple Regression Analysis as claimed by Pallant (2016). Thus, a table summary of all significantly associated salience attributes with each of dependent variable is provided.

8.2 Assumptions and relevance to research questions

The results of Pearson Correlation test presents a numerical summary of the strength and direction of the linear relationship between two research variables.

The correlation coefficients can range from -1 to +1, a positive sign indicates that the increase in one variable results in increase in another variable, whereas, a negative sign indicates that the increase in one variable results in decrease in another variable. Hence, the absolute correlation coefficient value indicates the relationship strength between the two variables while the coefficient sign indicates the direction of this relationship. Additionally, correlation coefficients of -1 or +1 indicates a perfect correlation between the two where the value of the first variable

can be known exactly by looking at the value of the second variable. On the contrary, a correlation coefficient of zero indicates no relationship between two variables (Pallant 2016).

To ensure the suitability of Pearson Correlation test, assumption mentioned earlier in chapter five were taken into consideration for example, outlier effect is mitigated by transforming data into square root as mentioned in chapter seven, Furthermore, to ensure that the result indicates correlation rather than causal relationship, the correlation coefficients will be compared to previous research related to the study to confirm correlation practical significance rather than statistical significance. Additionally, measurement level was satisfied using continuous Likert scales, no missing data meets the assumption of related pairs, self-administering the questionnaire with participants separately satisfies interdependence of observation and finally, normality of clusters were checked using skewness and kurtosis test as illustrated in chapter seven, linearity and homoscedasticity were checked using scatterplot and results indicates a straight line with a cigar shape along its length.

Correlation results will assist in measuring association of relationships between research variables and answering research question of how do environmental concern and risk perception associates with sustainable water consumption strategies and practices in UAE hospitality sector? And what is the role of stakeholder salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices in UAE hospitality sector?

8.3 Results of Pearson Correlation Analysis

Due to large number of involved variables under the study, Pearson Correlation analysis results will be presented in 4 steps, first is to present the association between clusters of environmental concern (EC: SQPBC, SQATT, SQINT and SQSN), risk perception (RP: SQOPR, SQPRP and SQRRP) and sustainable water consumption strategies and practices (SS: SQOS, SQCS and SQIS & SP: SQOP, SQGP and SQFP). Second, is to present the association between the clusters of stakeholder power attribute (SQBUSP, SQBFGP, SQMP, SQNP, SQGUP, SQCP and SQGSP) with SS & SP.

Third, is to present the association between the clusters of stakeholder urgency attribute (SQGU, SQMU, SQNU, SQBU and SQCU) with SS & SP. Fourth, is to present the association between the clusters of stakeholder legitimacy attribute (SQBFGL, SQGRL, SQCML and SQNL) with SS & SP.

In all cases, only significant relations at p < .05 is reported in the tables, significance and significantly correlated variables will be tested using multiple regression analyses in the next analysis phase since better regression results are reached when there are significant correlations between dependent and independent variables (Pallant 2016).

8.3.1 Environmental concern & risk perception

Table 8.1 shows Pearson Correlation analyses results between each cluster of environmental concern (EC), risk perception (RP) and each cluster of sustainable water consumption strategies and practices(SQOS, SQCS, SQIS, SQOP, SQGP and SQFP).

		Environmental concern					Risk perception		
			SQPBC	SQATT	SQINT	SQSN	SQOPR	SQPRP	SQRRP
Sust	s	Correlation	.394**1	.273**	.346**		.383**	.431**	.380**
aina	QOS	Sig. (2-tailed)	.000	.005	.000		.000	.000	.000
ble v	•1	% of variance	15.524	7.453	11.972		14.669	18.576	14.440
vater o	S	Correlation	.402**	.308**	.415**		.420**	.275**	.317**
onsi	QCS	Sig. (2-tailed)	.000	.001	.000		.000	.004	.001
ump	•	% of variance	16.160	9.486	17.223		17.640	7.563	10.049
tion strategies	S	Correlation	.374**	.239*	.321**	.436**	.313**	.229*	.385**
	QIS	Sig. (2-tailed)	.000	.014	.001	.000	.001	.018	.000
		% of variance	13.988	5.712	10.304	19.010	9.797	5.244	14.823
Sust	S	Correlation	.433**	.349**	.369**		.295**	.422**	.320**
aina	QOF	Sig. (2-tailed)	.000	.000	.000		.002	.000	.001
ble v	•	% of variance	18.749	12.180	13.616		8.703	17.808	10.240
vater (S	Correlation	.276**	.319**	.247*2		.257**	.292**	.248*
consi	QGP	Sig. (2-tailed)	.004	.001	.011		.008	.002	.010
ump	•	% of variance	7.618	10.176	6.101		6.605	8.526	6.150
tion p	S	Correlation	.312**		.265**	.278**			
racti	QFP	Sig. (2-tailed)	.001	1	.006	.004			
ices	.0	% of variance	9.7344	1	7.0225	7.7284	1		

Table 8.1 Pearson Correlation analysis between EC&RP and SS & SP

¹ ** indicates correlation at p<.01

² * indicates correlation at p<.05

8.3.1.1 Perceived behavioural control cluster (SQPBC)

The results indicate a positive relationship between SQPBC and all clusters of the dependent variables; SS and SP with a correlation coefficient ranging from 0.433 to 0.276 at p<.01 indicating a confidence level of 99% in the correlation with the clusters.

The correlation with SQOS (r = 0.394, p<.001) means that higher SQPBC enhances SQOS and explains 15.5 % of its variance in the hospitality sector in UAE. With SQCS, the association was even stronger (r = .402, p<.001) where SQPBC explains 16% of the variance in SQCS, SQIS represented the least association with SQPBC in the SS clusters, although still a strong positive association (r=.374, p<.001) explaining 14% of the variance in SQIS.

The strongest of all positive association was the SQOP (r = 0.433, p<.001). Similarly, SQGP (r = 0.276, p<.01), SQFP (r = 0.312, p<.001) show positive relationship. SQPBC explains 19%, 8% and 10% of the variance in SQOP, SQGP and SQFP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between perceived behavioural control and all clusters sustainable consumption strategies and practices at significant level p<.01 where the strength of correlation ranges from small to medium correlation and thus, perceived behavioural control of managers is considered a good predictor of sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.1.2 Attitude cluster (SQATT)

The correlation results indicate a positive relationship between SQATT and the dependent variables; SS and SP with a correlation coefficient ranging from 0.239 to 0.349 at p<.01 with all SS and SP clusters except facility practices, indicating a confidence level of 99% in the correlation with the clusters.

The correlation with SQOS (r = 0.273, p<.01) means that higher SQATT enhances SQOS and explains 7% of its variance in the hospitality sector in UAE. With SQCS, the association was even stronger (r = .308, p<.001) where SQATT explains 9% of the variance in SQCS, SQIS represents the least association with SQATT in the SS clusters, although still a strong positive association (r=.239, p<.05) explaining 6% of the variance in SQIS.

With SP, SQATT was positively associated with SQOP (r = 0.349, p<.001). Similarly, SQGP (r = 0.319, p<.001) and explains 12 % and 10% of the variance in SQOP and SQGP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between attitude and all clusters sustainable consumption strategies and practices except facility practices at significant level p<.01 where the strength of correlation ranges from small to medium correlation and therefore, managers' attitude is a good predictor of sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.1.3 Intention cluster (SQINT)

The correlation results indicate a positive relationship between SQINT and all the clusters of the dependent variables; SQOS, SQCS, SQIS, SQOP, SQGP and SQFP at P<.01 indicating a confidence level of 99% in the correlation with the clusters and a correlation coefficient ranging from 0.247 to 0.415.

The correlation with SQOS (r = .346, p<.001) means that higher SQINT enhances SQOS and explains 12% of its variance in the hospitality sector in UAE. With SQCS, the association was even stronger (r = .415, p<.001) where SQINT explains 17% of the variance in SQCS, SQIS represented the least association with SQINT, although still a strong positive association (r= .321, p<.001) explaining 10% of the variance in SQIS.

The strongest of all positive association with SP clusters was with SQOP (r = 0.369, p<.01). Similarly, SQGP (r = 0.247, p<.01) and SQFP(r=.265 at p<.01) show positive relationship. Therefore SQINT can explain 14%, 6% and 7% of the variance in SQOP, SQGP and SQFP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between intention and all clusters sustainable consumption strategies and practices at significant level p<.01 where the strength of correlation ranges from small to medium correlation and therefore, managers' intention is a good predictor of sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.1.4 Social norm cluster (SQSN)

The correlation results indicate a medium positive relationship between SQSN with SQIS (r= 0.436 at p<.001) and small positive association with SQFP (r=0.278 at p<.01) and the strength

of correlation can be explained by the percent of variance induced by SQSN on SQIS and SQFP which represents 19% and 8% respectively. Thus, it can be concluded that social norm of managers is good predictor for at least one cluster in each of SS and SP clusters, however, it is notable that the influence of social norm on the SS is more than double its influence on SP.

8.3.1.5 Operational risk perception cluster (SQOPR)

The correlation results indicate a positive relationship between SQOPR and the dependent variables; SQOS, SQCS, SQIS, SQOP, and SQGP at P<0.01 indicating a confidence level of 99% in the correlation with the clusters and a correlation coefficient ranging from 0.420 to 0.257.

The correlation with SQOS (r = .383, P<.001) means that higher SQOPR enhances SQOS and explains 15 % of its variance in the hospitality sector in UAE. With SQCS, the association was even stronger (r = .420, p<.001) where SQOPR explains 18% of the variance in SQCS, SQIS represented the least association in its cluster with SQOPR, although still a strong positive association (r = .313, p<.001) explaining 10% of the variance in SQIS.

Within the SP clusters, the positive association of SQOPR with SQOP (r = 0.295, p<.001) was higher than with SQGP (r = 0.257, p<.01). SQOPR explains 9, and 7% of the variance in SQOP and SQGP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between operational risk perception and all clusters of sustainable water consumption strategies and practices except facility practices at significant level .01 where the strength of association ranges from small to medium correlation.

8.3.1.6 Physical and time risk perception cluster (SQPRP)

The correlation results indicate a positive relationship between SQPRP and the dependent variables; SQOS, SQCS, SQOP, and SQGP at P<0.01 and with SQIS at p<.05 indicating a confidence level of 99% and 95% respectively in the correlation with the clusters and a correlation coefficient ranging from 0.431 to 0.229.

The correlation with SQOS was the strongest of all (r =.431, P<.001) means that higher SQPRP enhances SQOS and explains 19% of its variance in the hospitality sector in UAE. With SQCS, the association positive (r = .275, p<.01) where SQPRP explains 8% of the variance in SQCS,

SQIS represented the least association in its cluster with SQPRP, although still a strong positive association (r=.229, p<.05) explaining 5% of the variance in SQIS.

Within the SP cluster, the association of SQPRP with SQOP was positive (r = 0.422, p<.001). Similarly, SQGP show positive relationship (r = 0.292, p<.001. SQPRP explains 18% and 9% of the variance in SQOP and SQGP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between operational risk perception and all clusters of sustainable water consumption strategies and practices except facility practices where the strength of association ranges from small to medium correlation and thus, operational risk perception can successfully predicts sustainable water consumption strategies and practices and practices and practices.

8.3.1.7 Reputational risk perception cluster (SQRRP)

The correlation results indicate a positive relationship between SQRRP and the dependent variables; SQOS, SQCS, SQIS, SQOP, and SQGP at P<0.01 indicating a confidence level of 99% in the correlation with the clusters and a correlation coefficient ranging from 0.385 to 0.248.

The correlation with SQOS was positive (r = .380, P<.001) which means that higher SQRRP enhances SQOS and explains 14% of its variance in the hospitality sector in UAE. With SQCS, the association positive (r = .317, p<.001) where SQRRP can explain 10% of the variance in SQCS, SQIS represented the strongest association in its cluster with SQRRP (r = .385, p<.001) explaining 15% of the variance in SQIS.

Within the SP cluster, the association of SQRRP with SQOP was positive (r = 0.320, p<.001). Similarly, SQGP show significant positive relationship (r = 0.248, p<.01). Thus, SQRRP explains 10% and 6% of the variance in SQOP and SQGP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between reputational risk perception and all clusters of sustainable water consumption strategies and practices except facility practices at significant level p<.01 where the strength of association ranges from small to medium correlation and thus, reputational risk perception can explain a small to medium change in sustainable water consumption strategies and practices in UAE hospitality sector..

8.3.2 Stakeholder power attribute

Table 8.2 shows Pearson Correlation analyses results between each cluster of stakeholder power attribute (SPA) and each cluster of sustainable water consumption strategies and practices(SQOS, SQCS, SQIS, SQOP, SQGP AND SQFP).

		Stakeholder power attribute							
			SQBUSP	SQNP	SQMP	SQCP	SQGBCP	SQGSP	SQGUP
		Correlation	.446**3	.356**	.362**		.343**	.281**	
Sustaina	SQO	Sig. (2-tailed)	0.000	0.000	0.000	-	0.000	0.004	_
	\mathbf{S}	% of variance	19.93	12.7	13.09	-	11.74	7.9	-
ble wat		Correlation	.263**	.251**	.263**			.297**	
ter consi	SQCS	Sig. (2-tailed)	0.007	0.01	0.007			0.002	-
umpti	91	% of variance	6.9	6.28	6.9	-		8.82	-
n strat		Correlation				.240*4	.200*	.283**	
egies	SQIS	Sig. (2-tailed)	_			0.013	0.04	0.003	
		% of variance	_			5.76	4	8.01	
	SQOP	Correlation	.364**	.262**	.311**		.365**	.301**	
Sı		Sig. (2-tailed)	0.000	0.007	0.001		0.000	0.002	-
ıstaina		% of variance	13.27	6.87	9.69	-	13.3	9.07	-
ble wat		Correlation	.196*	.244*			.320**	.250**	
er cons	SQG	Sig. (2-tailed)	0.044	0.012	-		0.001	0.01	_
sumption practices	Р	% of variance	3.83	5.96	1		10.21	6.26	-
	<u> </u>	Correlation		1	1		1	1	I
	SQFI	Sig. (2-tailed)	1						
	Ρ	% of variance							

 Table 8.2 Pearson Correlation between Stakeholder power attribute and SS and SP

³ ** indicates correlation at p<.01

⁴ * indicates correlation at p<.05

8.3.2.1 Business utilitarian and symbolic power (SQBUSP)

The results indicate a positive relationship between SQBUSP and the dependent variables; two clusters from each of SS; SQOS & SQCS and two clusters from SP; SQOP & SQGP clusters shows positive correlation with SQBUSP with a correlation coefficient ranging from 0.446 to 0.196.

SQBUSP was significantly and positively correlated with SQOS cluster at p<.001, indicating a confidence level of 99.9% in the correlation with the cluster. The correlation coefficient r = 0.446 means that higher SQBUSP enhances SQOS and explains 19.9% of its variance in the hospitality sector in UAE. With SQCS, the association was similarly, significant at p<.01 and r = .263 where SQBUSP explains 7% of the variance in SQCS.

Similarly, there was positive association between the SQBUSP and SQOP (r = 0.364, p<.001) and SQGP (r = 0.196 at p<.05), thus, SQBUSP can explain 13.27% and 3.83% of the variance in SQOP, SQGP at 99% and 95% confidence levels respectively.

Based on the above, it can be concluded that there is statistical evidence of positive significant relationship between business utilitarian and symbolic power cluster and operation strategies, corporate strategies, operation practices and guest practices with a small to medium correlation strength. Thus, business utilitarian and symbolic power is a good predictor of sustainable water consumption strategies and practices in the UAE hospitality sector.

8.3.2.2 NGO power (SQNP)

The results indicate a positive relationship between SQNP and the dependent variables; two clusters from each of SS; SQOS & SQCS and two clusters from SP; SQOP & SQGP clusters show positive correlation with SQNP with a correlation coefficient ranging from 0.356 to 0.244.

SQNP was significantly and positively correlated with SQOS cluster (r=.356, p<.001), indicating a confidence level of 99.9% in the correlation with the cluster. Greater SQNP enhances SQOS and explains 13 % of its variance in the hospitality sector in UAE. With SQCS, the association was similarly, significant (r = .251, p<.01) where SQNP explains 6% of the variance in SQCS.

Similarly, there was positive association between the SQNP and SQOP (r = 0.262, p<.01) and SQGP (r = 0.244 at p<.01), thus, SQNP can explain 7% and 6% of the variance in SQOP, SQGP respectively.

Based on the above, it can be concluded that there is statistical evidence of positive significant relationship between NGO power and operation strategies, corporate strategies, operation practices and guest practices with a small to medium strength of correlation and therefore, NGO power is considered as a good predictor of sustainable water consumption strategies and practices in the UAE hospitality sector.

8.3.2.3 Media power (SQMP)

The results indicate a positive relationship between SQMP and the dependent variables; two clusters from SS; SQOS & SQCS and one clusters from SP; SQOP shows positive correlation with SQMP with a correlation coefficient ranging from 0.362 to 0.263.

SQMP was significantly and positively correlated with SQOS cluster (r=.362 p<.001), indicating a confidence level of 99.9% in the correlation with the cluster, thus, greater SQMP enhances SQOS and explains 13 % of its variance in the hospitality sector in UAE. With SQCS, the association was similarly significant (r = .263, p<.01) where SQMP explains 7% of the variance in SQCS.

Similarly, there was positive association between the SQMP and SQOP (r = 0.311, p<.001), thus, SQMP can explain 10% of the variance in SQOP.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between media power and operation strategies, corporate strategies and operation practices with small to medium correlation strength and therefore, media power can be considered as a good predictor of sustainable water consumption strategies and practices in the UAE hospitality sector.

8.3.2.4 Customer power (SQCP)

The results indicate that customer power was only correlated with investment strategies with even a small strength of correlation, a positive relationship between SQCP and SQIS (r=.24 at p<.05) at 95% confidence level in the correlation with the cluster and 6% induced of variance in investment strategies by customer power. Therefore, customer power can only explain changes in sustainable water consumption strategies whereas fall short in explaining any change in sustainable water consumption practices in UAE hospitality sector.

8.3.2.5 Government and Business coercive power (SQGBCP)

The results indicate a positive relationship between SQGBCP and the dependent variables; two clusters from each of SQS; SQOS & SQIS and two clusters from SP; SQOP and SQGP shows positive correlation with SQGBCP with a correlation coefficient ranging from 0.365 to 0.2.

SQGBCP was significantly and positively correlated with SQOS cluster (r=.343 p<.001), indicating a confidence level of 99.9% in the correlation with the cluster, thus, greater SQGBCP enhances SQOS and explains 12 % of its variance in the hospitality sector in UAE. With SQIS, the association was similarly, significant (r = .2, p<.05) where SQGBCP explains 4% of the variance in SQIS. Similarly, there was positive association between the SQGBCP and SQOP (r = 0.365, p<.001), thus, SQGBCP can explain 13% of the variance in SQOP. Moreover, SQGBCP was positively associated with SQGP (r=.32, p<.001) with a percent of variance of 10%

Based on the above it can be concluded that SQGBCP is positively correlated with operation strategies, investment strategies, operation practices and guest practices with small to medium correlation strength and therefore government and business coercive power can be considered as an explanatory variable that can induce change in both sustainable water consumption strategies and sustainable water consumption practices in UAE hospitality sector.

8.3.2.6 Government symbolic power (SQGSP)

The results indicate a positive relationship between SQGSP and SQOS, SQCS, SQIS, SQOP, SQGP with a correlation coefficient ranging from 0.297 to 0.2.81

SQGSP was significantly and positively correlated with SQOS cluster (r=.281, p<.01), thus, greater SQGSP enhances SQOS and explains 8% of its variance in the hospitality sector in UAE. With SQCS, the association was similarly, significant (r = .297, p<.01) where SQGSP explains 9% of the variance in SQCS. The correlation between SQGSP and SQIS was shown to be positive (r=.283, p<.01) where SQGSP explains 8 % of the variance in SQIS.

Similarly, there was positive association between the SQGSP and SQOP (r =0.301, p<.001), thus, SQGSP can explain 10% of the variance in SQOP. Moreover, SQGSP was positively associated with SQGP (r=.25, p<.01) with a percent of variance of 6%.

Based on the above it can be concluded that government symbolic power is positively correlated with operation strategies, corporate strategies, investment strategies, operation practices and

guest practices with small to medium correlation strength and therefore is a good predictor of sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.3 Stakeholder urgency attribute

Table 8.3 shows Pearson Correlation analyses results between each cluster of stakeholder urgency attribute (SUA) and each cluster of sustainable water consumption strategies and practices(SQOS, SQCS, SQIS, SQOP, SQGP and SQFP).
		Stake	holder urgency	v attribute			
			SQCU	SQNU	SQBU	SQMU	SQGU
		Correlation	.321**5	.519**	.677**	.516**	
Sus	SQO	Significance (2-tailed)	0.001	0.000	0.000	0.000	_
tainab	S	Percent of variance	10	27	46	27	_
le wat		Correlation	.203*	.375**	.373**	.316**	.240*
er cons	SQC	Significance (2-tailed)	0.037	0.000	0.000	0.001	0.013
umpti	S	Percent of variance	4	14	14	10	6
on stra		Correlation	.282**	.226*		.302**	.406**
Itegies	SQIS	Significance (2-tailed)	0.003	0.02		0.002	0
	61	Percent of variance	8	5		9	17
		Correlation	.231*6	.465**	.514**	.401**	
Sus	SQOI	Significance (2-tailed)	0.017	0.000	0.000	0.000	_
tainab	Ρ	Percent of variance	5	22	26	16	
le wat		Correlation	.231*	.386**	.328**	.289**	
er cons	SQGI	Significance (2-tailed)	0.017	0.000	0.001	0.003	
umpti	P	Percent of variance	5	15	11	8	
on pra		Correlation		_1	_1	_1	
ctices	SQFI	Significance (2-tailed)					
		Percent of variance					

Table 8.3 Pearson Correlation analysis between urgency attribute and SS & SP

⁵ ** indicates correlation at p<.01 ⁶ * indicates correlation at p<.05

8.3.3.1 Customer urgency (SQCU)

The results indicate a positive relationship between SQCU and the dependent variables; SQOS, SQCS, SQIS, SQOP and SQGP with a correlation coefficient ranging from 0.321 to 0.203.

SQCU was significantly and positively correlated with SQOS cluster at p<.001, indicating a confidence level of 99.9% in the correlation with the cluster. The correlation coefficient r =0.321 means that higher SQCU enhances SQOS and explains 10 % of its variance in the hospitality sector in UAE. With SQCS, the association was significant at p<.05 and r = .203 where SQCU explains 4% of the variance in SQCS at 95% confidence level. With SQIS, SQCU was positively associated (r= 0.282 at p< .01) in which SQCU explains 8% of the variance in SQIS.

Similarly, there was positive association between the SQCU and SQOP (r = 0.231, p<.05). and SQGP (r = 0.231 at p<.05), thus, SQCU can explain 5% of the variance in each of SQOP, SQGP at 95% confidence level.

Based on the above, it can be concluded that although there is statistical evidence of positive significant relationship between customer urgency and operation strategies, corporate strategies, investment strategies, operation practices and guest practices with small to medium strength of correlation and therefore, customer urgency can successfully predict changes in sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.3.2 NGO urgency (SQNU)

The results indicate a positive relationship between SQNU and the dependent variables; SQOS, SQCS, SQIS, SQOP and SQGP with a correlation coefficient ranging from 0.519 to 0.226.

SQNU was significantly and positively correlated with SQOS cluster (R=.519, p<.001), indicating a confidence level of 99.9% in the correlation with the cluster. Thus, higher SQNU enhances SQOS and explains 13 % of its variance in the hospitality sector in UAE. With SQCS, the association was significantly positive (r=.375, p<.001) where SQNU explains 14% of the variance in SQCS. With SQIS, SQNU was positively associated (r= 0.226 at p< .01) in which SQNU explains 5% of the variance in SQIS.

Similarly, there was positive association between the SQNU and SQOP (r = 0.465, p<.001) and SQGP (r = 0.386 at p< .001), thus, SQNU can explain 21% and 15% of the variance in each of SQOP, SQGP respectively.

Based on the above, it can be concluded that although there is statistical evidence of significant relationship between NGO urgency and operation strategies, corporate strategies, investment strategies, operation practices and guest practices with small to large strength of correlation. Therefore, NGO urgency can successfully predict changes in sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.3.3 Business urgency (SQBU)

The results indicate a positive relationship between SQBU and the dependent variables; SQOS, SQCS, SQOP and SQGP with a correlation coefficient ranging from 0.677 to 0.328.

SQBU was significantly and positively correlated with SQOS cluster (R=.677, p<.001), indicating a confidence level of 99.9% in the correlation with the cluster. Thus, higher SQBU enhances SQOS and explains 40% of its variance in the hospitality sector in UAE. With SQCS, the association was significantly positive (r=.373, p<.001) where SQBU explains 14% of the variance in SQCS.

Similarly, there was positive association between the SQBU and SQOP (r = 0.514, p<.001) and SQGP (r = 0.328 at p< .001), thus, SQBU can explain 26% and 11% of the variance in each of SQOP, SQGP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant relationship between business urgency and operation strategies, corporate strategies, operation practices and guest practices with medium to large strength of correlation and therefore, business urgency can be considered the highest predictor of sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.3.4 Media urgency (SQMU)

The results indicate a positive relationship between SQMU and the dependent variables; SQOS, SQCS, SQIS, SQOP and SQGP with a correlation coefficient ranging from 0.516 to 0.289.

SQMU was significantly and positively correlated with SQOS cluster (R=.516, p<.001), indicating a confidence level of 99.9% in the correlation with the cluster. Thus, higher SQMU enhances SQOS and explains 27% of its variance in the hospitality sector in UAE. With SQCS, the association was significantly positive (r=.316, p<.001) where SQMU explains 10% of the

variance in SQCS. SQMU associates positively with SQIS (r=.302, p<.001) and SQMU explains 9.1% of variance in this cluster.

Similarly, there was positive association between the SQMU and SQOP (r = 0.401, p<.001) and SQGP (r = 0.289 at p< .01), thus, SQMU can explain 16% and 8% of the variance in each of SQOP, SQGP respectively.

