Hungarian University

of Agriculture and Life Sciences

Destination Sustainability and Citizens' Perceptions of Hosting Global Mega-sport Events: The Qatar World Cup 2022

The Thesis of the PhD dissertation

Khawla Al-Muhannadi

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Hungarian University of Agriculture and Life Sciences

Name: Doctoral School of Economic and Regional Sciences

Discipline: Management and Business Administration Sciences

Head: Prof. Dr. Zoltán Bujdosó, full professor, Hungarian University of Agriculture and Life Sciences, Institute of Rural Development and Sustainable Economy

Supervisor(s): Prof. Dr. Anita Boros, full professor, Hungarian University of Agriculture and Life Sciences Institute of Agricultural and Food Economics

Dr. Szergej Vinogradov, associate professor, Budapest Metropolitan University, Institute of Methodology and Foreign Languages

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Approval of the Head of Doctoral School **Approval of the Supervisor(s)**

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1 INTRODUCTION

Tourism is a very important sector of the global and local economy. It has the potential of economic and social advancement for developing nations, and the potential for economy diversification for different nations, especially those seeking diversification to deal with critical challenges such as poverty or dependence on non-renewable resources. Environmental and social impacts of tourism have been scientifically documented for decades with case studies from all over the globe. The sustainability of tourism, and destinations receiving mass tourism, have been considered important both to get the best benefit of tourism and to avoid its worst externalities and adverse impacts. While tourism sustainability received huge attention under different notions such as ecotourism, responsible tourism and sustainable tourism, destination sustainability is getting attention under the sport tourism only for the last decade. Hosting Mega-sport tourism on the other hand has been receiving growing interest from the perspective of its impacts, in addition to competition between countries to win the hosting. The MENA Region, and especially the Arabian Gulf oil-rich region finally entered to win this competition and Qatar managed to successfully host the Football World Cup in 2022. UAE expressed their interest before that, joined by Saudi Arabia after the successful hosting. Mega-sport tourism is considered by some researchers to have political and social importance in addition to economic gains. Understanding the local community perspective of hosting M-SE is an emerging topic in sustainability of tourism and destinations. In the Arabian Gulf Region, the local communities have strong attachment to their traditions, culture, values and lifestyle. This increases the importance of understanding the local community's perspective of their destination sustainability throughout the process of hosting M-SE. This study peruses forming an understanding of local community in the state of Qatar of hosting M-SE and what they consider important as destination sustainability attributes. Local community perspective is an emerging topic and what gives it more importance is the study region. The region is relatively new for multi-cultural mass tourism that is often the product of hosting M-SE. The region also has strong traditions and culture that make mass tourism a potential threat to people's lifestyle with more potential impacts culturally and socially and possibly on the environment and economy. Understanding local community perspective and including it in national tourism and economic vision, strategy, plans and projects can have positive impacts and form guidelines for states in the region, and possibly other regions, for hosting future M-SE and tourism.

As stated in my previously published paper (Al-Muhannadi et al., 2024): "Mega-sport tourism can play a very important role for host countries in destination branding, image promotion, increasing competitive advancement, and motivation to build its tourism infrastructure for sustainability and benefits to the local community and the environment. It is also a major opportunity for a substantial

shift from linear to circular economy. If not designed carefully, however, it can have negative impacts on destination sustainability including lost opportunity".

The support of local community at host destination for hosting a M-SE is essential for the success of hosting (Sharma et al., 2008), as absence of support and cohesion can have catastrophic impacts on the destination's political and social stability (Gursoy et al., 2016). Therefore, the support of citizens and residents for Qatar's decision to host the 22nd FFC played a vital role in the attained results. This is important to keep in mind for future events.

Hereafter, this research was conducted to examine the perception of local community in Qatar of hosting M-SE, while studying factors impacting their perception. Another important objective of this study is to explore destination sustainability globally and reflect that on the Arabian Gulf Region, to form a baseline for further specific studies on Qatar and other GCC countries as they are heading to host more M-SE in the near future. The study uses various theories to study the perception and its impact on support for hosting, as well as mediating variables. The mediating variables are trust, personal valuation, psychic income and overall attitude. The last one was abandoned at the end for this specific study, however it is worth considering in future studies with the use of different measure items, such as importance of the game itself, or in sport and outdoor activities in general. While trust and overall attributes have been studied before for their mediating effect, the other two are not. Theories used are Social Exchange Theory (SET), Theory of Reasoned Actions (TRA), and Identity Theory. Psychic income is studied for its possible mediating effect for the first time, as far as I know. Personal valuation is customed defined for this study to define the traits of participants in relation to destination sustainability, and PV is also investigated for its possible mediating effect.