Based on the above it can be concluded that SQMU has significant positive correlation with operation strategies, corporate strategies, investment strategies, operation practices and guest practices with small to large strength of correlation and therefore media urgency is considered a strong predictor of sustainable water consumption strategies and practices in UAE hospitality sector.

8.3.3.5 Government urgency (SQGU)

The results indicate a positive relationship between SQGU and the dependent variables; SQCS, SQIS with a correlation coefficient 0.24 and 0.406 respectively.

SQGU was significantly and positively correlated with SQCS cluster (r=.24, p<.01), indicating a confidence level of 99% in the correlation with the cluster. Thus, higher SQGU enhances SQCS and explains 6% of its variance in the hospitality sector in UAE. With SQIS, the association was significantly positive (r=.406, p<.001) where SQGU explains 17% of the variance in SQIS.

Thus, it is concluded that government urgency is significantly associated with corporate strategies and investment strategies with medium and small strength of correlation respectively. And therefore, government urgency can be considered as a good predictor of sustainable water consumption strategies only in the UAE hospitality sector.

8.3.4 Stakeholder Legitimacy attribute

Table 8.4 shows Pearson Correlation analyses results between each cluster of stakeholder legitimacy attribute (SLA) and each cluster of sustainable water consumption strategies and practices(SQOS, SQCS, SQIS, SQOP, SQGP and SQFP).

		Stakeholder le	gitimacy attribu	ıte		
			SQBFGL	SQCML	SQNL	SQGRL
		Correlation	.621**7	.383**	.402**	.237*
	sqos	Significance (2-tailed)	0	0	0	0.015
Susta		Percent of variance	39	15	16	6
inable		Correlation	.247*	.305**	.288**	.234*
water	SQCS	Significance (2-tailed)	0.011	0.002	0.003	0.016
consu		Percent of variance	6	9	8	5
nption		Correlation		.229*8	.200*	.364**
strate		Significance (2-tailed)	-	0.018	0.04	0
gies	SQIS	Percent of variance	-			
				5	4	13
		Correlation	.563**	.310**	.431**	.341**
Sus	SQOI	Significance (2-tailed)	0	0.001	0	0
tainab		Percent of variance	32	10	19	12
le wate		Correlation	.320**	.285**	.328**	.239*
r const	SQGP	Significance (2-tailed)	0.001	0.003	0.001	0.013
umptio		Percent of variance	10	8	11	6
n prac		Correlation				.247*
tices	SQFP	Significance (2-tailed)				0.011
		Percent of variance				6

Table 8.4 Pearson Correlation analysis between legitimacy attribute and SS & SP

 ⁷ ** indicates a correlation at p<.01
⁸ * indicates a correlation at P<.05

8.3.4.1 Business and fiscal government legitimacy (SQBFGL)

The results indicate a positive relationship between SQBFGL and the dependent variables; SQOS, SQCS, SQOP and SQGP with a correlation coefficient ranging from 0.621 to 0.247.

SQBFGL was significantly and positively correlated with SQOS cluster (r=.621, p<.001), indicating a confidence level of 99.9% in the correlation with the cluster. Thus, higher SQBFGL enhances SQOS and explains 39% of its variance in the hospitality sector in UAE. With SQCS, the association was significantly positive (r=.247, p<.01) where SQBFGL explains 6% of the variance in SQCS.

Similarly, there was positive association between the SQBFGL and SQOP (r = 0.563, p<.001) and SQGP (r = 0.32 at p<.001), thus, SQBFGL can explain 32% and 10% of the variance in each of SQOP, SQGP respectively.

Based on the above, it can be concluded that there is statistical evidence of significant positive relationship between business and fiscal government legitimacy cluster with operation strategies, corporate strategies, operation practices and guest practices with small to large strength of correlation and therefore, business and fiscal government legitimacy is considered a strong predictor of both sustainable water consumption strategies and practices in the UAE hospitality sector.

8.3.4.2 Customer and media legitimacy (SQCML)

The results indicate a positive relationship between SQCML and the dependent variables; SQOS, SQCS, SQIS, SQOP and SQGP with a correlation coefficient ranging from 0.383 to 0.229.

SQCML was significantly and positively correlated with SQOS cluster (r=.383, p<.001), indicating a confidence level of 99.9% in the correlation with the cluster. Thus, higher SQCML enhances SQOS and explains 15% of its variance in the hospitality sector in UAE. With SQCS, the association was significantly positive (r=.305, p<.001) where SQCML explains 9% of the variance in SQCS. Positive association between SQCML and SQCIS (r=.229, p<.01) where SQCML explains 5% in the variance of SQIS.

Similarly, there was positive association between the SQCML and SQOP (r = 0.301, p<.001) and SQGP (r = 0.285 at p< .01), thus, SQCML can explain 10% and 8% of the variance in each of SQOP, SQGP respectively.

Based on the above it can be concluded that customer and media legitimacy has significant positive correlation with operation strategies, corporate strategies, investment strategies, operation practices and guest practices with small to medium strength of correlation and therefore is considered a good predictor of sustainable water consumption strategies and practices in the UAE hospitality sector.

8.3.4.3 NGO legitimacy (SQNL)

The results indicate a positive relationship between SQNL and the dependent variables; SQOS, SQCS, SQIS, SQOP and SQGP with a correlation coefficient ranging from 0.431 to 0.2.

SQNL was significantly and positively correlated with SQOS cluster (r=.402, p<.001), indicating a confidence level of 99.9% in the correlation with the cluster. Thus, higher SQNL enhances SQOS and explains 16% of its variance in the hospitality sector in UAE. With SQCS, the association was significantly positive (r=.288, p<.01) where SQNL explains 8% of the variance in SQCS. Positive association between SQNL and SQCIS (r=.2, p<.05) where SQNL explains 4% in the variance of SQIS.

Similarly, there was positive association between the SQNL and SQOP (r = 0.431, p<.001) and SQGP (r = 0.328 at p< .001), thus, SQNL can explain 7% and 4% of the variance in each of SQOP, SQGP respectively.

Based on the above it can be concluded that NGO legitimacy is positively correlated with operation strategies, corporate strategies, investment strategies, operation practices and guest practices with low to medium strength of correlation and therefore is a successful predictor of sustainable water consumption strategies and practices in the UAE hospitality sector.

8.3.4.4 Government regulatory legitimacy (SQGRL)

The results indicate a positive relationship between SQGRL and the dependent variables; SQOS, SQCS, SQIS, SQOP, SQGP and SQFP with a correlation coefficient ranging from 0.364 to 0.234.

SQGRL was significantly and positively correlated with SQOS cluster (r=.237, p<.01), indicating a confidence level of 99% in the correlation with the cluster. Thus, higher SQGRL enhances SQOS and explains 6% of its variance in the hospitality sector in UAE. With SQCS, the association was significantly positive (r=.234, p<.01) where SQGRL explains 5% of the

variance in SQCS. Positive association between SQGRL and SQCIS (r=.364, p<.001) where SQGRL explains 13% in the variance of SQIS.

Similarly, there was positive association between the SQGRL and SQOP (r = 0.341, p<.001)., SQGP (r = 0.239 at p<.01) and SQFP (r=.247, p<.01), thus, SQGRL can explain 12%, 6% and 6% of the variance in each of SQOP, SQGP, SQFP respectively.

Based on the above it can be concluded that government regulatory legitimacy has significant positive correlation with operation strategies, corporate strategies, investment strategies, operation practices, guest practices and facility practices with small to medium strength of correlation and therefore is a successful predictor of sustainable water consumption strategies and practices in the UAE hospitality sector.

8.4 Summary

In order to identify significant variables of environmental concern and risk perception to help answer the following research questions, multiple regression: How do environmental concern and risk perception associates with sustainable water consumption strategies and practices in the UAE hospitality sector? Pearson Correlation test was carried out between the mentioned variables and results of the correlation test indicates the following:

The correlation result indicates that two clusters of environmental concern variable; perceived behavioural control and intention show positive correlation with all the clusters of both sustainable water consumption strategies and practices at p < 0.01, the strength of the relation ranges from 0.433 and .247. Attitude and all clusters of risk perception was positively associated with all the clusters of sustainable water consumption strategies and practices except for facility practice at p < 0.01 and strength of relation ranges from 0.229 to .431 and finally social norm was only correlated to investment strategies and facility practices at p < 0.1 and strength of relation was 0.436 and 0.278 respectively. All the significant associations indicates a small to medium correlation between the dependent and independent variables as per the guidelines of George & Mallery (2003). Therefore, it can be concluded that the research hypotheses: H1: Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector. And H2: Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector are accepted.

In order to answer research question: What is the role of the stakeholders' salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices in UAE hospitality sector?

Pearson Correlation test is carried out between salience attributes and sustainable water consumption strategies and practices in order to identify significant salience attributes to further assess their influence on the association between environmental concern, risk perception and sustainable water consumption strategies and practices using multiple regression in the next chapter since multiple regression test gives more robust results when only significant variables are included (Pallant, 2016).

- Stakeholder power attribute: a small to medium correlation was evident between different clusters of stakeholder power attribute and sustainable water consumption strategies and practices. Business utilitarian and symbolic power (SQBUSP) and NGO power (SQNP) significantly shows positive association with operational strategies (SQOS), corporate strategies (SQCS), operational practices (SQOP) & guest practices (SQGP). Media power (SQMP) positively associates with SQOS SQCS and SQOP. Customer power (SQCP) significantly shows positive association with investment strategies (SQIS). Government and business coercive power (SQGBCP) is positively correlated with SQOS, SQIS, SQOP and SQGP. Finally, government symbolic power (SQGSP) shows significant positive correlation with SQOS, SQCS, SQIS, SQOP and SQGP.
- Stakeholder urgency attribute: a small to large correlation was evident between different clusters of stakeholder urgency and sustainable water consumption strategies and practices. Customer urgency (SQCU), NGO urgency (SQNU) and Media urgency (SQMU) was found to be significantly correlated to SQOS, SQCS, SQOP and SQGP. Business urgency showed positive association with SQOS, SQCS, SQOP and SQGP and finally, Government urgency attribute (SQGU) was positively associated with SQCS and SQIS.
- Stakeholder legitimacy attribute: a small to large correlation was evident between different clusters of stakeholder legitimacy and sustainable water consumption strategies

and practices Business and fiscal government legitimacy was positively associated with SQOS, SQCS, SQOP and SQGP. Media Legitimacy and NGO Legitimacy attributes were significantly correlated to SQOS, SQCS, SQIS, SQOP, SQGP and finally government regulatory legitimacy was associated with all the clusters of Sustainable water consumption strategies and practices (SQOS, SQCS, SQIS, SQOP, SQGP, SQGP and SQFP).

Therefore, table 8.5 and 8.6 below indicates significantly associated clusters that will be carried forward for multiple regression analysis

Sustainable water	
consumption strategies	Salience attributes
	Business utilitarian and symbolic nower
	NGO power
	Media Power
	Government and Business coercive power
	Government symbolic power
Operation strategies	NGO urgency
operation strategies	Business Urgency
	Media urgency
	Business and fiscal government legitimacy
	Customer and media legitimacy
	NGO legitimacy
	Government regulatory legitimacy
	business utilitarian and symbolic power
	NGO power
	Media power
	Government symbolic power
	customer urgency
	NGO urgency
Corporate strategies	Business urgency
	Media Urgency
	Government Urgency
	business and fiscal government legitimacy
	Customer and media legitimacy
	NGO legitimacy
	Government regulatory legitimacy
	Customer power
	Government and business coercive power
	Government symbolic power
	Customer urgency
Invoctment strategies	NGO urgency
investment strategies	Media urgency
	Government Urgency
	Customer and media legitimacy
	NGO legitimacy
	Government regulatory legitimacy

Table 8.5 Significantly associated salience attributes and SS

Sustainable water	Salience attributes							
	Business utilitarian and symbolic power							
	NGO power							
	Media Power							
	Government and business coercive power							
	Government symbolic power							
	Customer urgency							
Operation practices	NGO urgency							
	Business urgency							
	Media urgency							
	Business and fiscal government legitimacy							
	Customer and media legitimacy							
	NGO legitimacy							
	Government regulatory legitimacy							
	Business utilitarian and symbolic power							
	NGO power							
	Government and business coercive power							
	Government symbolic power							
	Customer urgency							
Guest prestiess	NGO urgency							
Ouest practices	business urgency							
	Media urgency							
	business and fiscal government legitimacy							
	Customer and media legitimacy							
	NGO legitimacy							
	Government regulatory legitimacy							
Facility practices	Government regulatory legitimacy							

Table 8.6 Significantly associated salience attributes and SP

9 Chapter 9: Multiple Regression Analysis

9.1 Introduction

This chapter present and interprets the results of Multiple Regression Analysis. After verifying the list of assumptions that is necessary for performing Multiple Regression Analysis. Furthermore, the chapter explains the relation between Multiple Regression Analysis and the research hypotheses explained in chapter four. Detailed results are discussed between each of the dependent sustainable water consumption variables (operational strategies, investment strategies, corporate strategies, operational practices, guest practices and facility practices) and the independent variables; environmental concern variables (perceived behavioural control, attitude, social norm and intention) and risk perception variables (operational risk, physical & time risk and reputational risk) as well as their relation with the moderating variables stakeholder salience attributes (power, urgency, legitimacy). Results of regression models are presented and standardized Beta coefficients were used for comparison of clusters contribution to the model.

Finally, summary of all significantly influential environmental concerns and risk perception clusters on sustainable water consumption strategies and practices and significantly influential and moderator stakeholder salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices were provided.

9.2 Assumptions and relevance to research questions

Multiple Regression Analysis is used to explore relationship between dependent and independent variables where one dependent and more than one independent variable can be employed. Additionally, correlation results can be used as basis for Multiple Regression Analysis for having better significance of results, thus, only clusters that had significant association with dependent variable in the correlation results were used in Multiple Regression Analysis.

From different types of Multiple Regression Analysis; such as standard, stepwise and sequential, stepwise regression analysis will be used due to the nature of research questions. According to Pallant (2016), stepwise multiple regression can examine how much unique variance each of the independent variable explained by the dependent variable, thus, the analysis will be used to answer both research questions: How do environmental concern, risk perception associate with sustainable water consumption strategies and practices in the UAE hospitality sector? And what is the role of the stakeholders' salience attributes on the association between environmental

concern, risk perception and sustainable water consumption strategies and practices in the UAE hospitality sector?

Since relation between independent and dependent variables can be modelled as per the general input/output multiple regression equation: y=f(x) and given a number of variations causes in sustainable water consumption strategies and practices, it is then possible to map the impact of these causes to the outcome as per multiple regression linear equation: Y=C+B1X1+B2X2....

Thus, the change in sustainable water consumption strategies and practices (SS, SP) due to variation of environmental concern (EC) and risk perception (RP) will be expressed as per equations 9.1 and 9.2.

Equation 9.1

 $SS = f(EC) \dots + f(RP) \dots$

Equation 9.2

SP=f(EC)...+f(RP)...

Whereas, the influence of stakeholder salience attributes (Stakeholder Power attribute: SPA, Stakeholder urgency attribute: SUA, and stakeholder legitimacy attribute: SLA) on the association between environmental concern, risk perception and sustainable water consumption strategies and practices will be expressed as per equations 9.3, 9.4, 9.5, 9.6, 9.7 and 9.8.

Equation 9.3 SS= f(EC)....+ f(RP)....+ f(SPA)

Equation 9.4 SP= f(EC)....+ f(RP)....+ f(SPA)

Equation 9.5 SS = f(EC)....+ f(RP)....+ f(SUA)

Equation 9.6 SP= f(EC)....+ f(RP)....+ f(SUA)

Equation 9.7 SS= f(EC)....+ f(RP)....+ f(SLA)

Equation 9.8 SP= f(EC)....+ f(RP)....+ f(SLA)

With regards to the assumptions of Multiple Regression analysis, as mentioned in chapter five and according to Tabachnick (2013), the assumptions are checked as follows: multicollinearity, collinearity table for each model will be generated and results is reported. Outliers were treated by data transformation as illustrated in chapter seven. Normality, linearity, homoscedasticity and interdependence were checked using Normal P-P plot of regression standardized residual and scatter plots and results are presented below for each generated model.

9.3 Results of Multiple Regression Analysis

In order to present multiple regression analysis results in a meaningful and easily comparable way, the modeling results is presented in two summary tables for each model generated between the selected independent variables and the six dependent variables (SQOS, SQCS, SQIS, SQOP, SQGP and SQFP) as follows:

The first table presents regression weights (adjusted R2 values) extracted from model summary tables which explain the amount of variation in the data captured by the generated models as well as F-value and F-significance value extracted from ANNOVA tables in which a significant F-statistic value indicates that the variation explained by the model is not due to chance and that using the model in predicting the adoption of sustainable water consumption strategies and practices due to variation in independent variables is appropriate.

The second table will present estimated coefficients (standardized Beta coefficients) for significant independent variables used in the model along with their significance values extracted from coefficient table of each generated model between the selected independent variables and one of the six dependent variables, a significant Beta coefficient at p<.05 (Pallant, 2016) indicates a valid contribution of a specific independent variable to the estimation of sustainable water consumption strategies and practices.

9.3.1 Environmental concern & risk perception

9.3.1.1 Model summary

Model summary of the relation between environmental concern, risk perception and each of the six dependent variables of sustainable water consumption strategies and practices shown in table 9.1 indicates that environmental concern and risk perception variables associates with sustainable water consumption strategies, the variables explains 23% (AdjR2=.225), 24% (AdjR2=.237) and 24% (AdjR2=.237) of the variance in operational strategies (SQOS), corporate strategies (SQCS)

and investment strategies (SQIS) respectively. Data form ANOVA tables indicate the models are all significant (F=16.272 at p< .0005), (F=17.267 at p< .0005) and (F=17.827 at p< .005). Similarly, but to a lesser extent, environmental concern and risk perception variables associates with sustainable water consumption practices, the variables explain 24% (Adj R2=.243), 12% (Adj R2=.119) and 9% (Adj R2=.089) at (f= 17.827, P<.0005), (F=8.117, P<.001) and (F=11.208, P< .001) of the variance in operation practices (SQOP), guest practices (SQGP) and facility practices (SQFP) respectively.

Thus, it can be concluded that the six models expressing the association between independent variables and each of the three dependent variables of sustainable water consumption strategies (SQOS, SQCS and SQIS) and three dependent variables of sustainable water consumption practices are statistically significant at p < .0005 for SQOS, SQCS, SQIS< SQOP and at p < .001 for SQGP and SQFP. However, despite the significant association between the environmental concern, risk perception and sustainable water consumption strategies and practices, there is still between 91% and 76% of the variance in the dependent variables are not explained by the independent variables, this may be due to the impact of stakeholder salience attributes that will be examined in the next section.

independent variable/Model		SS								SP								
	SQOS			SQCS SO		SQIS	SQIS		SQOP		SQGP			SQFP				
	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F
EC & RP	0.225	0	16.27	0.237	0	17.33	0.237	0	17.27	0.243	0	17.83	0.119	0.001	8.12	0.089	11.21	0

Table 9.1 Model summary of environmental concern and risk perception

9.3.1.2 Evaluating independent variables

The estimated standardized Beta coefficients shown in table 9.2 indicates that SQPBC and more importantly SQPRP are good predictors of SQOS where both variables are significant at 99% confidence level, whereas; SQOPR and SQPBC are highly contributing to the variance in SQCS and both are significant at 99% confidence levels. Two variables contributed to the variance in SQIS; SQSN and SQRRP at 99% confidence level.

In relation to sustainable water consumption practices, SQPBC and SQPRP can significantly predict operation practices (SQOP) at 99% confidence level, whereas SQATT and SQPRP

almost equally contributed to the variance in guest practices (SQGP) at 99% and 95% confidence levels respectively, and finally the facility practices was only associated with SQPBC at 99% confidence level. Therefore, it can be inferred that the regression equation which express the relation between environmental concern, risk perception and sustainable water consumption strategies and practices are as follows:

Equation 9.1:

SS (SQOS, SQCS and SQIS) = .818+ (.322*SQPRP) + (.257*SQPBC) + .848 + (.320*SOPR) + (.292*PBC) + .852+ (.343*SQSN) + (.264* SQRRP)

Equation 9.2:

SP (SQOP, SQGP and SQFP) = .793 + (.310*SQPBC) + (.291*SQPRP) + .626 + (.244*SQATT) + (.2*SQPRP) + .762 + (.312*SQPBC)

Based on model summaries and evaluation of Beta coefficients shown in equation 9.1 and 9.2, it can be concluded the research hypotheses H1: Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector. And H2: Environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector" are accepted.

Thus, sustainable water consumption strategies and practices in UAE hospitality sector can be boosted if attitude, perceived behavioural control, social norm, operational risk perception, physical and time risk perception and reputational risk perception are managed probably and checked periodically, managerial efforts in hospitality sector should focus on variables with high coefficients like perceived behavioural control, social norm, physical and time risk perception as these are the ones that induces higher variance in sustainable water consumption strategies and practices.

Environmental	Sustain	able wate	r consun	nption st	rategies	(SS)	Sustainable water consumption practice					
concern and risk	SQC	S	SQ	CS	SQIS		SQOP		SQGP		S	QFP
perception variables	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG
Constant	010	000	040	000	950	000	702	000	626	011	762	000
Constant	.818	.000	.040	.000	.832	.000	.795	.000	.020	.011	.702	.000
SQPBC	0.257	0.008	0.292	0.002			0.310	0.001			0.312	0.001
SQATT									0.244	0.015		
SQINT												
SQSN					0.343	0.000						
SQOPR			0.320	0.001								
SQPRP	0.322	0.001					0.291	0.002	0.200	0.045		
SQRRP					0.264	0.005						

Table 9.2 Coefficient table of environmental concern and risk perception

9.3.1.3 Checking assumptions

9.3.1.3.1 Correlation between variables

Table 9-3 below shows the result of correlation between the model variables. As can be seen from the table, correlation between the independent variables is weak, all correlation values were less than the accepted threshold of .9. Thus, the effect of multi-collinearity on the independent variable reliability is not existent and the assumption is not violated.

Pearson Correlation		SQFP	SQPBC	SQATT	SQINT	SQSN	SQOPR	SQPRP	SQRRP
	SQFP	1.000	.312	.165	.265	.278	.174	.051	.127
	SQPBC	.312	1.000	.460	.551	.449	.343	.423	.410
	SQATT	.165	.460	1.000	.505	.267	.429	.374	.341
	SQINT	.265	.551	.505	1.000	.354	.548	.495	.594
	SQSN	.278	.449	.267	.354	1.000	.367	.363	.351
	SQOPR	.174	.343	.429	.548	.367	1.000	.648	.690
	SQPRP	.051	.423	.374	.495	.363	.648	1.000	.578
	SQRRP	.127	.410	.341	.594	.351	.690	.578	1.000

Table 9.3 Correlation among environmental concern and risk perception

9.3.1.3.2 Normal P-P plot of regression standardized residual

The P-P plot shown in figure 9.1 for all the models indicates that all points lie around a straight diagonal line from bottom left to top right and therefore confirms that there is no deviation from normality and no violation for linearity assumptions.



Figure 9.1 P-P plot for environmental concern and risk perception.

9.3.1.3.3 Scatterplot

The developed models were tested for homoscedasticity using a scatter plot to visually assess the assumption of homoscedasticity between the predicted dependent variable and the errors of prediction. As illustrated in Figure 9.2, there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.



Figure 9.2 Scatter plot for environmental concern and risk perception

9.3.2 Stakeholder power attribute

9.3.2.1 Model summary

In order to evaluate the influence of stakeholder power on the association between environmental concern, risk perception and sustainable water consumption strategies and practices, model summary will be presented in two rows, first row represents the model summary for the influence of environmental concern, risk perception on sustainable water consumption strategies and practices. Second row represents the combined influence of stakeholder power attribute, environmental concern and risk perception on sustainable water consumption strategies and practices.

The model summaries of the relation between stakeholder power attribute, environmental concern, risk perception and each of the six dependent variables shown in table 9.4 indicate that the combined influence had made contribution to the variance of operation strategies, operation practices and guest practices as follows:

For operation strategies, the combined effect of independent variables explains 29% (AdjR2=.285, F= 14.942, p<.001) of the variance in operation strategies compared to 23% shown with environmental concern and risk perception alone, since the two models has the same

significance level (p<.01), thus, it can be concluded that stakeholder power attribute has positive influence on the association between environmental concern, risk perception and operation strategies since the variance has changed from the original model by 6%.

Similarly, for operation practices, the combined effect of independent variables explains 28% (AdjR2=.278, F= 14.480, p<.001) of the variance in operation practices compared to 24% shown with environmental concern and risk perception alone, since the two models has the same significance level (p<.001), thus, it can be concluded that stakeholder power attribute has positive influence on the association between environmental concern, risk perception and operation practices since the variance has changed from the original model by 4%.

Additionally, guest practices was also influenced by the combination of stakeholder power attribute with environmental concern and risk perception variables, where the induced variance from the combined effect was 15% at even higher significance level (R2=.151, F=10.36, p<.001) than the original model (p<.001), comparing this variance with the 11% variance induced by environmental concern and risk perception variables, it can be concluded that the stakeholder power attribute has positively influenced the association between environmental concern, risk perception and guest practices by inducing an extra 4% variance in the in the relationship.

On the other hand, it can be seen for the model summary in table 9.4 that neither corporate strategies nor investment strategies were influenced by the introduction of stakeholder power attribute. Additionally, since none of the stakeholder power attribute clusters were significantly associated with facility practice as per the correlation test results, the multiple regression test on this dependent variable was run with independent variables only excluding the moderating variables.

Thus, it is noted that stakeholder power attribute has a positive influence on the association between environmental concern, risk perception and sustainable water consumption strategies and practices at p<.001. The positive influence of the power attribute was captured on the association between environmental concern, risk perception and operation strategies, operation practices and guest practices.

	SS									SP								
Independent variable /Model	SQOS			SQCS		SQIS		SQOP		SQGP			SQFP					
	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F
EC/RP	0.225	0	16.27	0.237	0	17.33	0.237	0	17.27	0.243	0	17.83	0.119	0.001	8.12	0.089	0.001	11.2
SPA/EC/RP	0.285	0	14.94	0.237	0	17.33	0.237	0	17.27	0.278	0	14.48	0.151	0	10.3	0.089	0.001	11.2

Table 9.4 Model summary of power attribute, environmental concern and risk perception

9.3.2.2 Evaluating independent variables

The estimated standardized Beta coefficients shown in table 9.5 indicates that in the sequence of importance, SQBUSP, SQPBC and finally SQMP are good predictors of SQOS where the association were significant at 99% confidence level. Whereas; SQOPR and SQPRP remains the sole contributors to the variance in SQCS and both are significant at 99% confidence levels. And similarly, only two variables, SQSN and SQRRP contributed to the variance in SQIS at 99% confidence level.

In relation to sustainable water consumption practices, SQGBCP, SQPBC and SQMP are highly contributing to the variance in SQOP and all are significant at 99% confidence levels. Two variables contributed positively to the variance in SQGP; SQGBCP and SQATT at 99% confidence level and one variable contributed negatively to this relationship; SQGUP at 95% confidence level . On the other hand, SQPBC remains the sole contributor to SQFP.

Moreover, the significance value of the estimated constants of regression is below .01 in all the generated models and thus, they are considered reliable in defining the point of interest in the regression equations. Therefore, it can be inferred that the regression equation which express the relation between environmental concern, risk perception, stakeholder power attribute and sustainable water consumption strategies and practices are as follows:

Equation 9.3:

SS (SQOS, SQCS and SQIS) = .907+ (.296*BUSP) + (.253*SQPBC) + (.204*SQMP) + .848 + (.320*SOPR) + (.292*PRP) + .852+ (.343*SQSN) + (.2664* SQRRP)

Equation 9.4:

SP (SQOP, SQGP and SQFP) = .793 + (.328*SQPBC) + (.259*SQGBCP) + (.199*SQMP) + .957 + (.371*SQATT) + (.330* SQGBCP) + .762 + (.312*SQPBC)

Based on model summaries and evaluation of Beta coefficients as well as the comparison of equation 9.3, 9.4 with equation 9.1 and 9.2 respectively, it can be concluded that the relation between environmental concern, risk perception and sustainable water consumption strategies and practices can be leveraged by emphasizing the attribute of stakeholder power and therefore, H3A: stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies and H4A "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies and H4A "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption practices." are accepted. Therefore, managerial efforts in hospitality sector should focus on stakeholder power with high coefficients like business utilitarian and symbolic power, media power and government and business coercive power as these are the ones that shows higher influence on the association between environmental concern, risk perception and sustainable water consumption strategies and practices.

Stakeholder	Susta	inable w	ater con	nsumpti	on strat	egies	Sustainable water consumption practices (SP)					
power			(88	5)								
attribute, Environmental	tribute, SQOS nvironmental			CS	SQ	SQIS		SQOP		GP	SQFP	
concern and	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG
risk												
perception												
variables												
Constant	0.907	0.000	0.848	0	0.852	0	0.793	0.000	0.957	0.000	0.762	0.000
SQBUSP	0.296	0.002										
SQNP												
SQMP	0.204	0.005					0.199	0.022				
SQCP												

SQGBCP							0.259	0.003	0.330	0.001		
SQGSP												
SQPBC	0.253	0.023					0.328	0.000			0.312	0.001
SQATT									0.371	0.000		
SQINT												
SQSN					0.343	0.000						
SQOPR			0.320	0.001								
SQPRP			0.292	0.002								
SQRRP					0.264	0.005						

Table 9.5 Coefficient table o	f power attribute,	environmental	concern and	risk perception
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9.3.2.3 Checking assumptions

9.3.2.3.1 Correlation between variables (Multicollinearity)

Table 9-6 below shows the result of correlation between the model variables. As can be seen from the table, correlation between the independent variables is weak, all correlation values were less than the accepted threshold of .9. Thus, the effect of multi-collinearity on the independent variable reliability is not existent and the assumption is not violated.

		SQOS	SQATT	SQINT	SQSN	SQOPR	SQPRP	SQRRP	SQPBC	SQFBUSP	SQNP	SQMP	SQGBCP	SQGSP
Pearson	SQOS	1.000	.273	.346	.158	.383	.431	.380	.394	.446	.356	.362	.343	.281
Correlation	SQATT	.273	1.000	.505	.267	.429	.374	.341	.460	.263	.234	.155	.221	.430
	SQINT	.346	.505	1.000	.354	.548	.495	.594	.551	.326	.317	.243	.243	.390
	SQSN	.158	.267	.354	1.000	.367	.363	.351	.449	.114	.026	031	.223	.426
	SQOPR	.383	.429	.548	.367	1.000	.648	.690	.343	.388	.462	.215	.419	.481
	SQPRP	.431	.374	.495	.363	.648	1.000	.578	.423	.513	.430	.221	.635	.484
	SQRRP	.380	.341	.594	.351	.690	.578	1.000	.410	.480	.364	.174	.337	.414
	SQPBC	.394	.460	.551	.449	.343	.423	.410	1.000	.320	.249	.226	.232	.418
	SQFBUSP	.446	.263	.326	.114	.388	.513	.480	.320	1.000	.308	.341	.485	.262
	SQNP	.356	.234	.317	.026	.462	.430	.364	.249	.308	1.000	.313	.258	.253
	SQMP	.362	.155	.243	031	.215	.221	.174	.226	.341	.313	1.000	.148	.186
	SQGBCP	.343	.221	.243	.223	.419	.635	.337	.232	.485	.258	.148	1.000	.407
	SQGSP	.281	.430	.390	.426	.481	.484	.414	.418	.262	.253	.186	.407	1.000

Table 9.6 Correlations among environmental concern, risk perception and power attribute

9.3.2.3.2 Normal P-P plot of regression standardized residual

The P-P plot shown in figure 9.3 for all the models indicates that all points lie around a straight diagonal line from bottom left to top right and therefore confirms that there is no deviation from normality and no violation for linearity assumptions.



Figure 9.3 P-P plot for power attribute, environmental concern and risk perception.

9.3.2.3.3 Scatterplot

The developed models were tested for homoscedasticity using a scatterplot to visually assess the assumption of homoscedasticity between the predicted dependent variable and the errors of prediction. As illustrated in Figure 9.4, there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.



Figure 9.4 Scatter plot for power attribute, environmental concern and risk perception

9.3.3 Stakeholder urgency attribute

9.3.3.1 Model summary

In order to evaluate the influence of stakeholder urgency attribute on the association between environmental concern, risk perception and sustainable water consumption strategies and practices, model summary will be presented in two rows, first row represents the model summary for the influence of environmental concern, risk perception on sustainable water consumption strategies and practices. Second row represents the combined influence of stakeholder urgency attribute, environmental concern and risk perception on sustainable water consumption strategies and practices.

The model summaries of the relation between stakeholder urgency attribute, environmental concern, risk perception and each of the six dependent variables shown in table 9.7 indicate that the combined influence had made contribution to the variance of five out of the six dependent variables, namely; operation strategies, corporate strategies, investment strategies, operation practices and guest practices as follows:

The greatest change in variance was shown with the operation strategies, the combined effect of independent variables explains 55% (AdjR2=.553, F= 44.225, p<.001) of the variance in operation strategies compared to 23% shown with environmental concern and risk perception alone, since the two models has the same significance level (p<0.001), thus, it can be concluded that stakeholder urgency attribute has positive influence on the association between environmental concern, risk perception and operation strategies since the induced variance has been more than doubled with the introduction of stakeholder urgency attribute.

Within, the same direction, corporate strategies and investment strategies was influenced positively with the combined model, showing (Adj R2=.289, F=15.257 at p<.001), (Adj R2=.295, F= 15.672at p<.001) and an increase in variance induced by the two models by 5% and 6% respectively.

Similarly, for operation practices, the combined effect of independent variables explains 40% (AdjR2=.399, F= 24.245, p<.001) of the variance in operation practices compared to 24% shown with environmental concern and risk perception alone, since the two models has the same significance level (p<.001), thus, it can be concluded that stakeholder urgency attribute has positive influence on the association between environmental concern, risk perception and operation practices since the variance has changed from the original model by 16%.

Additionally, guest practices was also influenced by the combination of stakeholder urgency attribute with environmental concern and risk perception variables, where the induced variance from the combined effect was 21% at even higher significance level (R2=.209, F=10.246, p<.001) than the original model (p<.001), comparing this variance with the 11.9% variance induced by environmental concern and risk perception variables, it can be concluded that the stakeholder urgency attribute has positively influenced the association between environmental concern, risk perception and guest practices by inducing an extra 9% variance in the in the relationship.

In a similar situation with stakeholder power, none of the clusters of stakeholder urgency attribute was significantly associated with facility practice as per the correlation test results, thus, the multiple regression test on this dependent variable was run with independent variables only excluding the stakeholder urgency attribute.

Thus, it is noted that stakeholder urgency attribute has a positive influence on the association between environmental concern, risk perception and sustainable water consumption strategies and practices at p<.001. The positive influence of urgency attribute was captured on the association between environmental concern, risk perception and operation strategies, corporate strategies, investment strategies, operation practices and guest practices.

Independent variable /Model					SS									SP				
	SQOS			s	QCS		5	SQIS		5	SQOP		5	SQGP		:	SQFP	
	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F
EC/RP	0.225	0	16.27	0.237	0	17.33	0.237	0	17.27	0.243	0	17.83	0.119	0.001	8.12	0.089	0.001	11.2
SUA/EC/RP	0.553	0	44.23	0.289	0	15.26	0.295	0	15.67	0.399	0	24.25	0.209	0	10.2	0.089	0.001	11.2

Table 9.7 Model summary of urgency attribute, environmental concern and risk perception

9.3.3.2 Evaluating independent variables

The estimated standardized Beta coefficients shown in table 9.8 indicates that in the sequence of importance, SQBU, SQPBC and SQMU are good predictors of SQOS where the association were significant at 99% confidence level. Whereas; SQPBC, SQOPR and SQBU contributes to the variance in SQCS and all are significant at 99% confidence levels. And Similarly, SQSN, SQGU and SQRRP contributed to the variance in SQIS at 99% confidence level.

In relation to sustainable water consumption practices, SQATT, SQPBC and SQBU are highly contributing to the variance in SQOP and all are significant at 99% confidence levels, whereas, SQATT at 99% confidence level, SQNU and SQBU at 95% confidence level influence the guest practices (SQGP) . On the other hand, SQPBC remains the sole contributor to SQFP.

Moreover, the significance value of the estimated constants of regression is below .01 in all the generated models and thus, they are considered reliable in defining the point of interest in the regression equations. Therefore, it can be inferred that the regression equation which express the relation between environmental concern, risk perception, stakeholder urgency attribute and sustainable water consumption strategies and practices are as follows

Equation 9.5:

SS (SQOS, SQCS and SQIS) = .628+ (.547*SQBU) + (.239*SQPBC) + (.196*SQMU) + .848 (.271*SQPBC) + (.254*SQOPR) + (.253*SQBU) + .852+ (.293*SQSN) + (.270* SQGU) + (.204*SQRRP)

Equation 9.6:

SP (SQOP, SQGP and SQFP) = .886 + (.454*SQBU) + (.264*SQPBC) + (.196*SQATT) + .847 + (.247*SQATT) + (.224* SQNU) + (.203*SQBU) + .762 + (.312*SQPBC)

Based on model summaries and evaluation of Beta coefficients as well as the comparison of equation 9.5, 9.6 with equation 9.1 and 9.2 respectively, it can be concluded that the relation between environmental concern, risk perception and sustainable water consumption strategies and practices can be leveraged by emphasizing the attribute of stakeholder urgency, and it can be concluded that H3B: stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies and H4B "stakeholder's urgency attribute influence the association between environmental concern, risk perception practices." are accepted. Therefore, managerial efforts in hospitality sector should focus on stakeholder urgency with high coefficients represented mainly in business urgency followed by government urgency then media urgency as these are the ones that shows higher influence on the association between environmental concern, risk perception and sustainable water consumption strategies and practices.

Stakeholder	Sustai	nable wa	ter cons	umption	strategie	es (SS)	Sustainable water consumption practices (SP)							
attribute,	SQOS		SQOS		SQCS		SQ	SQIS		SQOP		GP	SQFP	
Environmental concern and risk perception variables	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG		
Constant	0.628	0.000	0.848	0.000	0.852	0.000	0.886	0.000	0.847	0.000	0.762	0.000		
SQCU														

SQNU									0.224	0.032		
SQBU	0.547	0.000	0.253	0.004			0.454	0.000	0.203	0.044		
SQMU	0.196	0.011										
SQGU					0.270	0.003						
SQPBC	0.239	0.001	0.271	0.003			0.264	0.003			0.312	0.001
SQATT							0.196	0.023	0.247	0.007		
SQINT												
SQSN					0.293	0.001						
SQOPR			0.254	0.006								
SQPRP												
SQRRP					0.204	0.025						

Table 9.8 Coefficient table of urgency attribute, environmental concern and risk perception

9.3.3.3 Checking assumptions

9.3.3.3.1 Correlation between independent variables (Multicollinearity)

Table 9-9 below shows the result of correlation between the model variables. As can be seen from the table, correlation between the independent variables is weak, all correlation values were less than the accepted threshold of .9. Thus, the effect of multi-collinearity on the independent variable reliability is not existent and the assumption is not violated.

						Correl	ations						
		SQOS	SQPBC	SQATT	SQINT	SQSN	SQOPR	SQPRP	SQRRP	SQCU	SQNU	SQBU	SQMU
Pearson	SQOS	1.000	.394	.273	.346	.158	.383	.431	.380	.321	.519	.677	.516
Correlation	SQPBC	.394	1.000	.460	.551	.449	.343	.423	.410	.063	.308	.173	.307
	SQATT	.273	.460	1.000	.505	.267	.429	.374	.341	.177	.260	.068	.289
	SQINT	.346	.551	.505	1.000	.354	.548	.495	.594	.287	.365	.197	.266
	SQSN	.158	.449	.267	.354	1.000	.367	.363	.351	.080	.193	.002	.157
	SQOPR	.383	.343	.429	.548	.367	1.000	.648	.690	.323	.512	.292	.394
	SQPRP	.431	.423	.374	.495	.363	.648	1.000	.578	.188	.441	.380	.412
	SQRRP	.380	.410	.341	.594	.351	.690	.578	1.000	.211	.386	.278	.413
	SQCU	.321	.063	.177	.287	.080	.323	.188	.211	1.000	.297	.369	.353
	SQNU	.519	.308	.260	.365	.193	.512	.441	.386	.297	1.000	.485	.519
	SQBU	.677	.173	.068	.197	.002	.292	.380	.278	.369	.485	1.000	.452
	SQMU	.516	.307	.289	.266	.157	.394	.412	.413	.353	.519	.452	1.000

Table 9.9 Correlations among environmental concern, risk perception and urgency attribute

9.3.3.3.2 Normal P-P plot of regression standardized residual

The P-P plot shown in figure 9.5 for all the models indicates that all points lie around a straight diagonal line from bottom left to top right and therefore confirms that there is no deviation from normality and no violation for linearity assumptions.



Figure 9.5 P-P plot for urgency attribute, environmental concern and risk perception

9.3.3.3.3 Scatterplot

The developed models were tested for homoscedasticity using a scatterplot to visually assess the assumption of homoscedasticity between the predicted dependent variable and the errors of prediction. As illustrated in Figure 9.6, there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.



Figure 9.6 Scatter plot for urgency attribute, environmental concern and risk perception

9.3.4 Stakeholder legitimacy attribute

9.3.4.1 Model summary

In order to evaluate the influence of stakeholder legitimacy attribute on the association between environmental concern, risk perception and sustainable water consumption strategies and practices, model summary will be presented in two rows, first row represents the model summary for the influence of environmental concern, risk perception on sustainable water consumption strategies and practices. Second row represents the combined influence of stakeholder legitimacy attribute, environmental concern and risk perception on sustainable water consumption strategies and practices.

The model summaries of the relation between stakeholder legitimacy attribute, environmental concern, risk perception and each of the six dependent variables shown in table 9.10 indicate that the combined influence had made contribution to the variance of four out of the six dependent variables, namely; operation strategies, investment strategies operation practices and guest practices as follows:

The greatest change in variance was shown with the operation strategies, the combined effect of independent variables explains 47% (AdjR2=.467, F= 31.71, p<.001) of the variance in operation strategies compared to 23% shown with environmental concern and risk perception alone, since the two models has the same significance level (p<.001), thus, it can be concluded that stakeholder legitimacy attribute has positive influence on the association between environmental concern, risk perception and operation strategies since the induced variance has been nearly doubled with the introduction of stakeholder legitimacy attribute. To a lesser extent, stakeholder legitimacy attribute had influenced SQIS (Adj R2=.272, F=14.62 at p<.001) where the induced variance due to the combined effect of variables showed an increase with 4%.

Similarly, for operation practices, the combined effect of independent variables explains 41% (AdjR2=.409, F= 37.4, p<.001) of the variance in operation practices compared to 24% shown with environmental concern and risk perception alone, since the two models has the same significance level (p<.001), thus, it can be concluded that stakeholder legitimacy attribute has positive influence on the association between environmental concern, risk perception and operation practices since the variance has changed from the original model by 17%.

Additionally, guest practices was also influenced by the combination of stakeholder legitimacy attribute with environmental concern and risk perception variables, where the induced variance from the combined effect was 16% at even higher significance level (R2=.162, F=11.148, p<.001) than the original model (p<.001), comparing this variance with the 11% variance induced by environmental concern and risk perception variables, it can be concluded that the stakeholder legitimacy attribute has positively influenced the association between environmental concern, risk perception and guest practices by inducing an extra 5% variance in the in the relationship.

In the same line with stakeholder power and stakeholder urgency attributes, clusters of stakeholder legitimacy attribute was not significantly associated with facility practice. Similarly, it can be seen form the model summary in table 9.10 that corporate strategies were not influenced by the introduction of stakeholder legitimacy attribute.

Thus, it is noted that stakeholder legitimacy attribute has a positive influence on the association between environmental concern, risk perception and sustainable water consumption strategies

and practices at p<.001. The positive influence of legitimacy attribute was captured on the association between environmental concern, risk perception and operation strategies, investment strategies, operation practices and guest practices.

Independent variable /Model		SS											SP								
	SQOS			S	QCS		8	SQIS		:	SQOP		5	SQGP			SQFP				
	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F	Adj.R2	SIG	F			
EC/RP	0.225	0	16.27	0.237	0	17.33	0.237	0	17.27	0.243	0	17.83	0.119	0.001	8.12	0.089	0.001	11.2			
SLA/EC/RP	0.467	0	31.71	0.237	0	17.33	0.272	0	14.06	0.409	0	37.4	0.162	0	11.1	0.089	0.001	11.2			

Table 9.10 Model summary of legitimacy attribute, environmental concern and risk perception

9.3.4.2 Evaluating independent variables

The estimated standardized Beta coefficients shown in table 9.11 indicates that in the sequence of importance, SQBFGL, SQPBC at 99 % confidence level and SQOPR at 95% confidence level are good predictors of SQOS. Whereas; SQOPR and SQPBC remains the contributors to the variance in SQCS and all are significant at 99% confidence levels. And Similarly, SQSN, SQGRL at 99% confidence level and SQRRP at 95% confidence level contributed to the variance in SQIS.

In relation to sustainable water consumption practices, SQBFGL and SQPBC are highly contributing to the variance in SQOP and both are significant at 99% confidence levels, whereas, SQBFGL and SQATT at 99% confidence level influenced the guest practices (SQGP). On the other hand, SQPBC remains the sole contributor to SQFP.

Moreover, the significance value of the estimated constants of regression is below .01 in all the generated models and thus, they are considered reliable in defining the point of interest in the regression equations. Therefore, it can be inferred that the regression equation which express the relation between environmental concern, risk perception, stakeholder legitimacy attribute and sustainable water consumption strategies and practices are as follows:

Equation 9.7:

SS (SQOS, SQCS and SQIS) = .628 + (.53*SQBFGL) + (.225*SQPBC) + (.169*SQOPR) + .848 + (.232*SQOPR) + (.292* SQPBC) + .852 + (.318*SQSN) + (.221*SQGRL) + (.192*SQRRP)

Equation 9.8:

SP (SQOP, SQGP and SQFP) = .825 (.494*SQBFGL) + (.33*SQPBC) + .96 + (.279*SQBFGL) + (.278* SQATT) + .762 + (.312*SQPBC)

Based on model summaries and evaluation of Beta coefficients as well as the comparison of equation 9.7, 9.8 with equation 9.1 and 9.2 respectively, it can be concluded that the relation between environmental concern, risk perception and sustainable water consumption strategies and practices can be leveraged by emphasizing the attribute of stakeholder legitimacy. Thus, the research hypotheses H3C: "stakeholder legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4C: stakeholder legitimacy attribute influence the association between environmental concern, risk perception practices" are confirmed. Therefore, managerial efforts in hospitality sector should focus on stakeholder legitimacy attributes with high coefficients represented mainly in business and fiscal government legitimacy followed by government regulatory legitimacy as these are the ones that shows higher influence on the association between environmental concern, risk perception and sustainable water consumption strategies and practices.

Stakeholder	Sustai	nable wa	ter cons	umption	strategie	es (SS)	Sustainable water consumption practices (SP)							
legitimacy attribute,	SQOS		SQ	CS	SQ	QIS	SQ	OP	SQ	GP	SQFP			
Environmental	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG	Beta	SIG		
risk														
perception														
variables														
Constant	0.628	0.000	0.848	0.000	0.852	0.000	0.825	0.000	0.960	0.000	0.762	0.000		
SQBFGL	0.530	0.000					0.494	0.000	0.279	0.003				
SQCML														
SQNL														
SQGRL					0.221	0.016								
SQPBC	0.225	0.004	0.292	0.002			0.330	0.000						
SQATT									0.278	0.003	0.312	0.001		
SQINT														
SQSN					0.318	0.001								
SQOPR	0.169	0.032	0.320	0.001										
SQPRP														
SQRRP					0.192	0.044								

Table 9.11 Coefficient table of legitimacy attribute, environmental concern and risk perception

9.3.4.3 Checking assumptions

9.3.4.3.1 Correlation between independent variables (Multicollinearity)

Table 9.12 below shows the result of correlation between the model variables. As can be seen from the table, correlation between the independent variables is weak, all correlation values were less than the accepted threshold of .9. Thus, the effect of multi-collinearity on the independent variable reliability is not existent and the assumption is not violated.
						Correl	ations						
		SQOS	SQBFGL	SQCML	SQNL	SQGRL	SQPBC	SQATT	SQINT	SQSN	SQOPR	SQPRP	SQRRP
Pearson	SQOS	1.000	.621	.383	.402	.237	.394	.273	.346	.158	.383	.431	.380
Correlation	SQBFGL	.621	1.000	.449	.488	.388	.209	.146	.211	048	.259	.534	.248
	SQCML	.383	.449	1.000	.599	.586	.244	.271	.379	.087	.430	.384	.380
	SQNL	.402	.488	.599	1.000	.515	.298	.346	.405	.181	.368	.395	.324
	SQGRL	.237	.388	.586	.515	1.000	.375	.353	.377	.229	.350	.424	.370
	SQPBC	.394	.209	.244	.298	.375	1.000	.460	.551	.449	.343	.423	.410
	SQATT	.273	.146	.271	.346	.353	.460	1.000	.505	.267	.429	.374	.341
	SQINT	.346	.211	.379	.405	.377	.551	.505	1.000	.354	.548	.495	.594
	SQSN	.158	048	.087	.181	.229	.449	.267	.354	1.000	.367	.363	.351
	SQOPR	.383	.259	.430	.368	.350	.343	.429	.548	.367	1.000	.648	.690
	SQPRP	.431	.534	.384	.395	.424	.423	.374	.495	.363	.648	1.000	.578
	SQRRP	.380	.248	.380	.324	.370	.410	.341	.594	.351	.690	.578	1.000

Table 9.12 Correlations among environmental concern, risk perception and legitimacy attribute

9.3.4.3.2 Normal P-P plot of regression standardized residual

The P-P plot shown in figure 9.7 for all the models indicates that all points lie around a straight diagonal line from bottom left to top right and therefore confirms that there is no deviation from normality and no violation for linearity assumptions.



Figure 9.7 P-P plot for legitimacy attribute, environmental concern and risk perception

9.3.4.3.3 Scatterplot

The developed models were tested for homoscedasticity using a scatterplot to visually assess the assumption of homoscedasticity between the predicted dependent variable and the errors of

prediction. As illustrated in Figure 9.8, there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.



Figure 9.8 Scatter plot for legitimacy attribute, environmental concern and risk perception

9.3.5 Summary of the influence of stakeholders' salience attributes

The above results indicates that there is positive significant influence between environmental concern, risk perception and sustainable water consumption strategies and practices, the percent of variance induced ranges from 9% to 24% thus, it can be concluded that H1 "Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector" and H2: Environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector" are both confirmed.

Despite of this association, it is clear that there is still a gap in the relation as previously argued by researchers, thus, the influence of stakeholder salience attributes on this association was measured and results indicate that all the three attributes do significantly and positively influence the relation between environmental concern, risk perception and sustainable water consumption strategies and practices. It is also notable that stakeholder urgency attribute has the most positive influence on the association, inducing a change 14% on average followed by stakeholder legitimacy attribute which induced a change of 12% on average and the least influence was shown by the power attributes which can only induce a change of 4.3% on average on the dependent clusters for sustainable water consumption strategies and practices.

Therefore, it can be concluded that the following research hypotheses are accepted; H3A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies", H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption practices", H3B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption practices", H3C: "stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption practices" and H4C: "stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption practices" are all confirmed.

The implications of this is that policy makers and managers should be aware of the role of stakeholder salience attributes in filling the gap between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices in hospitality sector, and thus, managerial efforts should focus on empathizing those attributes to achieve sustainability project initiative goals in relation to sustainable water consumption. Moreover, managers should realize the role of both urgency and legitimacy attributes which precedes the role of power attribute on driving sustainable water consumption strategies and practices and therefore, managers should give priority to stakeholders that possess higher urgency and legitimacy attribute than those owning the power attribute.

9.4 Moderation effect of stakeholder salience attributes

Based on the above results shown in equations 9.3 to 9.8, it could be argued that stakeholder salience attributes has a moderating effect between environmental concern, risk perception and sustainable water consumption strategies and practices in which an interaction effect may exist between the independent and intervening variables. A moderator is defined as either qualitative (e.g. age and sex) or a quantitative variable that affects the direction and/or strength of a relation between an independent and a dependent variable, a basic moderator effect can be represented as

an interaction between a focal independent variable and a factor (the moderator) that specifies the appropriate conditions for its operation. Thus, the moderation effect using Multiple Regression Analysis can be performed by entering predictor and moderator main effects into the regression equation followed by the interaction between the predictor and moderator represented by the product of their effect (Holmbeck, 1997).

Further, a Moderator variables are typically introduced when there is an unexpectedly weak or inconsistent relation between a predictor and a criterion variable. (Baron & Kenny, 1986, pp. 1174, 1178) which is the case with the influence of both environmental concern, risk perception and sustainable water consumption strategies and practices in which the literature has pointed to a contradicting influence and low explanatory power of both variables which was confirmed in this thesis with the analysis made in section 9.4 where a maximum Adj R2 is shown to be 0.237 (table 9.1). Therefore, analyzing moderation effect of stakeholder salience attributes is justified. Based on the results of equations 9.3 to 9.8, the below potential moderators that showed synergistic influence on the association between the dependent and independent variables are identified in table 9.13.

	Independent	
Potential moderators	variables	Dependent variables
SQMP	SQPBC	SQOS
SQBUSP	SQPBC	SQOS
SQBU	SQPBC	SQOS
SQMU	SQPBC	SQOS
SQBU	SQOPR	SQCS
SQBU	SQPBC	SQCS
SQGU	SQRRP	SQIS
SQGU	SQSN	SQIS
SQBFGL	SQOPR	SQOS
SQBFGL	SQPBC	SQOS
SQGRL	SQSN	SQIS
SQGRL	SQRRP	SQIS
SQGBCP	SQPBC	SQOP
SQMP	SQPBC	SQOP
SQGBCP	SQATT	SQGP
SQBU	SQPBC	SQOP
SQBU	SQATT	SQOP
SQNU	SQATT	SQGP
SQBU	SQATT	SQGP
SQBFGL	SQPBC	SQOP
SQBFGL	SQATT	SQGP

Table 9.13 Identified potential moderators

9.4.1 Assumptions for testing moderation

Given the manner in which the interaction between the independent variable and a moderator is computed, the (multiplication of the predictor and the moderator), the main effects of each of predictor and moderator will be highly correlated with the interaction term, which can violate the assumption of multicollinearity therefore it has been recommended that the independent variable and the moderator be "centred" before testing the significance of the relation by putting their scores into deviation score form by subtracting the sample mean from all individuals' scores on the variable, thus, producing a revised sample mean of zero. Such transformations have no impact on the level of significance of the interaction terms or the simple slopes of any plotted regression lines. (Aiken and West 1991, Holmbeck, 1997).

Thus, to test moderation effect of stakeholder salience attributes without violation of the multicollinearity assumption, all variables are centralised and a moderator effect variable is computed by multiplying moderator and independent variable, then variables are recoded as shown in table 9.14.

Centralised	Centralised	Centralised	Computed moderating
potential	independent	dependent	variables
moderators	variables	variables	(moderator*independent)
ZSQMP	ZSQPBC	ZSQOS	MP*PBCMOD
ZSQBUSP	ZSQPBC	ZSQOS	BUSP*PBCMOD
ZSQBU	ZSQPBC	ZSQOS	BU*PBCMOD
ZSQMU	ZSQPBC	ZSQOS	MU*PBCMOD
ZSQBU	ZSQOPR	ZSQCS	BU*OPRMOD
ZSQBU	ZSQPBC	ZSQCS	BU*PBCMOD
ZSQGU	ZSQRRP	ZSQIS	GU*RRPMOD
ZSQGU	ZSQSN	ZSQIS	GU*SNMOD
ZSQBFGL	ZSQOPR	ZSQOS	BFGL*OPRMOD
ZSQBFGL	ZSQPBC	ZSQOS	BFGL*PBCMOD
ZSQGRL	ZSQSN	ZSQIS	GRL*SNMOD
ZSQGRL	ZSQRRP	ZSQIS	GRL*RRPMOD
ZSQGBCP	ZSQPBC	ZSQOP	GBCP*PBCMOD
ZSQMP	ZSQPBC	ZSQOP	MP*PBCMOD
ZSQGBCP	ZSQATT	ZSQGP	GBCP*ATTMOD

ZSQBU	ZSQPBC	ZSQOP	BU*PBCMOD
ZSQBU	ZSQATT	ZSQOP	BU*ATTMOD
ZSQNU	ZSQATT	ZSQGP	NU*ATTMOD
ZSQBU	ZSQATT	ZSQGP	BU*ATTMOD
ZSQBFGL	ZSQPBC	ZSQOP	BFGL*PBCMOD
ZSQBFGL	ZSQATT	ZSQGP	BFGL*ATTMOD

Table 9.14 Centralised variables and computed moderator variables

9.4.2 Moderation effect of Stakeholder power attribute

Results of moderation effect revealed that none of the stakeholder power attribute clusters do significantly moderate any of the relations between environmental concern, risk perception and sustainable water consumption strategies and practices. Therefore stakeholder power attribute can only be considered as another explanatory variable that contributes to a small change in the adoption of sustainable water consumption strategies and practices in hospitality sector with no moderation effect. Thus, it can be concluded that H6A "stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" and H7A "stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" and H7A "stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" are rejected.

9.4.3 Moderation effect of Stakeholder urgency attribute

Results of moderation effect revealed that stakeholder urgency attribute do significantly moderate the relations between environmental concern, risk perception and sustainable water consumption strategies and practices. The moderation effect was reported by business urgency cluster which significantly moderates the association between perceived behavioural control and operation strategies, operational risk perception and corporate strategies, attitude and operation practices as well as the association between attitude and guest practices as shown in model 1, 2, 3 and 4 in the below section.

9.4.3.1 Model 1: Business urgency as a moderator between perceived behavioural control and operation strategies

9.4.3.1.1 Model Summary

In order to evaluate the moderating effect of business urgency attribute (ZSQBU) on the association between perceived behavioural control (ZQPBC) and operation strategies (ZQOS),

multiple regression analysis is performed with the three independent variable; ZSQBU, ZSPBC, BU*PBCMOD and the dependent variable ZSQOS as shown in the model summary and ANNOVA table (table 9.15). The model summary indicates that the combined influence had made the highest significant contribution to the variance of operation strategies, Adj R2=.546 at F=43.165, p< .0005, this result indicate that the model can explain 55% of the variance in operation strategies and therefore provide a solid understanding of the change in operation strategies of firms in relation to sustainable water consumption due to perceived behavioural control moderated by business urgency attribute.

9.4.3.1.2 Evaluating independent and moderator variables

The estimated standardized Beta coefficients shown in table 9.15 indicates that the three variables, ZSQBU, ZSQPBC, and BU*PBCMOD are good predictors of ZSQOS, standardized Beta= .651, .270 and .152 at p<.001, .001 and .005 respectively. Therefore, it can be concluded that business urgency has a moderating effect between environmental concern demonstrated by manager's perceived behavioural control and sustainable water consumption strategies demonstrated by firm's operations strategy.

		Model	Summar	у						ANNO\	/A table		C	oefficient	S	
Model Dependent Variable: Zscore(SQOS)	R	R Square	Adjuste d R	Std. Error of the		Change	e Statis	tics		F	Sig.	Unstand Coeff	dardized icients	Standar dized Coefficie nts	t	Sig.
			Square	Estimate	R Square	F Change	df1	df2	Sig. F Chang			В	Std. Error	Beta		
Constant												-0.056	0.07		-0.802	0.424
Zscore(SQBU)	.677 ^a	0.458	0.453	0.7396101	0.458	87.948	1	104	0	87.948	.000 ^b	0.651	0.068	0.651	9.644	0
Zscore(SQBU), Zscore(SQPBC)	.733 ^b	0.537	0.528	0.6870438	0.079	17.523	1	103	0	59.722	.000 ^c	0.27	0.067	0.27	4.035	0
Zscore(SQBU), Zscore(SQPBC), BUS*PBCMOD	.748 [°]	0.559	0.546	0.6734769	0.022	5.192	1	102	0.025	43.165	.000 ^d	0.177	0.078	0.152	2.279	0.025

Table 9.15 Business urgency moderator between perceived behavioural control and operation strategies

9.4.3.1.3 Checking assumptions

Figure 9.9 indicates that none of the Multiple Regression Analysis assumptions are violated since, correlation table indicates the correlation between independent variables are week (less than 0.9) therefore, multicollinearity assumption is not violated. Normal p-p plot shows that all points lie in a reasonably straight diagonal line from bottom left to top right and therefore suggests that there is no deviation from normality and finally, scatter plot shows that there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.

Normal P-P Plot o Depende	FRegression Standardized Residual ant Variable: Zacore(SQOS)		Scatterpl Dependent Variable	ot Zecore(SQOS)	
Etherator Can Pot	A A A A	Regression flandardized Recebux			3
		Correlations			
		Zscore(SQOS)	Zscore(SQBU)	Zscore(SQPBC)	BUSPBCMODE RATOR
Pearson Correlation	Zscore(SQOS)	1.000	.677	.394	.08
	Zscore(SQBU)	.677	1.000	.173	- 13
	Zscore(SQPBC)		.173	1.000	.06
	BUSPBCMODERATOR	.080	- 139	.068	1.00
Sig. (1-tailed)	Zscore(SQOS)		.000	.000	20
	Zscore(SQBU)	.000		.038	.07
	Zscore(SQPBC)	.000	.038	54	.24
	BUSPBCMODERATOR	.209	.077	.243	-
N	Zscore(SQOS)	106	106	106	10
	Zscore(SQBU)	106	106	106	10
	Zscore(SQPBC)	106	106	106	10
			1000	1000	

Figure 9.9 Scatter plot, Normal p-p plot and correlations for model 1 moderation

9.4.3.2 Model 2: Business urgency as a moderator between operational risk perception and corporate strategies

9.4.3.2.1 Model summary

The moderating effect of business urgency attribute (ZQBU) on the association between operational risk perception (ZQOPR) and corporate strategies (ZQCS) is evaluated by Multiple Regression Analysis with the three independent variable; ZSQBU, ZSQOPR, BU*OPRMOD and the dependent variable ZSQCS was run as shown in the model summary (table 9.16). The model summary and ANNOVA table indicate that the combined influence had made the highest significant contribution to the variance of corporate strategies, Adj R2=.255 at F=12.960, p< .0005, this result indicate that the model can explain 26% of the variance in corporate strategies and therefore provide a solid understanding of the change in corporate strategies of firms in

relation to sustainable water consumption due to managers' operational risk moderated by business urgency attribute.

9.4.3.2.2 Evaluating independent and moderator variables

The estimated standardized Beta coefficients shown in table 9.16 indicates that the three variables, ZSQOPR, ZSQBU and BU*OPRMOD are good predictors of ZSQCS, standardized Beta=.359, .302 and .179 at p<.001, .001 and .05 respectively. Therefore, it can be concluded that business urgency has a moderating effect between risk perception demonstrated by manager's operation risk perception and sustainable water consumption strategies demonstrated by firm's corporate strategy.

		Model	Summar	у						ANNOV	A table			Coefficients		
Model Dependent Variable: Zscore(SQCS)	R	R Square	Adjuste d R	Std. Error of the		Chang	ge Statis	stics		F	Sig.	Unstan Coefi	dardized ficients	Standardiz ed Coefficient s	t	Sig.
			Square	Estimate	R Square	F Change	dfl	df2	Sig. F Change			В	Std. Error	Beta		
constant												-0.057	0.088		-0.642	0.522
Zscore(SQOPR)	.420 ^a	0.177	0.169	0.91175	0.177	22.309	1	104	0	22.309	.000 ^b	0.359	0.089	0.359	4.058	0
Zscore(SQOPR), Zscore(SQBU)	.495 ^b	0.245	0.231	0.87707	0.069	9.387	1	103	0.003	16.748	.000 ^c	0.302	0.089	0.302	3.393	0.001
Zscore(SQOPR), Zscore(SQBU), BU*OPRMOD	.525°	0.276	0.255	0.86331	0.031	4.309	1	102	0.04	12.96	.000 ^d	0.196	0.094	0.179	2.076	0.04

Table 9.16 Business urgency moderator between operational risk perception and operation corporate strategies

9.4.3.2.3 Checking assumptions

Figure 9.10 indicates that none of the multiple regression test assumptions are violated since, correlation table indicates the correlation between independent variables are week (less than 0.9), therefore, multicollinearity assumption is not violated. Normal p-p plot shows that all points lie in a reasonably straight diagonal line from bottom left to top right and therefore suggests that there is no deviation from normality and finally, scatter plot shows that there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.

Dependent Var	iable: Zacore/SGCSI	S Dependent V	icatterplot ariable: Zecore(SQC6)		
transformed	Participant and participant an			-	
		Correlations			
		Zscore(SQCS)	Zscore(SQOPR)	Zscore(SQBU)	BUAOPRMODE RATOR
Pearson Correlation	Zscore(SQCS)	Zscore(SQCS)	Zscore(SQOPR) .420	Zscore(SQBU) .373	BUAOPRMODE RATOR .067
Pearson Correlation	Zscore(SQCS) Zscore(SQOPR)	Zscore(SQCS) 1.000 .420	Zscore(SQOPR) .420 1.000	Zscore(SQBU) .373 .292	BUAOPRMODE RATOR .067 153
Pearson Correlation	Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU)	Zscore(SQCS) 1.000 .420 .373	Zscore(SQOPR) .420 1.000 .292	Zscore(SQBU) .373 .292 1.000	BUAOPRMODE RATOR .067 - 153 - 189
Pearson Correlation	Zscorr(SQCS) Zscorr(SQOPR) Zscorr(SQBU) BUAOPRMODERATOR	Zscore(SQCS) 1.000 .420 .373 .067	Zscore(SQOPR) .420 1.000 .292 153	Zscore(SQBU) .373 .292 1.000 189	BUAOPRMODE RATOR .067 153 189 1.000
Pearson Correlation Sig. (1-tailed)	ZSCORE(SQCS) ZSCORE(SQOPR) ZSCORE(SQBU) BUAOPRMODERATOR ZSCORE(SQCS)	Zscore(SQCS) 1.000 .420 .373 .067	Zscore(SQOPR) .420 1.000 .292 .153 .000	Zscore(SQBU) .373 .292 1.000 189 .000	BUAOPRMODE RATOR 067 - 153 - 189 1.000 247
Pearson Correlation Sig. (1-tailed)	Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQOPR)	Zscore(SQCS) 1.000 .420 .373 .067 .000	Zscore(SQOPR) .420 1.000 .292 .153 .000	Zscore(SQBU) .373 .292 1.000 .189 .000 .001	BUAOPRMODE RATOR 153 189 1.000 247 059
Pearson Correlation Sig. (1-tailed)	Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU)	Zscore(SQCS) 1.000 .420 .373 .067 .000 .000	Zscore(SQOPR) .420 1.000 .292 .153 .000 .001	Zscore(SQBU) .373 .292 1.000 .189 .000 .001	BUAOPRMODE RATOR 153 189 1.000 247 .059 .026
Pearson Correlation Sig. (1-tailed)	Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQCPR) Zscore(SQBU) BUAOPRMODERATOR	Zscore(SQCS) 1.000 420 373 067 000 000 247	Zscore(SQOPR) .420 1.000 .292 153 .000 .001 .059	Zscore(SQBU) .373 .292 1.000 .189 .000 .001 .001	BUAOPRMODE RATOR - 153 - 189 1.000 247 059 .026
Pearson Correlation Sig. (1-tailed)	Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS)	Zscore(SQCS) 1.000 420 373 .067	Zscore(SQOPR) 420 1.000 292 153 .000 .001 .059 106	Zscore(SQBU) .373 .292 1.000 .189 .000 .001 .026 106	BUAOPRMODE RATOR - 153 - 189 1.000 247 .059 .026 .026
Pearson Correlation Sig (1-tailed)	Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQOPR)	Zscore(SQCS) 1.000 420 373 067 .000 .000 .000 247 106 106	Zscore(SQOPR) .420 1.000 .292 .153 .000 .001 .059 106 106	Zscore(SQBU) .373 .292 1.000 .189 .000 .001 .026 106 106	BUAOPRMODE RATOR 067 - 153 - 189 1.000 247 059 026 - 106 106
Pearson Correlation Sig. (1-tailed) N	Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQOPR) Zscore(SQBU) BUAOPRMODERATOR Zscore(SQCS) Zscore(SQCS) Zscore(SQBU)	Zscore(SQCS) 1.000 420 373 067 000 000 247 106 106 106	Zscore(SQOPR) 420 1.000 292 - 153 000	Zscore(SQBU) .373 .292 1.000 .189 .000 .001 .001 .026 106 106	BUAOPRMODE RATOR - 153 - 189 1.000 247 059 026 - 106 106 106

Figure 9.10 Scatter plot, Normal p-p plot and correlations for model 2 moderation

9.4.3.3 Model 3: Business urgency as a moderator between attitude and operation practices9.4.3.3.1 Model Summary

In order to evaluate the moderating effect of business urgency attribute (ZSQBU) on the association between attitude (ZSQATT) and operation practices (ZSQOP), Multiple Regression Analysis was run with the three independent variable; ZSQBU, ZSQATT, BU*ATTMOD and the dependent variable ZSQOP as shown in the model summary (table 9.17) .The model summary and ANNOVA table indicate that the combined influence had made the highest significant contribution to the variance of operation practices, Adj R2=.370 at F=21.530, p< .001, this result indicate that the model can explain 37% of the variance in operation practices and therefore provide a solid understanding of the change in operation practices of firms in

relation to sustainable water consumption due to manager's attitude moderated by business urgency attribute.

9.4.3.3.2 Evaluating independent and moderator variables

The estimated standardized Beta coefficients shown in table 9.17 indicates that the three variables, ZSQBU, ZSQATT and BU*ATTMOD are good predictors of ZSQOP, standardized Beta=.527, .294 and .157 at p<.001, .001 and .05 respectively. Therefore, it can be concluded that business urgency has a moderating effect between environmental concern demonstrated by manager's attitude and sustainable water consumption practices demonstrated by firm's operation practices.

		Mod	el Summa	ry						ANNOV	A table		C	oefficient	S	
Model Dependent Variable: Zscore(SQOP)	R	R	Adjusted	Std. Error of the		Chan	ge Statis	tics		F	Sig.	Unstand Coeffi	ardized cients	Standardi zed Coefficien	t	Sig.
		Square	R Square	Estimate	R Square Change	F Change	df1	df2	Sig. F Change			В	Std. Error	Beta		
Constant												-0.011	0.077		-0.138	0.891
Zscore(SQBU)	.514 ^a	0.264	0.257	0.86219	0.264	37.248	1	104	0	37.248	.000 ^b	0.527	0.08	0.527	6.628	0
Zscore(SQBU), Zscore(SQATT)	.602 ^b	0.363	0.35	0.8061151	0.099	15.972	1	103	0	29.291	.000 ^c	0.294	0.078	0.294	3.752	0
Zscore(SQBU), Zscore(SQATT), BU*ATTMOD	.623 ^c	0.388	0.37	0.7939049	0.025	4.193	1	102	0.043	21.53	.000 ^d	0.157	0.077	0.164	2.048	0.043

Table 9.17 Business urgency moderator between attitude and operation practices

9.4.3.3.3 Checking assumptions

Figure 9.11 indicates that none of the multiple regression test assumptions are violates since, correlation table indicates the correlation between independent variables are week (less than 0.9), therefore, multicollinearity assumption is not violated. Normal p-p plot shows that all points lie in a reasonably straight diagonal line from bottom left to top right and therefore suggests that there is no deviation from normality and finally, scatter plot shows that there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.

Dependent Var	rtable: Zecore(SGOP)	Dependen	Scatterplot It Variable: Zacore(SQDP)	1	
Eterencicanina Connectanina	G B B B B B B B B B B B B B B B B B B B	a a a a a a a a a a a a a a a a a a a	*** *** **** **** **** **** **** ****	0 1 1	
		Correlations	BUATTMODER		
		/ //2010/2020/00/00/00/00/00/00/00/00/00/00/00/	DOMINIMODEL		
		Zscore(SQOP)	ATOR	Zscore(SQBU)	Zscore(SQATT
Pearson Correlation	Zscore(SQOP)	Zscore(SQOP) 1.000	ATOR	Zscore(SQBU) .514	Zscore/SQATT
Pearson Correlation	Zscore(SQOP) BUATTMODERATOR	Zscore(SQOP) 1.000 .088	ATOR .088 1.000	Zscore(SQBU) .514 208	Zscore(SQATT
Pearson Correlation	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU)	Zscore(SQOP) 1.000 .088 .514	ATOR .088 1.000 - 208	Zscore(SQBU) .514 208 1.000	Zscore(SQATT .34 .11 .06
Pearson Correlation	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT)	Zscore(SQOP) 1.000 .088 .514 .349	ATOR .088 1.000 208 .115	Zscore(SQBU) .514 208 1.000 .068	Zscore(SQATT .34 .11 .06 1.00
Pearson Correlation Sig. (1-tailed)	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP)	Zscore(SQOP) 1.000 .088 .514 .349	ATOR .088 1.000 208 115 185	Zscore(SQBU) .514 .208 1.000 .068 .000	Zscore(SQATT 34 .11 .06 .1.00
Pearson Correlation Sig. (1-tailed)	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR	Zscore(SQOP) 1.000 .088 .514 .349 .185	ATOR .088 1.000 208 .115 .185	Zscore(SQBU) .514 .208 1.000 .068 .000 .016	Zscore(SQATT 34 11 06 1.00 00
Pearson Correlation Sig. (1-tailed)	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR Zscore(SQBU)	Zscore(SQOP) 1.000 .088 .514 .349 .185 .000	ATOR .088 1.000 -208 .115 .185 .185 .016	Zscore(SQBU) .514 - 208 1.000 .068 .000 .016	Zscore(SQATT 34 11 06 1.00 00 12 24
Pearson Correlation Sig. (1-tailed)	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT)	Zscore(SQOP) 1.000 .088 .514 .349 .185 .000 .000	ATOR .088 1.000 208 .115 .185 .185 .016 .121	Zscore(SQBU) .514 .208 1.000 .068 .000 .016 .243	Zscore(SQATT 34 .11 .06 .1.00 .00 .12 .24
Pearson Correlation Sig. (1-tailed)	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP)	Zscore(SQOP) 1.000 .088 .514 .349 .185 .000 .000 .000 106	ATOR .088 1.000 208 .115 .185 .185 .016 .121 106	Zscore(SQBU) .514 .208 1.000 .068 .000 .016	Zscore(SQATT 34 .11 .06 .100 .00 .12 .24 .10
Pearson Correlation Sig. (1-tailed)	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR	Zscore(SQOP) 1.000 088 .514 .349 .185 .000 000 106 106	ATOR .088 1.000 208 .115 .185 .016 .121 106 106	Zscore(SQBU) .514 .208 1.000 .068 .000 .016 .243 106	Zscore(SQATT 34 11 06 1.00 00 .12 24 24 10 10
Pearson Correlation Sig. (1-tailed) N	Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQOP) BUATTMODERATOR Zscore(SQDU)	Zscore(SQOP) 1.000 .088 .514 .349 .185 .000 .000 .000 106 106 106	ATOR .088 1.000 208 .115 .185 .185 .016 .121 106 106 106	Zscore(SQBU) .514 .208 1.000 .068 .000 .016 .243 106 106 106	Zscore(SQATT .34 .11 .06 .00 .00 .12 .24 .00 .12 .24 .00 .10 .10 .10 .10 .10 .10 .10 .10 .10

Figure 9.11 Scatter plot, Normal p-p plot and correlations for model 3 moderation

9.4.3.4 Model 4: Business urgency as a moderator between attitude and guest practices9.4.3.4.1 Model Summary

The moderating effect of business urgency attribute (ZSQBU) on the association between attitude (ZSQATT) and guest practices (ZSQGP) is evaluated by Multiple Regression Analysis with the three independent variable; ZSQBU, ZSQATT, BU*ATTMOD and the dependent variable ZSQGP as shown in the model summary and ANNOVA table (table 9.18). The model summary shows that the combined influence had made the highest significant contribution to the variance of guest practices, Adj R2=.238 at F=11.943, p< .001, this result indicate that the model can explain 24% of the variance in guest practices and therefore provide a solid understanding of the change in guest practices of firms in relation to sustainable water consumption due to managers' attitude moderated by business urgency attribute.

9.4.3.4.2 Evaluating independent and moderator variables

The estimated standardized Beta coefficients shown in table 9.18 indicates that the three variables, ZSQATT, ZSQBU and BU*ATTMOD are good predictors of ZSQGP, standardized Beta=.264, .364 and .261 at p<.001, .01 and .01 respectively. Therefore, it can be concluded that business urgency has a moderating effect between environmental concern demonstrated by manager's attitude and sustainable water consumption practices demonstrated by firm's guest practices.

		Model	Summ	ary						ANNOV	A table		(Coefficients		
Model Dependent Variable: Zscore(SQGP)	R	R	Adjust ed R	Std. Error of the		Cha	inge Stati	stics		F	Sig.	Unstan Coeff	dardized icients	Standardize d Coefficients	t	Sig.
		Square	e	Estimate	R Square Change	F Change	df1	df2	Sig. F Change			В	Std. Error	Beta		
Constant												-0.017	0.085		-0.2	0.842
Zscore(SQBU)	.328 ^a	0.108	0.099	0.94921	0.108	12.537	1	104	0.001	12.537	.001 ^b	0.364	0.087	0.364	4.163	0
Zscore(SQBU), Zscore(SQATT)	.442 ^b	0.196	0.18	0.90544	0.088	11.299	1	103	0.001	12.538	.000 ^c	0.264	0.086	0.264	3.064	0.003
Zscore(SQBU), Zscore(SQATT), BU*ATTMOD	.510 ^c	0.26	0.238	0.87282	0.064	8.842	1	102	0.004	11.943	.000 ^d	0.251	0.084	0.261	2.974	0.004

Table 9.18 Business urgency moderator between attitude and guest practices

9.4.3.4.3 Checking assumptions

Figure 9.12 indicates that none of the multiple regression test assumptions are violates since, correlation table indicates the correlation between independent variables are week (less than 0.9). therefore, multicollinearity assumption is not violated Normal p-p plot shows that all points lie in a reasonably straight diagonal line from bottom left to top right and therefore suggests that there is no deviation from normality and finally, scatter plot shows that there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.

Dependent Var	ecolon Standardized Residual lable: Zecore(SCGP)	Dependent	Scatterplot Variable: Zacore(SOGP)		
Elevenation Prot	de de de de	Refrestion Refres	n Standarikzed Predictas Value		
		Correlations	-		
		I 1	BUATTMODED		
		Zscore(SQGP)	ATOR	Zscore(SQBU)	Zscore(SQATT)
Pearson Correlation	Zscore(SQGP)	Zscore(SQGP) 1.000	ATOR .216	Zscore(SQBU) .328	Zscore(SQATT)
Pearson Correlation	Zscorg(SQGP) BUATTMODERATOR	Zscore(SQGP) 1.000 .216	ATOR .216 1.000	Zscore(SQBU) .328 - 208	Zscore(SQATT) .319 .115
Pearson Correlation	ZSCORB(SQGP) BUATTMODERATOR ZSCORB(SQBU)	Zscore(SQGP) 1.000 .216 .328	ATOR .216 1.000 208	Zscore(SQBU) .328 208 1.000	Zscore(SQATT) .319 .115 .068
Pearson Correlation	Zscorg(SQGP) BUATTMODERATOR Zscorg(SQBU) Zscorg(SQATT)	Zscore(SQGP) 1.000 .216 .328 .319	ATOR .216 1.000 208 .115	Zscore(SQBU) .328 -208 1.000 .068	Zscore(SQATT) .319 .115 .068 1.000
Pearson Correlation Sig. (1-tailed)	Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP)	Zscore(SQGP) 1.000 _216 _328 _319	ATOR .216 1.000 -208 .115 .013	Zscore(SQBU) .328 208 1.000 .068 .000	Zscore(SQATT) 319 .115 .068 1.000 .000
Pearson Correlation Sig. (1-tailed)	Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP) BUATTMODERATOR	Zscore(SQGP) 1.000 216 328 319 .013	ATOR .216 1.000 208 .115 .013	Zscore(SQBU) .328 -208 1.000 .068 .000 .016	Zscore(SQATT) .319 .115 .068 1.000 .000 .121
Pearson Correlation Sig. (1-tailed)	Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP) BUATTMODERATOR Zscore(SQBU)	Zscore(SQGP) 1.000 216 .328 .319 .013 .000	ATOR .216 1.000 .208 .115 .013 .016	Zscore(SQBU) .328 -208 1.000 .068 .000 .016	Zscore(SQATT) .319 .115 .068 1.000 .000 .121 .243
Pearson Correlation Sig. (1-tailed)	Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT)	Zscore(SQGP) 1.000 216 328 319	ATOR .216 1.000 208 .115 .013 .016 .121	Zscore(SQBU) .328 - 208 1.000 .068 .000 .016 .243	Zscore(SQATT) .319 .115 .068 1.000 .000 .121 .243
Pearson Correlation Sig. (1-tailed)	Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP)	Zscore(SQGP) 1.000 216 .328 .319	ATOR .216 1.000 .208 .115 .013 .016 .121 106	Zscore(SQBU) .328 -208 1.000 .068 .000 .016 .243 106	Zscore(SQATT) 319 115 068 1.000 000 121 243
Pearson Correlation Sig. (1-tailed)	Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP) BUATTMODERATOR	Zscore(SQGP) 1.000 216 328 319	ATOR .216 1.000 208 .115 .013 .016 .121 106 106	Zscore(SQBU) .328 .208 1.000 .068 .000 .016 .243 106	Zscore(SQATT) .319 .115 .068 1.000 .000 .121 .243 .106 .106
Pearson Correlation Sig. (1-tailed)	Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQATT) Zscore(SQGP) BUATTMODERATOR Zscore(SQBU) Zscore(SQGP) BUATTMODERATOR Zscore(SQBU)	Zscore(SQGP) 1.000 216 328 319	ATOR .216 1.000 208 .115 .013 .016 .121 106 106 106	Zscore(SQBU) .328 -208 1.000 068 000 016	Zscore(SQATT) 319 115 068 1.000 000 121 243 106 106 106

Figure 9.12 Scatter plot, Normal p-p plot and correlations for model 4 moderation

9.4.4 Moderation effect of stakeholder legitimacy attribute

Results of moderation effect revealed that stakeholder legitimacy attribute do significantly moderate the relations between environmental concern, risk perception and sustainable water consumption strategies and practices. The moderation effect was reported by business and fiscal government legitimacy cluster which significantly moderates the association between perceived behavioural control and operation strategies as well as the association between attitude and guest practices as shown in model 5 and model 6 in the below section.

9.4.4.1 Model 5: Business fiscal and government legitimacy as a moderator between perceived behavioural control and operation strategies

9.4.4.1.1 Model Summary

In order to evaluate the moderating effect of business and fiscal government legitimacy (ZQBFGL) attribute on the association between perceived behavioural control (ZQPBC) and operation strategies (ZQOS), Multiple Regression Analysis was run with the three independent variable; ZSQBFGL, ZSQPBC, BFGL*PBCMOD and the dependent variable ZSQOS as shown in the model summary and ANNOVA table (table 9.19). The model summary indicate that the combined influence had made the highest significant contribution to the variance of operation strategies, adjusted R2=.471 at F=32.160, p<.001, this result indicate that the model can explain 47% of the variance in operation strategies and therefore provide a solid understanding of the change in operation strategies of firms in relation to sustainable water consumption due to perceived behavioural control moderated by business and fiscal government legitimacy.

9.4.4.1.2 Evaluating independent and moderator variables

The estimated standardized Beta coefficients shown in table 9.19 indicates that the three variables, ZSQBFGL, ZSQPBC and BFGL*PBCMOD are good predictors of ZSQOS, standardized Beta=.595, .291 and .171 at p<.001, .001 and .01 respectively. Therefore, it can be concluded that business and fiscal government legitimacy has a moderating effect between environmental concern demonstrated by manager's perceived behavioural control and sustainable water consumption strategies demonstrated by firm's operations strategy.

Model Summary									ANNOVA table		Coefficients					
Model Dependent Variable: Zscore(SQOS)	R	R	Adjuste d R	Std. Error of the Estimate	Change Statistics				F	Sig.	Unstandardized Coefficients		Standard ized Coefficie	t	Sig.	
		Square	Square		R Square Change	F Change	df1	df2	Sig. F Change			В	Std. Error	Beta		
Constant												-0.035	0.072		-0.485	0.629
Zscore(SQBFGL)	.621 ^a	0.386	0.38	0.787549	0.386	65.291	1	104	0	65.291	.000 ^b	0.595	0.074	0.595	8.062	0
Zscore(SQBFGL), Zscore(SQPBC)	.677 ^b	0.458	0.448	0.742986	0.073	13.85	1	103	0	43.604	.000 ^c	0.291	0.073	0.291	3.997	0
Zscore(SQBFGL), Zscore(SQPBC), BFGL*PBCMOD	.697 ^c	0.486	0.471	0.727339	0.028	5.479	1	102	0.021	32.16	.000 ^d	0.169	0.072	0.171	2.341	0.021

Table 9.19 Business and fiscal government legitimacy moderator between perceived behavioural control and operation strategies

9.4.4.1.3 Checking assumptions

Figure 9.13 indicates that none of the Multiple Regression test assumptions are violates since, correlation table indicates the correlation between independent variables are week (less than 0.9) therefore, multicollinearity assumption is not violated. Normal p-p plot shows that all points lie in

a reasonably straight diagonal line from bottom left to top right and therefore suggests that there is no deviation from normality and finally, scatter plot shows that there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.



Figure 9.13 Scatter plot, Normal p-p plot and correlations for model 5 moderation

9.4.4.2 Model 6: Business fiscal and government legitimacy as a moderator between attitude and guest practices

9.4.4.2.1 Model Summary

In order to evaluate the moderating effect of business fiscal and government legitimacy

(ZSQBFGL) on the association between attitude (ZSQATT) and operation strategies (ZSQGP),

Multiple Regression Analysis was performed with the three independent variable; ZSQBFGL,

ZSQATT, BFGL*ATTMOD and ZSQGP as shown in the model summary and ANNOVA table (table 9.20) .The model summary indicate that the combined influence had made the highest significant contribution to the variance of operation strategies, adjusted R2=.189 at F=9.143, p< .001, this result indicate that the model can explain 19% of the variance in guest practices and therefore provide a solid understanding of the change in guest practice of firms in relation to sustainable water consumption due to manager's attitude moderated by business and fiscal government legitimacy.

	Model Summary								ANNOV	A table	Coefficients					
Model Dependent Variable: Zscore(SQGP)	R	R	Adjuste d R Square	Std. Error of the Estimate	Change Statistics				F	Sig.	Unstandardized Coefficients		Standardi zed Coefficie	t	Sig.	
		Square			R Square Change	F Change	df1	df2	Sig. F Change			В	Std. Error	Beta		-
												-0.027	0.088		-0.304	0.762
Zscore(SQGP)	.320 ^a	0.102	0.094	0.95197	0.102	11.864	1	104	0.001	11.864	.001 ^b	0.301	0.089	0.301	3.364	0.001
Zscore(SQBFGL)	.422 ^b	0.178	0.162	0.91543	0.076	9.467	1	103	0.003	11.148	.000 ^c	0.244	0.09	0.244	2.704	0.008
Zscore(SQBFGL), Zscore(SQATT), BFGL*ATTMOD	.460 ^c	0.212	0.189	0.9007	0.034	4.396	1	102	0.038	9.143	.000 ^d	0.185	0.088	0.188	2.097	0.038

Table 9.20 Business and fiscal government legitimacy moderator between attitude and guest practices

9.4.4.2.2 Evaluating independent and moderator variables

The estimated standardized Beta coefficients shown in table 9.20 indicates that the three variables, ZSQATT, ZSQBFGL and BFGLATTMODERATOR are good predictors of ZSQGP, standardized Beta=.301, .244 and .185 at p<.001, .01 and .05 respectively. Therefore, it can be concluded that business and fiscal government legitimacy has a moderating effect between environmental concern demonstrated by manager's attitude control and sustainable water consumption practices demonstrated by firm's guest practices.

9.4.4.2.3 Checking assumptions

Figure 9.14 indicates that none of the Multiple Regression Analysis assumptions are violated since, correlation table indicates the correlation between independent variables are week (less than 0.9), therefore, multicollinearity assumption is not violated. Normal p-p plot shows that all points lie in a reasonably straight diagonal line from bottom left to top right and therefore suggests that there is no deviation from normality and finally, scatter plot shows that there is no clustering or systematic pattern but the data are mainly a random displacement of scores for all the generated models. This indicates that the selected model has met the assumption of homoscedasticity and the assumption of error term independence is not violated.

Dependent Var	And the second field Residual white Zaccerd(DOCP)	Er Dependent Var	divergion able Zecone(SOGP)	1	
		Correlations		BFGLATTMODE	Zscore(SQBFGI
		Zscore(SQGP)	Zscore(SQATT)	RATOR)
Pearson Correlation	Zscore(SQGP)	1.000	.319	.201	.320
	Zscore(SQATT)	.319	1.000	.162	146
	BFGLATTMODERATOR	.201	.162	1.000	08
		1.636323		1100	10023
	Zscore(SQBFGL)	.320	.146	089	1.00
Sig. (1-tailed)	Zscore(SQBFGL) Zscore(SQGP)		.146	- 089 019	1.00
Sig. (1-tailed)	Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT)	.000	.146	089 .019 .048	1.00 00 .06
Sig. (1-tailed)	Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT) BFGLATTMODERATOR	.000	.146 000 .048	- 089 019 .048	1.00 .00 .06 .18
Sig. (1-tailed)	Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT) BFGLATTMODERATOR Zscore(SQBFGL)	.000 .019 .000		089 019 .048 .182	1.00 .00 .06 .18
Sig. (1-tailed) N	Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT) BFGLATTMODERATOR Zscore(SQBFGL) Zscore(SQGP)	320 000 019 000 106	146 000 048 067 106	089 019 .048 .182 .106	1.00 .00 .06 .18
Sig. (1-tailed) N	Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT) BFGLATTMODERATOR Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT)	320 000 019 000 106 106		089 019 .048 	100 00 06 18 10 10
Sig. (1-tailed) N	Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT) BFGLATTMODERATOR Zscore(SQBFGL) Zscore(SQGP) Zscore(SQATT) BFGLATTMODERATOR	320 000 019 000 106 106 106	000 048 106 106 106	089 .019 .048 .182 .106 .106 .106	1.00 .00 .18 10 10 10

Figure 9.14 Scatter plot, Normal p-p plot and correlations for model 6 moderation

9.4.5 Summary of the moderation effect of stakeholders' salience attributes

The above results for moderation effect of stakeholders salience attributes between environmental concern, risk perception and sustainable water consumption strategies indicate that business urgency attribute do moderate the relationship between perceived behavioural control and operation strategies as well as the relation between operational risk and corporate strategies. Moreover, business and fiscal government legitimacy was a moderator between perceived behavioural control and operation strategies. Therefore it can be concluded that both stakeholder urgency and legitimacy attributes moderate the relation between environmental concern, risk perception and sustainable water consumption strategies. It is also notable that stakeholder power attribute did not moderate any relation with sustainable water consumption strategies, thus, it can only be regarded as another explanatory variable in addition to environmental concern and risk perception for the change in sustainable water consumption strategies.

Therefore, it can be concluded that H5A: "stakeholders' salience power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" is rejected whereas H5B "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies". Similarly, H5C: "stakeholders' legitimacy attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" are accepted.

Moreover, the moderation effect of stakeholders' salience attributes between environmental concern, risk perception and sustainable water consumption practices indicate that business urgency attribute do moderate the relationship between attitude and both operation practices and guest practices. Additionally, business and fiscal government legitimacy was a moderator between attitude and guest practices. Therefore it can be concluded that both stakeholder urgency and legitimacy attributes moderate the relation between environmental concern, risk perception and sustainable water consumption practices. Again stakeholder power attribute remain silent in the moderation between environmental concern, risk perception and sustainable water consumption practices.

Therefore, it can be concluded that H6A: "stakeholders' salience power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices" is rejected whereas H6B "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices". Similarly, H6C: "stakeholders' legitimacy attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices" are accepted.

9.5 Summary

Findings of this chapter indicate that environmental concern and risk perception has significant positive influence sustainable water consumption strategies and practices. Therefore, it can be concluded that the research hypotheses H1: "environmental concern and risk perception

influence sustainable water consumption strategies in UAE hospitality sector" and H2: "environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector" are accepted. albeit this, the maximum variance induced by both variables was 24% on the dependent variables, thus, there is at least 76% of variance remains unexplained by the independent variables, thus, the role of stakeholder salience attributes in this association was tested using a combined model between environmental concern, risk perception clusters and one of each of the salience attributes.

It was reported that stakeholder power attribute contributed to an average 4.5% increase in induced variance on three clusters of sustainable water consumption strategies and practices. Thus, H3A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption practices" are both confirmed.

Stakeholder urgency attribute was reported to induce an average 14% increase in induced variance in five clusters of sustainable water consumption strategies and practices. Thus, H3B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption practices" are both confirmed.

Stakeholder legitimacy attribute was reported to induce an average 12% increase in induced variance in four clusters of sustainable water consumption strategies and practices. Thus, H3C: "stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4C: "stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4C: "stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption practices" are both confirmed.

It is noted that the influence of stakeholder salience attributes was shaped by different clusters of power attribute, business utilitarian and symbolic power had influenced the association of independent variables with operation strategies, media power had a positive contribution to the association of independent variables and both operation strategies and operation practices,

government and business coercive power had a positive contribution to the association of independent variables and operation practices and guest practices.

Similarly, Business urgency influenced association between independent variables and operation strategies, corporate strategies, operation practices and guest practices. Each of media urgency attribute and government urgency attribute had influenced positively the association between the independent variables and operation strategies and corporate strategies respectively. Whereas, business and fiscal government legitimacy had influenced both operation strategies and operation practices, government regulatory legitimacy has the greatest influence on investment strategies.

Finally, the moderating effect was reported for both stakeholder urgency and legitimacy attributes that moderated the relation between environmental concern, risk perception and sustainable water consumption strategies and practices whereas the moderation effect of power attribute was insignificant. Thus, H5A: "stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" and H6A: "stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices" are rejected. Whereas; H5B: "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies", H6B: "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies", H6B: "stakeholders' urgency attribute moderates ' legitimacy attribute moderates the relation between environmental concern, risk perception and sustainable water consumption and sustainable water consumption strategies", H6B: "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption and sustainable water consumption strategies", H6B: "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies", H6C: "stakeholders' legitimacy attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies", H6C: "stakeholders' legitimacy attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies", H6C:

Finally, Tables 9.21 and 9.22 provide summary of significantly influential clusters of environmental concern, risk perception and stakeholder salience attributes as well as significantly moderating clusters of salience attributes on sustainable water consumption strategies and practices respectively. Moreover, table 9.23 provide summary of all the regression equations that presents the relationship among all independent, moderating and dependent variables.

Environmental concern, risk, perception, and salience attributes	Moderator salience attribute	Sustainable consumption strategies
Perceived behavioural control	Business urgency Business and fiscal government legitimacy	
Operational risk perception		
Physical and time risk perception		
Business utilitarian and symbolic power		Operation strategies
Media power		
Business urgency		
Media urgency		
Business and fiscal government legitimacy		
Operational risk perception	Business urgency	
Perceived behavioural control		Corporate strategies
Physical and time risk perception		Corporate strategies
Business urgency		
Reputational risk perception		
Social norm		Investment strategies
Government Urgency		mvestment strategies
Government regulatory legitimacy		

Table 9.21 Influence of environmental concern, risk perception and salience attributes on SS

Environmental concern, risk perception and salience attributes	Moderator salience attribute	Sustainable consumption practices
Attitude	Business urgency	
Perceived behavioural control		
Physical and time risk		
perception		
Media power		Operation practices
Government and business		Operation practices
coercive power		
Business urgency		
Business and fiscal		
government legitimacy		
Perceived behavioural control		Facility practices
	Business urgency	
Attitude	Business and Fiscal government legitimacy	
Physical and time risk		
perception		Cuest prostings
Government and business		Guest practices
coercive power		
Government utilitarian power		
Business urgency		
NGO urgency		
Business and Fiscal		
government legitimacy		

Table 9.22 Influence of environmental concern, risk perception and salience attributes on SP

	Independent			
	variables/			
	moderating	Dependent	dependent	
	variables	variable	Cluster	Contributing clusters
Equation				
			SQOS	0.818+ (.322*SQPRP) + (.257*SQPBC)
			SQCS	0.848+ (.320*SQOPR)+ (.292*SQPBC)
9.1		Strategies	SQIS	0.852+ (.343*SQSN) + (.264*RRP)
			SQOP	0.793+ (.310*SQPBC)+ (.291*SQPRP)
	Environmental concern and risk		SQGP	0.626+ (.244*SQATT) + (.2*SQPRP)
9.2	perception	Practices	SQFP	0.762 (.312*PBC)
			SQOS	0.907+ (.296*BUSP) + (.253*SQPBC)+ (.204*SQMP)
			SQCS	0.848 + (.320*SOPR) + (.292*PRP)
9.3		Strategies	SQIS	0.852+ (.343*SQSN) + (.2664* SQRRP)
	Environmental		SQOP	0.793 + (.328*SQPBC) + (.259*SQGBCP) + (.199*SQMP)
	concern, risk perception and		SQGP	0.957 + (.371*SQATT) + (.330* SQGBCP)
9.4	power attribute	Practices	SQFP	0.762 + (.312*SQPBC)
			sqos	0.628+ (.547*SQBU) + (.239*SQPBC) + (.196*SQMU)
			sqcs	0.848 (.271*SQPBC) + (.254*SQOPR) + (.253*SQBU)
9.5		Strategies	SQIS	0.852+ (.293*SQSN) + (.270* SQGU) + (.204*SQRRP)
	Environmental		SQOP	0.886 + (.454*SQBU) + (.264*SQPBC) + (.196*SQATT)
	concern, risk perception and		SQGP	0.847 + (.247*SQATT) + (.224* SQNU) + (.203*SQBU)
9.6	urgency attribute	Practices	SQFP	0.762 + (.312*SQPBC)
			SQOS	0.628 + (.53*SQBFGL) + (.225*SQPBC) + (.169*SQOPR)
			SQCS	0.848 + (.232*SQOPR) + (.292* SQPBC)
9.7		Strategies	SQIS	0.852 + (.318*SQSN) + (.221*SQGRL) + (.192*SQRRP)
	Environmental concern, risk		SQOP	0.825 (.494*SQBFGL) + (.33*SQPBC)
	perception and legitimacy		SQGP	0.96 + (.279*SQBFGL) + (.278* SQATT)
9.8	attribute	Practices	SQFP	0.762 + (.312*SQPBC)

Table 9.23 Summary of regression equations

10 Chapter Ten: Independent samples t-Test

10.1 Introduction

This chapter presents and interprets the results of independent samples t-test. After verifying the list of assumptions that is necessary for performing the test. This test is specifically performed to examine the difference between managers' perception of stakeholder salience attributes in different UAE Emirates for the following reason: First the UAE is a federation of seven constituent monarchies: the Emirates of Abu Dhabi, Ajman, Dubai, Fujairah, Ras al-Khaimah, Sharjah, and Umm al-Quwain, where a federal system of government is a system that split the power of government between the national (federal) government and local governments. Therefore it can be argued that perception of managers in different Emirates on stakeholders salience attributes can vary especially because it has been claimed that stakeholder salience is influenced by contextual and situational factors (Mitchell et al., 1997 and Eesely and Lenox, 2006).

To answer question 3 and verify the research hypotheses H7A, H7B and H7C, Independent sample t- test results is performed between the two groups of UAE Emirates generated form the descriptive analysis results; group1: Southern Emirates, which represent 52% of participants, group 2: Northern Emirates, which represent 48% of participants and the clusters of each of the stakeholder salience attributes of power, urgency and legitimacy. Results are interpreted based on group statistics and significance of t values, moreover, for those variables in which a significant difference is demonstrated, Eta squared is calculated as per equation: t2/t2 + (N1 + N2 - 2) to determine the proportion of variance in the dependent variable values that is explained by the independent group variable (UAE Emirates) and results are interpreted according to Cohen (1988) guidelines as mentioned earlier in chapter 5.

10.2 Independent samples t-test between clusters of power attribute and UAE Emirates10.2.1 Business utilitarian and Symbolic power

As shown in table 10.1 and 10.2, the results indicate that there is significant difference in the scores of business utilitarian and symbolic power between Southern and Northern Emirates, for Southern Emirates (M=1.6238, SD=.32887) and Northern Emirates (M=1.3152, SD=.246); *t* (99.697) = 4.853, *p*=.000. Eta squared=23.6/23.6+104=.1846. Thus, it can be concluded that the magnitude of the difference of the means is large and that 18.5% of proportion of variance in the

business utilitarian and symbolic power variable is explained by belonging to one of the UAE Emirate groups.

10.2.2 NGO power

As shown in table 10.1 and 10.2, the results indicate that there is significant difference in the scores of NGO power between Southern and Northern Emirates, for Southern Emirates (M=1.504, SD=.27) and Northern Emirates (M=1.317, SD=.189); t (96.918) = 4.513, p=.000. Eta squared=20.36/20.36+104=.142 Thus, it can be concluded that the magnitude of the difference of the means is large and that 14.2% of proportion of variance in the NGO power variable is explained by belonging to one of the UAE Emirate groups.

10.2.3 Media power

The results shown in table 10.1 and 10.2 indicate that there is significant difference in the scores of media power between Southern and Northern Emirates, for Southern Emirates (M=1.407, SD=.245) and Northern Emirates (M=1.25, SD=.204); t(104)=3.557, p=.001. Eta squared=0.108479. Thus, it can be concluded that the magnitude of the difference of the means is moderate and that 10.1% of proportion of variance in the media power variable is explained by belonging to one of the UAE Emirate groups.

10.2.4 Customer power

The results shown in table 10.1 and 10.2 indicate that there is no significant difference in the scores of customer power between Southern and Northern Emirates, for Southern Emirates (M=1.4, SD=.258) and Northern Emirates (M=1.25, SD=.232); t(104)=1.808, p=.073.

10.2.5 Government and business coercive power

The results shown in table 10.1 and 10.2 indicate that there is significant difference in the scores of media power between Southern and Northern Emirates, for Southern Emirates (M=1.545, SD=.298) and Northern Emirates (M=1.327, SD=.232); t(101.009)=2.834, p=.006. Eta squared=0.071694. Thus, it can be concluded that the magnitude of the difference of the means is moderate and that 7% of proportion of variance in the government and business coercive power variable is explained by belonging to one of the UAE Emirate groups.

10.2.6 Government symbolic power

The results shown in table 10.1 and 10.2 indicate that there is no significant difference in the scores of government symbolic power between Southern and Northern Emirates, Southern

Emirates (M=1.347, SD=.278) and Northern Emirates (M=1.297, SD=.232); *t*(104)=.998, *p*=.320.

10.2.7 Government utilitarian power

The results indicate that there is no significant difference in the scores of government utilitarian power between Southern and Northern Emirates, for Southern (M=1.284, SD=.207) and Northern Emirates (M=1.276, SD=.206); t (104) =.181, p=.857.

10.2.8 Summary of stakeholder power attribute

The results of independent sample t-test between clusters of stakeholder power and two groups of UAE Emirates indicate that there is significant difference in the scores of business utilitarian, symbolic power, NGO power, media power and government and business coercive power. The magnitude of power difference ranges from moderate to large level. Therefore, it can be concluded that H7A: "stakeholder power attribute is perceived differently in different UAE Emirates by managers within the UAE hospitality sector" is accepted. The implication of this, is that since three types of those power; business utilitarian, symbolic power, media power and government and business coercive power do positively influence the association between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices (based on multiple regression analysis), therefore, federal governments in the UAE should pay attention and work on leveraging manager's perception of those types of power exercised by the mentioned stakeholders in order to achieve their sustainability goals. And since that the mean value for all power types in Southern Emirates is higher than in Northern Emirates (higher mean in this scale indicates that the power is less likely to influence the dependent variable), which means that mangers in Northern Emirates generally do perceive it more likely that stakeholders power can influence the adoption of sustainable water consumption strategies and practices compared to mangers in Southern Emirates. Therefore, government efforts especially in Southern Emirates should focus on increasing manager's perception of the stakeholder power.

	Grouped Emirates	Ν	Mean	Std. Deviation	Std. Error Mean
SQFBUSP	Southern Emirates	55	1.6238	.32887	.04435
	Northern Emirates	51	1.3512	.24622	.03448
SQNP	Southern Emirates	55	1.5041	.27028	.03644
	Northern Emirates	51	1.3170	.18918	.02649
SQMP	Southern Emirates	55	1.4072	.24555	.03311
	Northern Emirates	51	1.2505	.20426	.02860
SQCP	Southern Emirates	55	1.4039	.25835	.03484
	Northern Emirates	51	1.3174	.23203	.03249
SQGBCP	Southern Emirates	55	1.5455	.29825	.04022
	Northern Emirates	51	1.3989	.23196	.03248
SQGSP	Southern Emirates	55	1.3471	.27881	.03760
	Northern Emirates	51	1.2971	.23202	.03249
SQGUP	Southern Emirates	55	1.2840	.20775	.02801
	Northern Emirates	51	1.2767	.20616	.02887

Group Statistics

Table 10.1 Group statistics for clusters of stakeholder power with UAE Emirates

				Indepen	dent Samp	les Test				
		Equality of	Variances			t-test fo	or Equality of	Means		
						Sig. (2-	Mean	Std. Error	Interva	I of the
		F	Sig.	t	df	tailed)	Difference	Difference	Lower	Upper
SQFBUSP	Equal variances assumed	4.919	.029	4.801	104	.000	.27259	.05678	.16000	.38518
	Equal variances not assumed			4.853	99.679	.000	.27259	.05617	.16114	.38403
SQNP	Equal variances assumed	7.075	.009	4.099	104	.000	.18711	.04565	.09659	.27762
	Equal variances not assumed			4.153	96.918	.000	.18711	.04505	.09768	.27653
SQMP	Equal variances assumed	.036	.850	3.557	104	.001	.15673	.04406	.06936	.24409
	Equal variances not assumed			3.582	102.824	.001	.15673	.04375	.06995	.24350
SQCP	Equal variances assumed	1.125	.291	1.808	104	.073	.08650	.04783	00835	.18135
	Equal variances not assumed			1.816	103.899	.072	.08650	.04764	00797	.18096
SQGBCP	Equal variances assumed	5.024	.027	2.808	104	.006	.14650	.05218	.04303	.24998
	Equal variances not assumed			2.834	101.009	.006	.14650	.05169	.04396	.24905
SQGSP	Equal variances assumed	1.581	.211	.998	104	.320	.04995	.05003	04927	.14917
	Equal variances not assumed			1.005	102.832	.317	.04995	.04969	04860	.14849
SQGUP	Equal variances assumed	.180	.672	.181	104	.857	.00728	.04024	07252	.08707
	Equal variances not assumed			.181	103.513	.857	.00728	.04023	07250	.08705

Table 10.2 Independent sample-t test for clusters of stakeholder power with UAE Emirates

10.3 Independent samples t-test between clusters of urgency attribute and UAE Emirates

10.3.1 Customer urgency

The results shown in table 10.3 and 10.4 indicate that there is no significant difference in the scores of customer urgency between Southern and Northern Emirates, for Southern Emirates (M=1.39, SD=.248) and Northern Emirates (M=1.31, SD=.252); t(103.12)=1.627, p=.107.

10.3.2 NGO urgency

The results shown in table 10.3 and 10.4 indicate that there is significant difference in the scores of NGO urgency between Southern and Northern Emirates, for Southern Emirates (M=1.565, SD=.285) and Northern Emirates (M=1.34, SD=.197); t(104)=4.777, p=.000. Eta squared=0.179938. Thus, it can be concluded that the magnitude of the difference of the means is large and that 18% of proportion of variance in the NGO urgency variable is explained by belonging to one of the UAE Emirate groups.

10.3.3 Business Urgency

The results shown in table 10.3 and 10.4 indicate that there is significant difference in the scores of business urgency between Southern and Northern Emirates, for Southern Emirates (M=1.67, SD=.303) and Northern Emirates (M=1.3, SD=.222); t(98.812)=7.254, p=.000. Eta squared=0.335985. Thus, it can be concluded that the magnitude of the difference of the means is large and that 34% of proportion of variance in the business urgency variable is explained by belonging to one of the UAE Emirate groups.

10.3.4 Media urgency

The results shown in table 10.3 and 10.4 indicate that there is significant difference in the scores of media urgency between Southern and Northern Emirates, for Southern Emirates (M=1.5, SD=.291) and Northern Emirates (M=1.33, SD=.232); t(104)=3.228, p=.002. Eta squared= 0.091084. Thus, it can be concluded that the magnitude of the difference of the means is moderate and that 9% of proportion of variance in the media urgency variable is explained by belonging to one of the UAE Emirate groups.

10.3.5 Government urgency

The results shown in table 10.3 and 10.4 indicate that there is no significant difference in the scores of government urgency between Southern and Northern Emirates, for Southern Emirates (M=1.24, SD=.183) and Northern Emirates (M=1.286, SD=.203); t(104)=-1.251, p=.214.

10.3.6 Summary of stakeholder urgency attribute

The results of independent sample t-test between clusters of stakeholder urgency attribute and two groups of UAE emirates indicate that there is significant difference in the scores of business urgency, NGO urgency, media urgency. The magnitude of difference ranges from moderate to large level, with the highest of all is the business urgency (34%). Therefore, it can be concluded that H7B: "stakeholder urgency attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector" is accepted The implication of this is since those three clusters of urgency attribute was proven to positively influence the association between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices and especially business urgency which contributed to the highest influence and to the moderation effect between the predictors and outcome variables (as per the results of multiple regression analysis), therefore, federal governments in the UAE should pay attention and work on leveraging manager's perception of urgency attribute of those stakeholders in hospitality sector in order to achieve their sustainability goals. In a similar result to the power attribute, mean value for all urgency clusters is higher in Southern Emirates than in Northern Emirates (high mean in this scale indicates that the stakeholder is less likely to be urgent), therefore, it can be concluded that mangers in Northern Emirates generally do perceive media, NGO and business stakeholders claims on the adoption of sustainable water consumption strategies and practices as more urgent than manager in Southern Emirates, with the gap clearly shown in case of business urgency attribute. Therefore, policy maker efforts especially in Southern Emirates should focus on increasing manager's perception of urgency for those stakeholders and more specifically business urgency to ensure that its influence and moderation effect between environmental concern, risk perception and sustainable water consumption strategies and practices is captured while implementing sustainability project initiatives.

	Grouped Emirates	Ν	Mean	Std. Deviation	Std. Error Mean
SQCU	Southern Emirates	55	1.3926	.24833	.03349
	Northern Emirates	51	1.3134	.25237	.03534
SQNU	Southern Emirates	55	1.5645	.28491	.03842
	Northern Emirates	51	1.3387	.19653	.02752
SQBU	Southern Emirates	55	1.6703	.30290	.04084
	Northern Emirates	51	1.2981	.22175	.03105
SQMU	Southern Emirates	55	1.4993	.29062	.03919
	Northern Emirates	51	1.3337	.23163	.03243
SQGU	Southern Emirates	55	1.2394	.18286	.02466
	Northern Emirates	51	1.2862	.20281	.02840

Group Statistics

Table 10.3 Group statistics for clusters of stakeholder urgency with UAE Emirates

				Indepen	ident Samp	les Test				
		Equality of	Variances			t-test fo	r Equality of	Means		
		F	Sig	t	df	Sig. (2-	Mean	Std. Error	Interva Lower	l of the Upper
SQCU	Equal variances assumed	1.008	.318	1.628	104	.107	.07920	.04865	01729	.17568
	Equal variances not assumed			1.627	103.120	.107	.07920	.04868	01735	.17575
SQNU	Equal variances assumed	7.862	.006	4.713	104	.000	.22574	.04790	.13076	.32073
	Equal variances not assumed			4.777	96.263	.000	.22574	.04726	.13194	.31954
SQBU	Equal variances assumed	7.082	.009	7.171	104	.000	.37218	.05190	.26926	.47510
	Equal variances not assumed			7.254	98.812	.000	.37218	.05131	.27038	.47399
SQMU	Equal variances assumed	1.741	.190	3.228	104	.002	.16562	.05130	.06389	.26736
	Equal variances not assumed			3.256	101.755	.002	.16562	.05087	.06472	.26652
SQGU	Equal variances assumed	.259	.612	-1.251	104	.214	04686	.03746	12115	.02743
	Equal variances not assumed			-1.246	100.773	.216	04686	.03761	12147	.02775

Table 10.4 Independent sample-t test for clusters of stakeholder urgency with UAE Emirates

10.4 Independent samples t-test between clusters of legitimacy attribute and UAE Emirates

10.4.1 Business and fiscal government legitimacy

The results shown in table 10.5 and 10.6 indicate that there is significant difference in the scores of business and fiscal government legitimacy between Southern and Northern Emirates, for Southen Emirates (M=1.746, SD=.336) and Northern Emirates (M=1.353, SD=.185); t(85.22)=7.52, p=.000. Eta squared=0.352201

Thus, it can be concluded that the magnitude of the difference of the means is large and that 35% of proportion of variance in the business and fiscal government legitimacy variable is explained by belonging to one of the UAE Emirate groups

10.4.2 Customer and media legitimacy

The results shown in table 10.5 and 10.6 indicate that there is significant difference in the scores of customer and media legitimacy between Southern and Northern Emirates, for Southern Emirates (M=1.521, SD=.259) and Northern Emirates (M=1.383, SD=.235); t(104)=2.877, p=.005. Eta squared= 0.073735

Thus, it can be concluded that the magnitude of the difference of the means is moderate and that 7.4% of proportion of variance in the customer and media legitimacy variable is explained by belonging to one of the UAE Emirate groups.

10.4.3 NGO legitimacy

The results shown in table 10.5 and 10.6 indicate that there is significant difference in the scores of NGO legitimacy between Southern and Northern Emirates, for Southern Emirates (M=1.51, SD=.259) and Northern Emirates (M=1.36, SD=.213); t(95.509)=2.873, p=.005. Eta squared= 0.073518. Thus, it can be concluded that the magnitude of the difference of the means is moderate and that 7.4% of proportion of variance in the NGO legitimacy variable is explained by belonging to one of the UAE Emirate groups.

10.4.4 Government regulatory legitimacy

The results shown in table 10.5 and 10.6 indicate that there is no significant difference in the scores of government regulatory legitimacy between Southern and Northern Emirates, for Southern Emirates (M=1.343, SD=.229) and Northern Emirates (M=1.328, SD=.175); t(100.362)=.368, p=.713.

10.4.5 Summary of stakeholder legitimacy attribute

The results of independent sample t-test between clusters of stakeholder legitimacy and two groups of UAE emirates indicate that there is significant difference in the scores of business and fiscal government legitimacy, customer and media legitimacy and NGO legitimacy. The magnitude of difference ranges from moderate to lrge level, with the highest of all is the business and fiscal government legitimacy (35%). Therefore, it can be concluded that H7C: "stakeholder legitimacy attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector" is accepted .The implication of this is that since attribute business and fiscal government legitimacy proves to positively influence and moderate the association between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices, therefore, federal governments in the UAE should pay
attention and work on leveraging manager's perception of this legitimacy attribute of those stakeholders in hospitality sector in order to achieve their sustainability goals. In a similar result to both, the power and urgency attributes, perception of legitimacy is higher in Southern Emirates than in Northern Emirates (high mean in this scale indicates that the stakeholder is less likely to be legitimate), therefore, it can be concluded that mangers in Northern Emirates generally do perceive it media, NGO, business and fiscal government claims on the adoption of sustainable water consumption strategies and practices as more legitimate than manager in Southern Emirates, with the gap clearly shown in case of business and fiscal government legitimacy attribute. Therefore, government efforts especially in Southern Emirates should focus on increasing manager's perception of the legitimacy those stakeholders.

	Grouped Emirates	N	Mean	Std. Deviation	Std. Error Mean
SQBFGL	Southern Emirates	55	1.7464	.33644	.04536
	Northern Emirates	51	1.3535	.18516	.02593
SQCML	Southern Emirates	55	1.5218	.25915	.03494
	Northern Emirates	51	1.3832	.23502	.03291
SQNL	Southern Emirates	55	1.5100	.31442	.04240
	Northern Emirates	51	1.3610	.21335	.02988
SQGRL	Southern Emirates	55	1.3427	.22933	.03092
	Northern Emirates	51	1.3282	.17496	.02450

Group Statistics

Table 10.5 Group statistics for clusters of stakeholder legitimacy with UAE Emirates

				Indepen	ident Samp	les Test				
		Equality of	Variances			t-test fo	or Equality of	Means		
						Sig. (2-	Mean	Std. Error	Interva	l of the
		F	Sig.	t	df	tailed)	Difference	Difference	Lower	Upper
SQBFGL	Equal variances assumed	16.314	.000	7.368	104	.000	.39291	.05333	.28716	.49866
	Equal variances not assumed			7.520	85.220	.000	.39291	.05225	.28902	.49680
SQCML	Equal variances assumed	.408	.524	2.877	104	.005	.13863	.04818	.04309	.23417
	Equal variances not assumed			2.888	103.952	.005	.13863	.04800	.04344	.23382
SQNL	Equal variances assumed	7.329	.008	2.833	104	.006	.14900	.05260	.04469	.25330
	Equal variances not assumed			2.873	95.509	.005	.14900	.05187	.04604	.25195
SQGRL	Equal variances assumed	8.052	.005	.365	104	.716	.01453	.03985	06450	.09355
	Equal variances not assumed			.368	100.362	.713	.01453	.03945	06374	.09280

Table 10.6 Independent sample-t test for clusters of stakeholder legitimacy with UAE Emirates

10.5 Summary

This chapter uses independent samples t-test to investigate difference among groups and therefore answers the research question: Q3: Within the hospitality sector, is there is difference in the perceived stakeholder's salience attributes in sustainability project initiatives between different emirates in the UAE?

Based on the above mentioned results, it was proven that there is significant difference between the two Emirate groups; Southern and Northern Emirates in the perception of 10 out of the 16 clusters of power, urgency and legitimacy attributes; namely; business utilitarian and symbolic power, NGO power, media power, government and business coercive power, NGO urgency, media urgency and business urgency, business and fiscal government legitimacy, customer and media legitimacy and NGO legitimacy.

The magnitude of difference ranges from moderate to large level; business urgency and business and fiscal government legitimacy shows the highest difference in magnitude (34 and 35%).

Therefore, H7A: "stakeholder power attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector", H7B: "stakeholder urgency attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector" and H7C: "stakeholder legitimacy attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector" were all confirmed.

The implications of this results on policy makers is that policy makers should pay attention to the difference in the perception of salience attributes by mangers in hospitality sector in different Emirates, efforts should focus on leveraging the perception of managers' of salience attributes especially for business urgency and business and fiscal government legitimacy in Southern Emirates as the mean scores was higher in those Emirates compared to Northern Emirates as those stakeholder attributes do influence and moderate the association between environmental concern, risk perception and sustainable water consumption strategies and practices as per the results of Multiple Regression analysis explained in chapter nine.

11 Chapter Eleven: Discussion

11.1 Introduction

In this chapter summary of the results and analysis of the study is presented and discussed holistically. The findings of this research have been interpreted and compared with previous research in this chapter.

11.2 Overview on the study

In order to develop a better understanding and provide empirical evidence in front of policy makers and managers on factors driving the global discourse of sustainability, a thorough review of the existing literature on sustainability, determinants and measures of sustainable water consumption and stakeholder analysis, attributes and role in sustainability project initiatives is carried out.

The results of literature review indicates that the identified determinants of sustainable water consumption; environmental concern and risk perception has low explanatory power in determining corporate sustainability strategies and practices, with researches even providing conflicting results on the direction of correlation. Moreover, the role of stakeholders albeit highlighted by many authors as crucial in the success of projects, plethora of researches admit that this area is unattended to in the literature and call for future research to fill this gap and ask for more academic attention to be given to the investigation of stakeholder role especifically in hospitality sector for being blamed for the highest water consumption rates (Spaargaren, 2003, Bruch et al., 2007, Spaargaren and van Koppen, 2009, Prothero et al., 2011, Fielding et al. 2012, walker and hills, 2012 and Chan and Hsu, 2016).

Thus, to expand the discussion on determinants of sustainable water consumption and fill the perceived gap in the literature on the role of stakeholders in achieving sustainable consumption goals, the first objective of this thesis was to empirically examine individual determinants of sustainable water consumption; managers' environmental concern and risk perception in the UAE hospitality sector. The second objective was to test the proposed conceptual scheme in which stakeholder salience attributes (power, urgency and legitimacy); moderating variables can fill the gap between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices in the UAE hospitality sector and finally, the third objective was to evaluate the influence of demographic variables (Emirate of operation) on managers'

perception of stakeholder salience attributes in sustainability project initiatives. The following section will summarize the finding of the thesis in relation to those objectives.

11.3 Finding of the study

11.3.1 Descriptive analysis

11.3.1.1 Demographic analysis

The study participants was managers in hospitality sectors selected randomly from the seven UAE Emirates and their demographic analysis revealed the number, gender , position, years of experience of participants in each Emirate and the type of entity they belong to. To facilitate data analysis, demographic data is grouped and summarized. The analysis revealed that there is no big intergroup variance except for gender and this is justified by the general gender distribution in the UAE which states that within the work age (25-54), females accounted for 21.4 percent of the total labor force, compared with 78.6 percent for males (Abu Dhabi statistical year book, 2016), a percentage that typically matches the demographic distribution of the sample gender (78.3% males and 21.7% females) and therefore, the collected data could be assumed as an actual representation of reality.

11.3.1.2 Descriptive analysis of questionnaire items

In order to highlight the role of important indicators under each of the questionnaire sections, top 25% ranked indicators in each section and subsection were identified and presented in table 11.1 below. The identified indicators highlight the influence of some items over others, for example, environmental concern items related to saving water for future generation and feeling guilty on excessive water consumption were highlighted among the top indicators by the participants. Similarly, some indicators of risk perception were differentiated by the managers like change in pricing structure of commodities, shortage of food and sacrificed bottom line were among the highest indicators of risk perception.

Additionally, data ranking of salience attributes revealed that government provision of green infrastructure, business achievement of competitive advantage, NGO guidance on the performance of water saving products, media awareness campaigns and customer loyalty were perceived as the most influential powers of the mentioned stakeholders. Additionally, attention to government, business and customer requests, NGO communications, media concerns on SWC were the top ranked response items to stakeholder urgency attribute. Moreover, government regulations, NGO, business and media request on SWC as well as customer denounce on unstainable water consumption were the most appropriate indicators for stakeholder legitimacy. Finally, compliance with water legislations and reviewing water bills were the top ranked indicators for sustainable water consumption strategies and practices respectively. This analysis provided guidance on potential significant indicators for each scale item, therefore, those items were dealt with special attention in the next analysis phases. Moreover, those items can present guideline for future researchers attempting to undergo studies in relevant areas and provide guidance to policy makers and managers on important indicators of the variables under study.

Top 25% indicators of each variable					
	Number				
	of				
Variable	indicators	Code of indicators			
Environmental concern	8	EC7 EC8 EC9 EC19 EC10			
Risk perception	3	R3 RP13 RP4			
Government power	3	GP6 GP7 GP8			
Business power	2	BP2 BP4			
NGO power	2	NP7 NP3			
Media power	2	MP1 MP4			
Customer power	1	CP1			
Government urgency	2	GU1 GU3			
Business urgency	1	BU1			
NGO urgency	2	NU6 NU1			
Media urgency	1	MU1			
Customer urgency	2	CU1 CU2			
Government legitimacy	2	GL1 GL2			
Business legitimacy	1	BL1			
NGO legitimacy	1	NL1			
Media Legitimacy	1	ML2			
Customer legitimacy	1	CL3			
SWC strategies	5	SS1 SS4 SS15 SS8 SS3			
SWC practices	4	SP14 SP3 SP2 SP8			

Table 11.1 Summary of top 25% ranked indicators

11.3.2 Instrument testing (factor analysis and reliability test)

Post confirming the suitability of factor analysis test on the research instrument, the test was applied to reduce a total of 177 instrument items into better manageable 29 clusters. Summary of latent clusters, definitions and reliability is shown in table 11.2.

The results of factor analysis for environmental concern has revealed four latent clusters which were identified in light of the Theory of Planned Behaviour (Ajzen, 1991); to be attitude, perceived behavioural control, social norm and intention. The variance explained by the four latent clusters was 61.968% which indicates that the latent clusters can sufficiently represent the 32 indicators of environmental concern. That reliability test performed on each of four latent clusters indicates acceptable internal consistency between the indicators of the clusters. Risk perception indicators was reduced to three clusters; namely, operation risk perception, physical and time risk perception and reputational risk perception. The clusters together explains 69.411% of the variance and cluster reliability test indicates good consistency among cluster indicators.

Each of the sustainable water consumption strategies and sustainable water consumption practices scale was reduced into three latent clusters; namely operation strategies, corporate strategies, investment strategies, operation practices, guest practices and facility practices. The latent clusters generated from each scale explains 61.632% and 70.226% of the variance respectively and the reliability test for all the clusters ranges from acceptable to good.

Factor analysis of stakeholder power attribute scale revealed seven clusters; namely, media power, government and business coercive power, government utilitarian power, NGO power, customer power, business utilitarian and symbolic power and government symbolic power. The clusters explains 69.443% of the variance and reliability test indicates acceptable to excellent internal consistency between cluster indicators. Similarly, the scale of stakeholder urgency attribute revealed five clusters distinguished by the stakeholder group and explains 71.37% of the variance with internal consistency between indicators ranges from good to excellent. Finally, the stakeholder legitimacy attribute scale revealed four clusters; namely, business and fiscal government legitimacy, customer and media legitimacy, government regulatory legitimacy and NGO legitimacy, the clusters explains 72.18% of the variance and internal consistency between indicators ranges from good to excellent.

Based on the above results, it was concluded that the generated 29 clusters are sufficient representatives for 177 questionnaire items with internal consistency ranges from excellent to acceptable and therefore was used for inferential analysis and thus, cluster outliers are identified and treated with data transformation. Further, clusters were recoded after transformation and checked for normality to avoid violation of statistical method assumptions used in inferential analysis of data. Finally, research conceptual model was modified to adapt the 29 generated clusters as shown in figure 11.1 below.

Variable	Number of indicato rs within variable	Cluster name	Cluster definition	Cluster code after data transformatio n	Number of indicator s within cluster	% of variance explaine d	Cronbac h Alpha
		Perceived behavioural control (PBC)	Feeling of an individual towards saving water	SQPBC	6	26.58	0.797
l concern	32	Attitude (ATT)	Degree of easiness/ difficulty to save water	SQATT	14	24.627	0.734
Environmenta		Intention (INT)	Commitmen t to save water	SQSN	5	5.963	0.729
		Social norm (SN)	Believe about saving water based on the perception and motivation of others	SQIN	2	4.82	0.764
						61.99	
и		Operational risk perception (ORP)	Risk on corporate performance and revenue	SQOPR	5	50.044	0.89
Risk perceptio	13	Physical and time risk perception (PRP)	Risk on physical impact and time losses	SQPRP	5	11.368	0.803
		Reputational risk perception (RRP)	Risk on corporate image and employee moral	SQRRP	3	7.999	0.875
						69.411	

ption strategies		Operational strategies (OS)	Strategic means and indicators to implement and monitor SWC	SQCS	10	44.369	0.903	
water consum	21	Corporate Strategies (CS)	Corporate objectives, policies and plans for SWC	SQOS	5	11.391	0.837	
Sustainable		Investment strategies (IS)	Strategic investment proposals for SWC	SQIS	3	5.872	0.787	
						61.632		
asumption		Operational practices (OP)	Process related activities for SWC	SQOP	8	49.638	0.873	
le water con practices	16	Guest practices (GP)	Guest related activities for SWC	SQGP	5	11.711	0.863	
Sustainabl		Facility practices (FP)	Facility related activities for SWC	SQFP	3	8.877	0.752	
						70.226		
	41		Business utilitarian and symbolic power (BUSP)	Business use of material or non- material means to impose will	SQBUSP	7	23.592	0.917
ower attribute		NGO power (NP)	NGO use of force, material and non-material means to impose will	SQNP	8	10.242	0.902	
Stakeholder po		Media power (MP)	Media use of force, material and non-material means to impose will	SQMP	6	9.775	0.913	
		Customer power (CP)	Customer use of force, material and non-material means to impose will	SQCP	5	8.57	0.837	

		Government and business coercive power (GBCP)	Government and business use of force to impose will	SQGBCP	6	9.495	0.823	
		Government symbolic power (GSP)	Government use of non- material means to impose will	SQGSP	4	4.672	0.83	
		Government utilitarian power (GUP)	Government use of material means to impose will	SQGUP	4	3.097	0.746	
						69.443		
Stakeholder urgency attribute	29	Customer urgency (CU)	Degree to which customer's claim calls for instant attention.	SQCU	6	30.23	0.899	
		NG urgency	NGO urgency (NU)	Degree to which NGO's claim calls for instant attention	SQNU	6	13.7	0.901
		29 Bu urge	Business urgency (BU)	Degree to which business's claim calls for instant attention	SQMU	5	10.42	0.897
		Media urgency (MU) Government urgency (GU)	Degree to which media's claim calls for instant attention	SQBU	5	7.146	0.888	
			Government urgency (GU)	Degree to which government' s claim calls for instant attention	SQGU	7	9.874	0.838
						71.37		

Stakeholder legitimacy attribute		Business and fiscal government legitimacy (BFGL)	Degree to which business and fiscal government actions are perceived as appropriate by the firm	SQBFGL	7	35.807	0.92
	25	Customer and media legitimacy (CML)	Degree to which customer and media actions are perceived as appropriate by the firm	SQCML	6	18.008	0.845
		NGO legitimacy (NL)	Degree to which NGO actions are perceived as appropriate by the firm	SQNL	4	12.701	0.814
		Government Regulatory legitimacy (GRL)	Degree to which government regulatory actions are perceived as appropriate by the firm	SQGRL	6	5.666	0.75
						72.182	

Table 11.2 Summary of generated clusters from factor analysis



Figure 11.1 Updated research conceptual model

11.3.3 Inferential statistics

In order to answer the research questions, the analytical process shown in figure 11.2 is designed and followed and based on the statistical results, research hypotheses are either accepted or rejected as shown in table 11.3 below.



Figure 11.2 Analytical process for inferential statistics

Research questions	Research Hypotheses	Hypotheses accepted/rejected
Q1: How do environmental concern and risk perception associates with sustainable water consumption strategies and practices in the UAE hospitality sector?	H1: Environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector.	Accepted
	H2: Environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector.	Accepted
O2: What is the role of	H3A: stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies.	Accepted
the stakeholders' salience attributes on the association between	H3B: stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies.	Accepted
environmental concern, risk perception and sustainable water consumption strategies	H3C: stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies.	Accepted
and practices in the UAE hospitality sector?	H4A: stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption practices.	Accepted

	H4B: stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption practices.	Accepted
	H4C: stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption practices.	Accepted
	H5A: stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies	Rejected
	H5B: stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies	Accepted
	H5C: stakeholders' legitimacy attributes moderates the relation between environmental concern, risk perception and sustainable water consumption strategies	Accepted
	H6A: stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices	Rejected
	H6B: stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption practices	Accepted
	H6C: stakeholders' legitimacy attributes moderates the relation between environmental concern, risk perception and sustainable water consumption practices	Accepted
Q3: Within the hospitality sector, is there is difference in	H7A: stakeholder power attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector.	Accepted
the perceived stakeholder's salience attributes in sustainability project initiatives between different emirates in the UAE?	H7B: stakeholder urgency attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector.	Accepted
	H7C: stakeholder legitimacy attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector.	Accepted

Table 11.3 Verification of study hypotheses

11.3.3.1 Environmental concern and risk perception

This section will illustrate research finding on the association between environmental concern, risk perception and sustainable water consumption strategies and practices. Pearson Correlation test and Multiple Regression Analysis indicate that environmental concern and risk perception of managers in hospitality sector associates with firm's adoption of both sustainable water consumption strategies and practices, the association is shaped by manager's perceived behavioural control, attitude and social norm as well as operational, physical and time risk perception as well as reputational risk perception. The degree of induced variance in the adopted

sustainable water consumption strategies and practices due to environmental concern and risk perception ranges from 9% to 24% .Therefore, it was concluded that the research hypotheses H1: "environmental concern and risk perception influence sustainable water consumption strategies in UAE hospitality sector" and H2: "environmental concern and risk perception influence sustainable water consumption practices in UAE hospitality sector" are accepted.

Similar research results has been confirmed early by Bord et al. (1998) who argue that managers with higher level of risk perception to environmental problems tend to adapt policies that mitigate environmental risks and by Bansal (2003) who claim that individual concern about environment is positively correlated to the scope and scale of corporate environmental actions and practices, thus, they argue that employees who are passionately concerned about environmental issues "environmentalists" can facilitate organisational responsiveness to environmental issues and enhance the implementation of corporate sustainability policy and strategy. Additionally, Zahran, et al. (2006) concluded that policies for reducing environmental risks are more likely to be supported with individuals who perceived environmental problems as climate change to be risky.

In the same line, Dief and Font (2010) concluded that manager's ec-ocentric believes and attitudes can significantly explain the adoption of firm's environmental management practices, Wang et al (2011) argue that implementation of green management practices correlates to the managers concern to the environment.

In further alignment with the research finding, Wang et al. (2015) concluded that environmentalist managers who have higher individual moral drivers and values towards a proenvironmental behaviour and therefore exhibit higher environmental concern are most likely to implement green strategies and policies of the company and argue that targeting those types of managers is more effective in implementing sustainability strategies and policies in a corporation. Whereas, on the other hand, Zhang (2015) although admit that environmental concern of senior managers was positively correlated with corporate conservation strategies, he concluded no correlation with concrete firm's activities or practices. therefore, it can be concluded the results of this thesis in relation to the association between environmental concern, risk perception and sustainable water consumption strategies and practices is in harmony with the majority of the previous studies in the field.

11.3.3.2 Role of stakeholder salience attributes

The role of stakeholder salience attributes on the association between environmental concern and risk perception was measured on three consecutive steps as follows:

First; Pearson Correlation test is carried out to identify significant association between stakeholder salience attributes and sustainable water consumption strategies and practices since more robust results are revealed when only significant variables are included in the analysis (Pallant, 2016). Second, influence of significantly associated stakeholder salience attributes on the association between environmental concern, risk perception and sustainable water consumption strategies and practices is assessed using Multiple Regression Analysis. Third , based on results of second step, potential moderators of salience attributes; have an intensifying effect with an independent variable on a dependant variable (Holmbeck, 1997) were identified and moderation effect of salience attributes was examined using Multiple Regression Analysis. The following section will discuss the results of the performed analysis for each of the three salience attributes of power, urgency and legitimacy.

11.3.3.2.1 Stakeholder power attribute

This section will elaborate on research findings on the role of stakeholder power attribute in the association between environmental concern, risk perception and sustainable water consumption strategies and practices in the UAE hospitality sector.

Pearson Correlation test indicates that business utilitarian and symbolic power and NGO power significantly shows positive association with operational strategies, corporate strategies, operational practices & guest practices. Media power positively associates with operation strategies, corporate strategies and operation practices. Customer power significantly shows positive association with investment strategies. Government and business coercive power was positively correlated with operation strategies, investment strategies, operation practices and guest practices. Finally, government symbolic power shows significant positive correlation with operation strategies, investment strategies, operation practices and guest practices.

Multiple Regression Analysis results revealed that there is statistically significant influence at p<.001 for the intervening power attribute on the association between environmental concern, risk perception and sustainable water consumption strategies and practices. The change in

variance was captured by operation strategies, operation practices and guest practices with an approximate positive increase in the induced variance of 6%, 3.5% and 3.2% respectively. The positive influence was shaped by business utilitarian and symbolic power as well as media power on operation strategies, by government and business coercive power and media power on operation practices and by government and business coercive power on guest practices. Based on this results, it can be concluded that research hypotheses H3A: "stakeholder's power attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4A: "stakeholder's power attribute influence the association between environmental concern, risk perception practices" were both confirmed.

Potential moderators of stakeholder power were identified to be business utilitarian and symbolic power, media power and government and business coercive power and were tested for moderation effect. The results indicate that stakeholder power attribute did not significantly moderate any relation with sustainable water consumption strategies or sustainable water consumption practices. Therefore, it can be concluded that H5A: "stakeholders' power attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" and H6A "stakeholders' power attribute moderates the relation between environmental concern, risk perception practices" were rejected.

Based on the above-mentioned results for stakeholder power attribute influence and moderation effect, it is proven that stakeholder power attribute could be only regarded as another explanatory variable in addition to environmental concern and risk perception that induces a small change (an average of 4.3 %) in sustainable water consumption strategies and practices, moreover, the influence was shaped by three external stakeholders groups; business, government and media, with government influence limited to coercive power only, whereas; NGO power and customer power were silent.

The results for power attribute is consistent with Hoffman and Ventresca (2002) who argue that coercive power from legislators contribute to companies adoption of green practice, within the same vein, Milstein, Hart, and York (2002) emphasised the role of government coercive power on the adoption of environmental strategies. Additionally, the results echoes Williamson et al.

(2006) findings who argue that peer power (business power) is the most influential attribute on environmental performance.

Additionally, Murillo-Luna, Garcés-Ayerbe and Rivera-Torres (2008) concluded that pressure of regulators and external economic agents (business) positively influence corporate environmental strategy and proactivity. Similarly, Betts (2007) concluded that power of external stakeholders and regulatory pressures by government positively influence firm's environmental practices.

Additionally, González-Benito and González-Benito (2006) concluded that power of suppliers and financial agents influence corporate environmental logistical practices, Similarly, Zhu et al. (2008) found initial evidence on the association between exercised power from regulators and suppliers in the context of implementation of green practices, in the same line, Wang et al. (2011) concluded that external stakeholders' pressure can stimulate and facilitate companies' environmental performance. In the same vein, Liu et al. (2011) concluded that corporate practice level of green supply chain management is significantly and positively associated with the external pressures from government and business competitors. Additionally, Tang and Tang (2012) concluded that business and government powers on the contrary of customer power significantly influence corporate environmental performance in China.

On the other hand, González-Benito and González-Benito (2006) concluded that government regulatory power is insufficient to influence corporate environmental practices and Deif and Font (2010) argue that coercive power from government does not explain the adoption of environmental management practices, Similarly, Suk et al. (2013) suggested that coercive power has no significant effect on energy saving practices. Additionally, Zhang et al. (2015) although admits that symbolic power of customers and suppliers and mimetic business power are significant influential on corporate practices for energy conservation , found that coercive power of government is not a determinant of energy conservation practices in firms. And Majoch, Hoepner and Hebb (2014) concluded that legislators' coercive power didn't influence firms' responsible investment strategies. Although those results contradicts with the research finding especially in relation to government coercive power, the justification for this may be referred to contextual variation, for example those studies are performed in China and Egypt where it has been claimed that government regulations on resource conservation is week (Zhang, 2015), on

the contrary of UAE, legislations and policies on resource conservation are more developed and more stringent, this may account to the reported small variance induced by government coercive power in sustainable water consumption strategies and practices.

Moreover, the results of influence of power attribute of customers and NGO contradicts with Eesely and lenox (2006) who claim the NGOs are powerful in inducing firm's response like as adopting sustainability practices, with Zhu et al. (2008) and Wang et al. (2011) who argue that customer power is influential on the adoption of green practices and with Vasi and king (2012) who concluded that rising tide of interest in environmental practices in the corporate sphere is partially due to power exercised by external stakeholders as environmental activists and finally, with Majoch, Hoepner and Hebb (2014) who argue that client utilitarian and symbolic power influences corporate strategies for responsible investments.

This contradicting result could be again referred to situational context where for example, the study of Vasi and king (2012) is performed in the United States of America, where is it expected to have more historical and powerful NGOs than the newly developed ones in the UAE. Furthermore the contradiction with Zhu et al. (2008) study performed in Brazil, and Wang et al. (2011), performed in China could be referred to the demographic differences, customers in those countries are generally locals, whereas in UAE, large number of customers are potentially expats referring to that 90% of the population in the UAE are expats (Dubai statistical year book, 2016) thus, it can be argued that customers in the UAE are less knowledgeable of UAE water scarcity problem and therefore show little means to demand to sustainable water consumption practices from hospitality firms.

11.3.3.2.2 Stakeholder urgency attribute

This section will elaborate on research findings on the role of stakeholder urgency attribute in the association between environmental concern, risk perception and sustainable water consumption strategies and practices in the UAE hospitality sector.

Pearson Correlation test reveals that customer urgency, NGO urgency, business urgency and media urgency were found to be significantly correlated to operation strategies, corporate strategies, operation practices and guest practices and government urgency attribute was positively associated with corporate strategies and investment strategies.

Multiple regression analysis, results revealed that there is statistically significant influence at p<.001 for urgency attribute on the association between environmental concern, risk perception and sustainable water consumption strategies and practices. The change in variance was captured by operation strategies, corporate strategies, investment strategies, operation practices and guest practices with a positive increase in the induced variance by 33%, 5.2%, 5.8%, 15.6% and 9% respectively. The positive influence was shaped by urgency attribute for all external stakeholders except customers, more specifically; business urgency and media urgency influences operation strategies, business urgency associates with corporate strategies, government urgency induces change in investment strategies, business urgency influence guest practices. Based on this results it was concluded that research hypotheses H3B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4B: "stakeholder's urgency attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" were both confirmed.

Potential moderators of stakeholder urgency attributes were identified to be business urgency, government urgency, media urgency and NGO urgency and were tested for moderation. Results indicate that business urgency do significantly moderate the relationship between attitude and both operation practices and guest practices at p<.01 and moderation effect can induce 37% and 24% variance in operation and guest practices respectively. Additionally, business urgency attribute moderate the relation between perceived behavioural control and operation strategies at p<.001 and moderation effect explains 55% of the variance in operation strategies and similarly, significantly moderates the relation between operational risk perception and corporate strategies at p<.001 and moderation effect induces 26% of the variance in corporate strategies. Therefore, it was concluded that, H5B "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies" and H6B "stakeholders' urgency attribute moderates the relation between environmental concern, risk perception and sustainable water consumption strategies.

These findings of this research indicates that business urgency attribute ; an influential and moderator variable is a critical attribute in defining sustainable water consumption strategies and

practices; whereas government and media urgency influence was limited to the strategies and NGO urgency influence contributes only to the practices with the absence of significant influence to customer urgency attribute, this could undoubtedly explained by the expected economic gains and potential for achieving competitive advantage form the adoption of sustainable water consumption strategies and practices by business stakeholders.

Further, the results are also consistent with previous research, for example, Buysse and Verbeke, 2003) concluded that government is perceived as important or urgent stakeholders by different types of firms adopting different types of environmental strategies. Similarly, Roberto Fernández Gago, Mariano Nieto Antolín, (2004) concluded that the urgency of all stakeholders (media, government, business associations, environmental groups) had influenced firms' environmental activities. Similarly, Oliveira Neto et al., (2015) confirms that government urgency and business urgency are influential attributes in the adoption of cleaner production practices and that customer urgency is of little importance. In the similar discipline, Poplawska et al. (2015) concluded that NGO urgency attribute is the most influential attribute in adoption of corporate social responsibility.

Where on the other hand, the results contradicts with Eesely and Lenox, (2006) who confirms that request urgency from NGOs are not significantly correlated to firm's response in relation to adoption of sustainability practices or principles and Majoch, Hoepner and Hebb (2014) who argue that NGO urgency did not influence firms responsible investment strategies, however, despite of this contradicting results on NGO urgency, it seems that there is general consensus in the literature on the positive role of government urgency and business urgency in the adoption of environmental strategies and practices which is reported in this thesis to be highly influential variables.

11.3.3.2.3 Stakeholder legitimacy attribute

This section will elaborate on research findings on the role of stakeholder legitimacy attribute in the association between environmental concern, risk perception and sustainable water consumption strategies and practices in the UAE hospitality sector.

Pearson Correlation test reveals that business and fiscal government legitimacy was positively associated with operation strategies, corporate strategies, operation practices and guest practices. Media legitimacy and NGO legitimacy attributes were significantly correlated to operation strategies, corporate strategies, investment strategies, operation practices and guest practices and finally government regulatory legitimacy was associated with all the clusters of sustainable water consumption strategies and practices.

Multiple Regression Analysis, revealed that there is statistically significant influence at p<.001 for the legitimacy attribute on the association between environmental concern, risk perception and sustainable water consumption strategies and practices. The change in variance was captured by operation strategies, investment strategies, operation practices and guest practices with a positive increase in the induced variance by 24.2%, 3.5%, 16.6%, and 4.3% respectively. The positive influence was shaped by business and fiscal government legitimacy on operation strategies, government regulatory legitimacy on investment strategies, business and fiscal government legitimacy on both operation practices and guest practices. Based on this results it was concluded that research hypotheses H3C: "stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" and H4C: "stakeholder's legitimacy attribute influence the association between environmental concern, risk perception and sustainable water consumption strategies" were both confirmed.

Potential moderators of stakeholder legitimacy attributes were identified to be business and fiscal government legitimacy and government regulatory legitimacy and tested for moderation effect, results indicate that business and fiscal government legitimacy was a significant moderator between attitude and guest practices at p<.001 and the moderation effect induces a variance of 19% in guest practices and similarly significantly moderates the relation between perceived behavioural control and operation strategies at p<.001 and the moderation effect induces a variance of 47 % in operation strategies . Based on this results it was concluded that research hypotheses H5C: "stakeholder's legitimacy attribute moderates the association between environmental concern, risk perception and sustainable water consumption strategies" and H6C: "stakeholder's legitimacy attribute moderates the association between environmental concern, risk perception and sustainable water consumption strategies" were both confirmed

These findings of this research indicates that legitimacy attribute of both government and business stakeholders; an influential and moderator is a critical attribute in defining sustainable water consumption strategies and practices with the legitimacy of NGO, customers and media remains static. It should also be noted that although government and business coercive power has very low influence on the adoption of sustainable water consumption strategies and practices, business and government fiscal legitimacy is highly associated with the adoption of sustainable water consumption strategies and practices and moderates the relation between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices, this could be interpreted from government side that although managers perceive their fiscal policies as legitimate, the influence of these policies has reached its threshold in which any more increase in water prices or taxes will not result in the reduction of water consumption in hospitality sector. And from business side, the higher legitimacy and low power influence could be attributed to the voluntary will of firms to share information and best practice on sustainable water consumption in the UAE hospitality sector in order to achieve competitive advantage.

Also based on this finding in the variation in the perception of legitimacy and power of business and government stakeholders, the results can then confirm that power and legitimacy are two separate attributes and when combine can create authority; a legitimate use of power as previously argued by Weber (1947) and Mitchell et al (1997), and that considering them as one attribute where legitimacy appears to gain rights only through exercising power (Driscoll, 2004) is not suitable preposition in sustainability project initiative.

Similar results was reported in previous research by Álvarez-Gil et al. (2007) who concluded that government salience (based on accumulated power, urgency and legitimacy attributes) on the contrary of NGO salience has influenced positive organisational environmental practices as engagement in reverse logistics program (return, refurbishing and recycling) and by Timur and Getz (2008) who conclude that local government and destination management organisations are perceived to hold the greatest legitimacy in achieving sustainable tourism. Additionally, Majoch, Hoepner and Hebb (2014) claim that legitimacy of social entities (societal legitimacy) didn't influence responsible investment strategies, and Oliveira Neto et al., (2015) who confirms that government legitimacy and business legitimacy are influential attributes in the adoption of cleaner production practices and that customer legitimacy is of little importance.

Whereas; in contrast to the research finding, Boele at al. (2001) claim that legitimacy of environmental group for sustainability claims were accepted by private firms and Eesely and

Lenox, (2006) who confirmed the influence of NGO legitimacy in triggering firm's response with regards the adoption of sustainability practices. This conflicting results could be again referred to the lower level of maturity of NGOs in the UAE.

Another notable finding is that the influence of both legitimacy and urgency attributes was greater than the influence of power attribute of any stakeholder, the same results was previously confirmed by Roberto Fernández Gago, Mariano Nieto Antolín, (2004) who argues that the capacity of stakeholders to influence firm's environmental action is not important to managers as the urgency and legitimacy of their claims. Whereas, Parent and Deephouse (2007), concluded a contradicting results and claim that the influence of power attribute precedes that of urgency and legitimacy attributes, therefore, further research is required to provide a proponent position to one side of those arguments.

11.3.3.3 Stakeholder salience based on salience attributes

The influence and moderation effect of stakeholder salience attributes moves us forward to classify stakeholders in sustainability project initiatives according to Mitchell et al (1997) triple circle stakeholder typology shown in figure 11.3, in which eight types and four classes of stakeholders are reproduced here in table 11.4; namely stakeholder class with low salience; have one salience attribute (dormant, discretionary and demanding stakeholders types), medium saliency class; possess two salience attribute (dominant, dangerous and dependent stakeholders types), highly salient class; accumulate the three types of attributes (definitive stakeholders) and finally fourth class who possess none of the salience attributes and is considered a non-stakeholder.



Figure 11.3 The triple circle stakeholder typology (Mitchell et al. 1997)

		Level of
Stakeholder typology	Attributes	salience
Non-Stakeholder	None	None
Demanding	Urgency	Low
Dormant	Power	Low
Discretionary	Legitimacy	Low
Dangerous	Urgency and power	Medium
Dominant	Legitimacy and power	Medium
Dependent	Legitimacy and urgency	Medium
Definitive	Legitimacy, power and urgency	High

Table 11.4 Classes and types of stakeholders (adapted from Parent and Deephouse, 2007)

Based on the research results, the accumulated number of salience attributes by each of the external stakeholders, their typology and degree of salience are listed and shown in table 11.5 and figure 11.4 (moderator attributes are double scored to highlight their importance). The results indicate that business and government accumulates the three types of salience attributes and has two and one moderator attributes respectively and thus, deserves to be a definitive stakeholder. Media accumulates power and urgency attributes therefore, should be considered as dangerous stakeholder. Whereas, NGOs are only featured with urgency attribute, qualifying it to

be a demanding stakeholder. Finally, customers do not show evidence of exercising any of the salience attribute, thus, is considered as a non-stakeholder in sustainability project initiative in the UAE in relation to sustainable water consumption.

	Degree of Salience of	Class of stakeholder	Type of stakeholder			
Stakeholder	stakeholder			Power	Urgency	Legitimacy
Government	High	Definitive	Definitive	1	1	2
Business	High	Definitive	Definitive	1	2	2
Media	Medium	Expectant	Dangerous	1	1	0
NGO	Low	Latent	Demanding	0	1	0
	Non salient	Non-	NA			
Customer		stakeholder		0	0	0

Table 11.5 Accumulated salience attributes, class, type and degree of salience of external stakeholders



Figure 11.4 Accumulated salience attributes of external stakeholder

11.3.3.4 Perceived stakeholder salience attributes in different UAE Emirates

Despite of the above-mentioned salience of some stakeholders in sustainability project initiatives in the UAE, The Independent sample t-test reveals that there is difference between the two Emirate groups; Southern and Northern Emirates in the perception of stakeholder saliency. The results indicate that most (10 out of 16) of clusters stakeholder salience attributes show significant difference between the two Emirate groups; namely; business utilitarian and symbolic power, NGO power, media power, government and business coercive power, NGO urgency, media urgency and business urgency, business and fiscal government legitimacy, customer and media legitimacy and NGO legitimacy.

The magnitude of difference ranges from moderate to large with two clusters; business urgency and business and fiscal government legitimacy shows the highest difference in magnitude (34 and 35%). The mean scores for all attributes are generally lower in Northern Emirates than in Southern Emirates. Based on these results it was concluded that the three research hypotheses; H7A "stakeholder power attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector", H7B stakeholder urgency attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector and H7C "stakeholder legitimacy attribute is perceived differently in different UAE emirates by managers within the UAE hospitality sector" were confirmed.

The reason for the above finding in UAE could be referred to the implementation of federal government system in the UAE which implies that government policies can differ from one Emirate to another or due to cultural differences between the Emirates since it is reported that most expats are residents in Southern Emirates (Dubai statistical year book, 2016) where there is generally lower perception of salience attributes than in Northern Emirates. This research finding confirms the dynamic character of theory of stakeholder identification and salience which permits the recognition of situational factors and argue that stakeholder salience attributes are variable and are socially constructed rather than being an objective reality (Mitchell et al., 1997).

11.4 Summary

This chapter provide an overview on the study, summary of key results, analyse and interprets the findings in light of previous research in the literature and answers research questions and validated the proposed research hypotheses.

12 Chapter 12: Conclusion and recommendation to future research

12.1 Introduction

This chapter presents the conclusions drawn out from the research analysis and findings in five sections. First, the robustness of the adopted research methodology. Second, the study objectives discussed and linked to findings. Third, the implication of the study on academic, management and policy makers' perspectives and finally, the study limitations will be listed, contribution to knowledge and recommendation for future research will be discussed.

12.2 Robustness of the research methodology

The researcher took into consideration the importance of selecting a suitable research and data collection methods and followed a formal research strategy as presented in chapter five. The study methodology was based on extensive literature review and survey. Furthermore, literature review was used to synthesize existing knowledge in order to identify gaps of knowledge in the proposed research area and to confirm research questions and objectives. Research conceptual model and study hypotheses are developed based on the gap in literature and in a simulation process to existing research.

Moreover, the material for the survey was compiled from literature review and adapted from existing surveys. Additionally, a self-administered survey methodology was developed and administered to address the research questions and collect primary data. In order to reduce any motivational or cognitive biases; the research questions and items were validated by both academics and senior managers to solicit their professional feedback. The feedback collected from the pilot study was used to refine the survey items making it clearer and easy to understand by respondents. Finally, several statistical tools were deployed to check validity and reliability of research instrument and then prudently analyse and statistically test the research hypotheses; namely; descriptive statics, factor analysis, Pearson correlation, Multiple Regression Analysis. There were a number of strengths in the research methodology such as: high reliability of generated clusters, extraction of latent variables by factor analysis and empirically testing significant clusters of stakeholder salience attributes prior assessing their influence on the association between environmental concern, risk perception and sustainable water consumption strategies and practices to ensure result robustness.

In conclusion, the research methodology strengths could be summarized in the following:

- The theoretical background of this research was developed on an extensive literature review and therefore, the study combined research variables from psychology and management research
- The study demonstrated a comprehensive research conceptual model based on gaps in the literature and call of plethora of authors in identifying the role of different factors influencing sustainable consumption.
- The study followed a systematic approach for data analysis and verification of scale validity, clusters reliability are performed and assumption for statistical tools are satisfied.

12.3 Accomplishment of research objective

The research was undertaken with the objective to empirically examine the influence of individual determinants of sustainable water consumption; managers' environmental concern and risk perception on the adoption of sustainable water consumption strategies and practices in the UAE hospitality sector. Test the proposed conceptual scheme in which stakeholder salience attributes (power, urgency and legitimacy); moderating variables can fill the gap between environmental concern, risk perception and the adoption of sustainable water consumption strategies and practices in the UAE hospitality sector. And to evaluate the influence of demographic variables (Emirate of operation) on managers' perception of stakeholder salience attributes in sustainability project initiatives. Empirical results verified the following:

- Significantly positive association between managers' environmental concern, risk perception and sustainable water consumption strategies and practices in UAE hospitality sector.
- The ability of stakeholder salience attributes to significantly fill a reported gap between the environmental concern, risk perception and sustainable consumption strategies and practices through both direct influence and moderation effect. The results indicate that out of the sixteen clusters representing stakeholder power, urgency and legitimacy attributes, ten clusters were reported to be significantly influential variables on different clusters of sustainable water consumption strategies and practices, additionally two clusters of urgency and legitimacy attributes were reported to moderate the relation between environmental concern, risk perception and sustainable water consumption strategies and practices.

 Significant influence of demographic variable; Emirate of operation on the perception of stakeholder's salience attributes in sustainable project initiatives in the UAE. Therefore, empirical results will be useful for academics, practitioners and policy makers.

12.4 Implication of research findings

The research provided empirical evidence for the correlation between environmental concern, risk perception and firm's adoption of sustainable water consumption strategies and practices, and further demonstrated statistical significance of the influence on and the moderation effect of stakeholder salience attributes between the association between environmental concern, risk perception and firm's adoption of sustainable water consumption strategies and practices and finally, classified external stakeholders according to their significant salience attributes and assessed the difference of this saliency in different UAE Emirates.

The implication of this research finding is three fold, first it provides guidance for management in hospitality sector on factors influencing their sustainable water consumption strategies and practices, factors are related to managerial believes and to the influence of external stakeholders. Second, the research provides analysis of stakeholders based on their accumulated significant salience attributes and clarifies the influence of demographic variables on the perception of stakeholders salience attributes, therefore, guides policy makers and project managers in the UAE on optimising their stakeholder engagement strategies to positively involve stakeholders in project activities in different Emirates in order to attain nations' sustainability goals. Third, the research introduces a unique conceptual framework that combines individual as well as stakeholder variables that has rarely been studied in hospitality sector, thus, invites researchers and academics to test and verify the model in same sector for cross comparison of results and in different sectors for generalizability of study results.

12.4.1 Management Implication

A major management implication that can be derived from research findings is that environmental concern, risk perception associates with sustainable water consumption strategies and practices in hospitality sector in the UAE and therefore, management should pay attention to their employee's environmental concern and risk perception in order to efficiently develop strategies and implement practices for sustainable consumption. And since environmental concern is activated by education and training (Bansal, 2003), employee knowledge (Bohdanowicz, 2006), and that risk perception is triggered by environmental awareness on risky implications of environmental problems (Martínez-Peña et al., 2013) and since environmentally concerned managers who bears good intention towards the environment suffer from moral frustration when they are forced to suppress their eco-centric believes for the sake of corporate economic gains (Hemingway, 2005), therefore it is recommended that management in hospitality sector should focus on employee training, education and awareness on water scarcity, potential risk of water shortage and sustainable water consumption and should strengthen their ethical support for environmental management and consider staff empowerment to allow personal environmental concern and risk perception to permeate in the workplace in the form of adoption of sustainable consumption strategies and practices and therefore contribute to the global discourse of sustainability.

12.4.2 Policy makers implications

The examined role of stakeholder salience attributes in the association between environmental concern, risk perception and sustainable water consumption strategies and practices along with the presented classification of stakeholder classes and typology draws attention of policy makers where different stakeholders stand out in sustainability project initiatives with respect to their sustainable water consumption claims; business and government stakeholders where highly salient, media possess medium level of saliency, NGO shows low saliency and finally customers didn't show any degree of saliency in relation to their sustainable water consumption claims. Thus, policy makers can design appropriate engagement strategies of those stakeholders and try to reinforce weaker attributes of stakeholders groups with medium and low saliency. For example, media was evident to be less legitimate although a powerful and urgent stakeholder, therefore, increasing their legitimacy by for example partnering with government bodies can move it form a dangerous stakeholder to a definitive stakeholder group.

Similarly, NGOs lacks both power and legitimacy attribute and according to Mitchell et al. (1997, p.865) NGO is like a "mosquito buzzing in the ear" and is a demanding stakeholder who should acquire any of the other attributes in order to move away from latent zone. Whereas according to Neville, Bell and Whitwell (2011), NGO is not worth being a stakeholder as they argue that owning urgency attribute alone does not qualify to any stake-holding position. Therefore NGOs should design more innovative strategies to deal with firms with regards to their sustainable water consumption claims, and since legitimacy can be derived from the potential effect of others (Phillips, 2003) therefore, NGO coalition with business associations; reinforce

their lobbying effort with government could be an appropriate strategy for NGOs to gain indirect power and legitimacy.

Moreover, this study shows that it is vital that UAE society learns more about sustainable consumption, because a society with no environmental conscience is a society with little means to demand the implementation of sustainable consumption strategies and practices, therefore, governments, NGOs and media should work together to educate, raise awareness of customers and encourage them to use their potential latent power, urgency and legitimacy attributes to enforce the adoption of sustainable water consumption strategies and practices in hospitality sector.

In addition to the above findings, it was proven that there is difference between the two Emirate groups; Southern and Northern Emirates in the perception of salience attributes, the mean scores for all attributes are generally lower in Northern Emirates than in Southern Emirates. The implications of this results on policy makers is that, it should be noted that the attainment of sustainability project initiative goals is subject to demographic variables, and that managers and policy makers should pay attention to the difference in the perception of salience attributes, efforts should focus on leveraging the perception of managers' of salience attributes in relation to sustainable water consumption claims especially in Southern Emirates as the mean scores was higher in those Emirates compared to Northern Emirates (higher mean score on power, urgency and legitimacy scales indicate that those stakeholder has lower ability to influence sustainable water consumption claims are regarded as less appropriate respectively). Furthermore, UAE government should specifically focus on leveraging the perception of the most influential and moderator salience attributes; urgency and legitimacy attributes.

12.4.3 Academic implications

The research introduces a unique conceptual framework that combines individual as well as stakeholder variables that has rarely been studied in hospitality sector (Chan and Hsu, 2016). The study provided better understanding on the association between individual variables; environmental concern and risk perception and sustainable water consumption strategies and practices in which empirical evidence confirmed a significant influence, however, with low explanatory power. Further the study extends the body of stakeholder theory from conceptual prism by demonstrating the influence and moderating role of stakeholder salience attributes on

the attainment of sustainability project initiative goals. Finally, a classification of external stakeholder salience in sustainability project initiatives from the perspective of managers' in hospitality sector in the UAE is provided.

12.5 Knowledge contribution

The thesis has contributed to the body in knowledge through filling a previously mentioned gaps in the literature and responding to future research agendas proposed by plethora of authors as follows:

- The thesis provided empirical evidence for the association between environmental concern, risk perception and sustainable water consumption strategies and practices thus, help to settle the debate in the literature around this correlation and respond to researchers who argue that discussions in the literature about environmental concern of managers are rare and remains unclear how the environmental concern of managers are related to corporate strategies and activities. Similarly, replies to researchers who claim that few studies had empirically investigated the association of risk perception with ethical and socially responsible consumption.
- The thesis introduced and verified the significant influence of stakeholder salience on sustainable water consumption strategies and practices in hospitality sector previously unstudied in the literature, thus, contributes to reducing the relevance gap between business and academia and responded to plethora of researches who call for optimizing the role of stakeholders in the research field, defining/redefining the role of different stakeholders in sustainability projects, focusing on actors like companies, environmental NGOs, governments in addition to consumer citizens to develop a legitimate research agenda on sustainable consumption and testing stakeholder intervention in the promotion of sustainable water consumption.
- The thesis introduced and verified a new conceptual model in which stakeholder salience can fill the gap between environmental concern, risk perception and sustainable water consumption strategies, results indicates that the gap can be bridged by both direct influence and moderation effect of the introduced salience attributes thus, contributes to filling a gap in the literature previously reported by plethora of scholars who confirms the lack of appropriate framework in the literature that stands between good intentions and

actual behaviour and call for the development of a coherent framework that articulates different stakeholders' roles and responsibilities in order to achieve effective public participation in management of water resources which lays the ground for implementation of conservation decisions and therefore, presents a new analytical explanations with remedies for the gap between environmental concern and corresponding positive environmental behaviour.

- The thesis verified the assumptions of stakeholder theory for identification and salience in two ways; first, salience attributes are variable and are socially constructed by providing an empirical evidence of variation in the perception of stakeholder salience in different Emirates groups. Second, legitimacy and power attributes are two different constructs that can exist separately and have different influence was empirically proven in this study where some stakeholders like government was reported to be highly legitimate albeit less powerful and media to be powerful albeit non legitimate.
- Further, the thesis provides analysis and weighting of stakeholder contribution to the success of sustainability project initiatives based on their significant salience attributes in driving firms sustainable water consumption strategies and practices, and thus, the research not only highlighted the pragmatic factors influencing sustainable water consumption strategies and practices but also categorized stakeholder; a key project management process and critical success factor based on the accumulated number of significant salience attributes of external stakeholders, a contribution that has not been previously provided in the literature, thus, a gap in the literature is then bridged by the provision of stakeholder analysis and contribution to the success of sustainability project initiatives.
- Finally, the thesis extends the body of stakeholder theory through examining a rarely employed approach of stakeholder theory in the literature; conceptual perspective to stakeholder theory thus, contributed to the body of knowledge through filling a gap in the literature with this regards.

12.6 Limitation of the study

The main limitation of this study can be presented as follows:

- Generalizability, as in fact the study sample was centred on hospitality sector. Hence, the study results cannot be generalized on all sectors. Although the number of results were comparable to other studies, it is not possible to claim that the findings represent the views of the majority managers in different sectors.
- Potential response bias, it has been claimed that people tend to overestimate and magnify their environmental concern to natural resources (Bansal, 2003), thus, the results may suffer from a false positive skew due to this assumption.
- Scope, despite the research had covered different variables influencing sustainable water consumption; sustainable consumption of other natural resources as energy is not covered in this thesis.

12.7 Recommendation for future research

The overcoming of the above-mentioned limitation constitutes possible directions for future research as follows:

- The study present a new conceptual model that simultaneously captures the external, and internal factors and suggests a stakeholder approach as a promising framework in which to conduct future research thus, replication of research in the same sector by future academics and providing cross comparison of results and in different sectors for result generalizability will be useful.
- Since the research provides empirical evidence from the middle east on the role of environmental concern, risk perception and stakeholder salience attributes in sustainability project initiatives, where sustainability is a developing concept in its infancy stage, consequently, an interesting future line of research would be conducting similar analysis in more developed nations as Europe and Australia and conduct a cross comparison study between those nations and check if the model is applicable outside the Middle East.

• Addressing sustainable consumption of other natural resources as energy will complement this research and provide a holistic approach to success factors in sustainability project initiatives.
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Appendix: Questionnaire

Questionnaire Cover Letter

Dear Participant,

The objective of this research is to assess individual determinants of sustainable water consumption and evaluate stakeholder influence on the success of sustainability project initiatives in the UAE through assessing their attributes of power, urgency and legitimacy. This Questionnaire gives you the opportunity to express your view your environmental concern, risk perception and stakeholder attributes in relation to sustainable water consumption in the UAE.

We estimate that it will take you approximately 20-25 minutes to complete the survey.

All individual responses will remain confidential and study data will be integrated and analysed as a whole. The research outcome will be reported in a summary form to protect confidentiality.

There is no right or wrong answer, thus, kindly be open and fair as much as you can in your responses. However, if you have any concerns or questions about the questionnaire or about participating in this research, you may contact me on 2014132104@buid.ac.ae.

Alternatively, you may communicate my director of studies, Professor H. Boussabaine at halim@buid.ac.ae.

Thank you for your time and support and I look forward to sharing the results of this survey with all of the participants

Yours faithfully Rasha Nafea PhD Candidate British University in Dubai E-mail: rasahnafeashafea@yahoo.com The research directed by: Professor H. Boussabaine British University in Dubai

The Questionnaire

PART 1: Environmental concern

Please rate likehood of your concern towards water consumption

	Very Likely	Likely	Neutral	Unlikely	Very unlikely
I am concerned on UAE current water consumption trends					
I believe water saving in UAE is critically important					
I acknowledge water as a precious resource in the UAE					
I believe the so called "water crisis" is greatly exaggerated by scientists					
I believe the balance of nature will cope with any water scarcity					
I think with the current consumption trends, water supplies will not be adequate to meet future needs in the UAE , thus, we should plan to save					
I believe that saving water helps creating sustainable future for the upcoming generations					
I believe that future generation has as much right as current generations in water resources					
It bothers me when I see water being wasted from a water leak in my entity					
I feel guilty about any excess water consumption in my entity					
I think that excessive water consumption in my entity can lead to environmental damage					
I believe that potential environmental damage due to excessive water					
consumption should be avoided in hospitality sector					
I think it is widely expected from hospitality sector to reduce their water footprint					
I think that it is assumed that water saving in hospitality sector is joint					
responsibility of industry, government and non-governmental organisations.					
I don't think that senior management in my entity are highly concerned about saving water					
I feel upset with the lack of compliance of some of our staff with water conservation policy in my entity					
I believe water saving in hospitality sector is a matter of concern to our community					

I feel obliged to meet communities expectations towards saving water			
I feel responsibility to protect water resources for future generations			
I believe that hospitality sector in the UAE should reduce their water footprint			
I believe the circumstances in UAE is appropriate to save water			
I think hospitality sector has the means to make use of water saving technologies			
I believe making use of water saving technologies facilitate curbing water			
consumption in hospitality sector			
I think hospitality sector have the know how to save water			
I believe having the know how to save water makes it easier to reduce water foot			
print in hospitality sector			
I think that hospitality sector owns the financial resources to save water			
I am keen to save water for future generations			
I think the government in the UAE is highly encouraging water saving n in the			
hospitality sector			
I believe that there is high motivation from top management to save water			
I plan to reduce water footprint in my entity in the next 5 years			
I am interested in alleviating water scarcity problem in the UAE			
I acknowledge my future role as care tacker of water resources in the UAE			

PART 2: Risk Perception

Please rate the likehood of your risk perception of water scarcity

	Very likely	Likely	Neutral	Unlikely	Very unlikely
There might be wars in the future because of water scarcity					
Water scarcity can lead to conflict between hospitality sector and local communities					
Water scarcity can change the pricing structure of many commodities in hospitality sector					
Water scarcity can lead to shortage of essential supplies as food and beverage in hospitality sector					
Water scarcity can affect market growth level of hospitality sector in emerging economies					
Water scarcity represent a serious financial threat to hospitality sector					
Water scarcity may affect operation lead time in hospitality sector					
In the next 5 years water scarcity will negatively affect employee spirit and activity in hospitality sector					
Water scarcity may negatively influence brand image and reputation of your entity					
Water scarcity can negatively influence your consumer purchase decisions					
Water scarcity can freeze future expansion plans of your entity					
Water scarcity is damaging to your business operation					
Water scarcity is a threat to your bottom line					

PART 3: Stakeholder salience attributes

3.1. Stakeholder power attribute

Please rate the likehood influence of the following government power on your sustainable water consumption strategies and practices

	Very likely	Likely	Neutral	Unlikely	Very unlikely
Set water tariffs at rate that discourages excessive water consumption in					
hospitality sector					
Set environmentally based tax reform with subsidies and reduced taxes on positive					
water consumption attitude in hospitality sector					
Set progressive penalties or fines for activities associated with water misuse in					
hospitality sector.					
Set permits and caps on specific water use in hospitality sector					
Inspect and evaluate water consumption in hospitality sector					
Provide green infrastructure that helps your establishment to save water					
Provide effective water consumption feedback/alerts to your entity					
Provide environmental education to hospitality sector					
Disseminate information related to the impact of the water scarcity and its effect					
on the future of humanity to hospitality sector.					
Communicate the necessity of sustainable water consumption and the importance					
of water consumption auto-regulation within the hospitality sector					
Possesses efficient procedures for managing water resources					
Present transparent control of water resources by public administrators.					
Represent a role model in adopting strategies and practices for sustainable water					
consumption					

Please rate the likehood influence of the following business power on your sustainable water consumption strategies and practices

	Very	Likely	Neutral	Unlikely	Very
	пкету				unlikely
Suppliers/industrial associations impose sanctions (e.g. boycott) on poor					
environmental water performers					
Competitors achieve competitive advantage due to successful implementation of					
sustainable water consumption strategies and practices					

Financial agents provide access to low cost funds for investment in water saving			
infrastructure			
Suppliers provide innovative water efficient products			
Suppliers offer water efficient devices at reduced prices			
Suppliers/industrial associations promote installation of water efficient devices			
through various marketing activities			
Industrial associations offer training programmes on sustainable water			
consumption strategies and practices			
Industrial associations share trustful information on successful water management			
practices			
Competitors/suppliers/ agents lead by example in adopting strategies and			
practices for water sustainable consumption			

Please rate the likehood influence of the following non-governmental organisation (NGO) power on your sustainable water consumption strategies and practices

	Very likely	Likely	Neutral	Unlikely	Very unlikel y
Mobilise customer demand for more conservative water performance from the hospitality sector					
Publicise lapses/file lawsuits on poor environmental water performance within the hospitality sector					
Efficiently guide you on the performance of water saving products					
Develop Comprehensive labels for water efficient products					
Release trustworthy information on water efficient product testing					
Open dialogue between relevant stakeholders on best practices on sustainable water consumption					
Promote good environmental water performers					
Build credible organisation social image when partner with good performers in water consumption					

Please rate the likehood influence of the following media power on your sustainable water consumption strategies and practices

	Very	Likely	Neutral	Unlikely	Very
	пкегу				unlikely
Provide awareness campaigns on water scarcity					
Disseminate credible information about best practices on sustainable water					
consumption					
Release trustworthy information on good environmental water performers					
Promote discussion forums on water sustainability					
Convey to community clearly the environmental cost of excessive water					
consumption in hospitality sector					
Publicly condemned unsustainable water practices in hospitality sector					

Please rate the likehood influence of the following customer power on your sustainable water consumption strategies and practices

	Very likely	Likely	Neutral	Unlikely	Very unlikely
Increased loyalty for good environmental water performers					
Impose sanctions (boycott) on poor environmental water performers					
Consider environmental water performance in their buying and consumption pattern					
Use their expert power to disseminate transparent information on entities' water performance through the internet					
Promote good water performers through word of mouth					

3.2. Stakeholder urgency attribute

Please rate the likehood of your response to the following stakeholder's sustainable water consumption claims/actions

	Very likely	Likely	Neutral	Unlikely	Very unlikely
Your entity gives attention to government requests on sustainable water consumption					
Your entity provide immediate response to government claims on sustainable water consumption					
Your entity fully comply with government legislations on sustainable water consumption					

Your entity consider that late response to government claims on sustainable water				
consumption will incur incompliance costs				
Your entity gives attention to familiarize with water consumption legislations and				
government released information on water consumption				
Your entity actively participates in government forums on sustainable water				
consumption				
Consumption				
Your entity gives priority to engage in government initiative's on water				
sustainability				
· · · · · · · · · · · · · · · · · · ·				
Your entity gives attention to business stakeholders' requests on sustainable water				
consumption				
Your entity provides timely response to business stakeholders' claims on				
sustainable water consumption				
Your entity works actively to satisfy sustainable water consumption requirements		<u> </u>	+	
of environmentally oriented suppliers/agents				
Your entity considers that ignorance of business stakeholder's claims on				
sustainable water consumption will adversely affect your operation				
Your entity gives priority to mimic competitors/suppliers successful sustainable				
water consumption strategies and practices				
Your entity gives attention to NGO requests on sustainable water consumption				
Tour entity gives attention to NGO requests on sustainable water consumption				
Your entity provide immediate response to NGO communications on sustainable				
water consumption				
Your entity considers ignorance of NGO sustainable water consumption claims will				
adversely affect your future development plans				
Your antity angage in pagatisticns and apartimply dialogues with NCO on water				
sustainability				
sustainability				
Your entity gives priority to attend workshops on sustainable water consumption				
organised by NGO				
Your entity gives priority to familiarize with new water saving labels and				
information on best water saving practices released by NGO				
water issues of media concern gain the attention of your entity				
Your entity gives immediate response to media requests on sustainable water				
consumption				

Your entity considers detachment from media to shield from their water			
conservation claims may adversely affect your reputation			
Your entity gives priority to communicate its water saving efforts to the media			
Your entity gives attention to get familiar with water related media campaigns			
Customers' requests on sustainable water consumption are attended to by your			
entity			
Your entity actively responds to customers' requests on sustainable water			
consumption			
Your entity consider ignorance of customer claims on sustainable water			
sustainable consumption will adversely affect your bottom line			
Proactively shaping customer's values on water saving is important to your entity			
Your entity gives timely attention to communicate its water saving efforts to its			
customers			
Your entity gives priority to listen to customers complaints on excessive water			
consumption			

3.3. Stakeholder legitimacy attribute

Please rate the extent to which you agree with the following statements

	Strongly	Agree	Undecided	Disagree	Strongly
	agree				disagree
Setting water sustainability regulations and guidelines for hospitality sector					
is a legitimate government action					
Calling for reduction of water footprint in hospitality sector is legitimate					
government request					
Imposing environmentally based tax reform on water consumption in					
hospitality sector is a proper government action					
Establishment of progressive penalties for activities resulting in excessive					
water use in hospitality sector is appropriate government claim					
Imposing mandatory disclosure of water performance in hospitality sector is					
appropriate government legislation					
Compulsory implementation of sustainable water consumption practices in					
hospitality sector is appropriate government regulation					

Regulatory inspection on water usage in hospitality sector is proper			
government action			
Setting permits and caps on certain water usage in nospitality sector is			
appropriate government action			
Business stakeholders' request to reduce your water footprint is a proper			
claim			
Suppliers' evaluation of your entity water performance is a desirable action			
Suppliers' request to comply with voluntary environmental standards with			
regards to water consumption is appropriate			
Suppliers'/ agents' boycott to poor water performers in hospitality sector is			
a proper action			
Competitors' demand to share your entity water sustainable consumption			
strategy and practices is appropriate			
NGO requests to adopt sustainable water consumption practices sector are			
legitimate			
Environmental site inspection by NGO on your water consumption is			
welcomed			
welcomed			
NGO condemnation of unsustainable water practices in hospitality sector is			
proper action			
Filing lawsuits against poor water performers in hospitality sector is			
appropriate action by NGO			
Lobbying for more stringent regulations for sustainable water consumption			
in hospitality sector is a desirable action by NGO			
Media requests on sustainable water consumption in hospitality sector are			
not suitable			
Media condemnation of unsustainable water practices to public is proper			
action			
Media free access to information on the water performance of your entity is			
appropriate claim			
Customers' request to curb your water consumption is suitable			
Customers request to curb your water consumption is suitable			
Customers' free access to information on the water performance of your			
entity is appropriate claim			

Customers' refute and denounce of unsustainable water consumption in hospitality sector is proper action			
Customers' boycott to poor water performers in hospitality sector is a desirable action			

PART 4: Sustainable water consumption strategies

Please rate the likehood of adoption of the following sustainable water consumption strategies in your entity

	Very Likely	Likely	Neutral	Unlikely	Very unlikely
Complies with government regulations and legislations of water consumption					
Seeks reduction of water footprint beyond regulatory requirements					
Encompasses a strong policy on sustainable water consumption					
Have long term vision that aims to reduce water consumption					
Have clear and solid short term objectives for sustainable water consumption					
Have clear plan on how to conduct sustainable water consumption practices					
Have concrete standard operating procedures for sustainable water consumption practices					
Set appropriate water consumption targets					
Have environmental management system to achieve your water saving targets					
Have clear water performance indicators					
Possess water usage reporting system to determine and investigate water inefficiencies					
Sets guidelines for continuous improvement of water inefficiencies					
Partners with environmental groups for water conservation					
Engages with relevant stakeholders in designing water management policies					
Encourages investment in water efficient infrastructure					

Invests in innovative water saving technologies			
Invests in employee environmental training focused on the reduction of water			
consumption			
Incorporates water management in employee performance evaluation			
Gives priority to procurement of water efficient products from suppliers			
Prioritises suppliers based on their commitment to water sustainability			
Controls water consumption along the supply chain by conducting environmental			
audits on suppliers			

PART 5: Sustainable water consumption practices

Please rate likehood of adoption of the following sustainable water consumption practices in your entity

	Very Likely	Likely	Neutral	Unlikely	Very unlikely
Installing/ retrofitting washing equipment with water efficient technologies					
Installing/retrofitting sanitary appliances with dual flush and low flow shower					
heads					
Periodical check and detection for water leakage					
Implementation of textile reuse program to reduce number of washing cycles					
Consolidating wash loads and processing them in largest possible washers					
Implementing laundry water recycling system					
Using grey water from sinks for planting					
Offering training and education programmes to staff on sustainable water					
consumption practices					
Rewarding staff to their contribution to water conservation					
Educating customers on water saving practices					
Seeking customer opinion on your water saving practices					
Encouraging customer participation in activities that reduces your establishment water footprint					

Incorporating water saving information in your marketing materials as guest			
leaflets			
Reviewing water bills to monitor consumption			
Organizing or sponsoring water saving events			
Demonstrating a superior commitment to water resource management through			
ISO certification and other voluntary programmes.			

PART 6: General information

Please check c	one box for the require	ed personal and entity d	etails
Gender	Age	Education	Position
Male Female	□ Less than 25	□ High School	□ Facility Manager
	□ 25-35	🗆 Bachelor	Assistant General Manager
	□ 36-46	□ Masters	Environmental / Sustainability Manager
	□ 47-57	🗆 PhD	Chief Engineer
	□ 58 or above		□ other (please specify)
Number of	Emirates of entity	Type of entity	Number of employees in entity
years worked in the current position	🗆 Abu Dhabi	🗆 Hotel	□ Less than 50
□ Less than 1 year	🗆 Dubai	□ Restaurant	□ 50-100

□ 1-5	🗆 Sharjah	Health club	□ 101-150
□ 6-10	□ Fuiairah	□ Hotel Apartment	□ 151-200
□ 11-15	🗆 Ajman	others (please specify)	🗆 above 200
		speenyy	
□ 16 or above	🛛 Umm Al Quwain		
	Pas Al Khaimah		