2 LITERATURE OVERVIEW: CONCEPTUALIZING AND COMPARING ELEMENTS OF RESEARCH MODEL

2.1 Mega-Sport Events

Mega-sport events (M-SE) refer to large-scale ambulatory competitions of fixed duration and high profile, bringing top athletes together with substantial expected reward for winners, that come with huge expenses, a large number of attendees, and have remarkable environmental and socio-cultural impacts, and broad mediated extent (Hiller, 2000; Horne,2007; Mills & Rosentraub, 2013; Müller, 2015b). Examples of M-SE are the Summer and Winter Olympic Games (SWOG), the FIFA Football World Cup (FFC), the Asian Games, and the

European Football Championship (Al-Muhannadi et al., 2024). M-SEs take place in different capitals of the world hosting global and regional major events such as the SWOG which started in 1924 in France that hosted both the Summer and the Winter Olympics of that year. The FFC was first held in 1930 in Uruguay. Many articles studied, from different prospectives, the rich existence of data from past M-SE, to analyze their impact on tourism and DS generally (Al-Muhannadi et al., 2024).

2.2 Impacts of M-SE on DS

Running a bibliometric analysis in Web of Science Core Collection database, using "Mega sport events " or "mega-sport events*" (Topic) AND "impact*" (Topic) and English (Languages) and Open Access, in a period of (1975-2024), only 46 publications were found with Sum of the Times Cited of 872, an average of 18.96 citations per item, and an h-index of 15. The most cited article is "The impact of mega-sport events on tourist arrivals" authored by Fourie, Johan, and Santana-Gallego, Maria (Fourie and Santana-Gallego, 2011). It was cited 283 times mostly between (2016-2022). The found literature covers a wide range of impacts including environmental (e.g.; Hodeck et al., 2021; Abu-Omar et al., 2022; Piccerillo et al., 2023; Wilby et al., 2023; Hugaerts et al., 2023), economic (e.g. Cornelissen & Swart, 2010; Kim & Kaplanidou, 2019 ; Foldesi, 2014), and social (e.g. Stone & Sharpley, 2011; Liu et al., 2017; Taks et al., 2018; Ribeiro, 2018; Al-Emadi et al., 2022; Cai J ,2022; Su et al., 2024).

Some articles focused on tourism (Hanna et al., 2018; Lequeux-Dinca et al., 2022), and its relevant aspects such as tourism arrivals and their characteristics (Fourie and Santana-Gallego, 2011; Kwiatkowski et al., 2018; Hautbois et al., 2019; Duignan.& Pappalepore, 2019), and host destination image and branding (Smith, 2002; Ribeiro et al, 2021; Andersson,, 2021; Jeong, & Kim, 2019; Satish et al., 2024;).

Some literature focuses on psychic income (Kim & Walker, 2012; Mutz, 2017; Sullivan, 2018; Weight et al., 2019), the sport itself (Herold et al., 2020; Solanellas & Camps,2017; Teare & Taks,2021; Teare et al., 2024; Huang et al., 2021) and health (Watanabe et al., 2022). perception and support receive good attention (Wood et al., 2018; Kim & Manoli,2022; Kim et al., 2024; Kinoshita et al., 2024), and so as legacy (Preuss, 2007; Hartman & Zandberg, 2015; Cleland et al., 2020; Knott& Tinaz,2022; Ishac et al., 2022; Dickson et al., 2024).

Some scholars focus their work on understanding the negative impacts of hosting an M-SE and attempt to understand common mistakes in planning an M-SE and then proposing ways to deal with them. Müller (2015) discusses what he called 'mega-event syndrome' and explains it with a set of symptoms that affect M-SE planning when they happen simultaneously. Overpromising benefits and

underestimating costs are among the symptoms. Other symptoms are modifying the urban planning necessities to be event-specific and interfering with regulations and legislations to support the event including misuse of public resources. Ludvigsen et al. (2022) states that M-SEs need not be categorically exalted as they come together with growing criticism and disapproval. The authors also have a list of their negative impacts including enormous financial expenses, their physical, social, and spatial impacts on public space and their inability to bring about the promised legacy. According to Getz & Page (2016) the main drive for events is the anticipated economic outcome, which makes it important to explore impacts on individuals and society, and to understand the impacts on the environment and the local culture. In a systematic literature review spanning 30 years of articles published since 1990, Elahi et al. (2021) found that impacts related to the three pillars of sustainability, as well as tourism, heritage, image, media, hygiene were discussed in literature, but other topics such as those related to recreation, psychology, and commercials, were rare.

2.3 Dimensions of the Study

The empirical study examined 11 dimensions, in addition to the sociodemographic variables. The dependent variable "Support" to hosting the M-SE event. However, 5 variables were tested for their possible mediating effect, and only one of them was found partially effective.

2.3.1 PERSONAL VALUATION OF DESTINATION SUSTAINABILITY

Personal valuation of destination sustainability (PV) is an author's defined term to describe a personal stand regarding destination sustainability that could be seen as a combination of the person's awareness, concern, consciousness and willingness to make trade-offs for destination sustainability including environmental, socio-cultural and economic aspects, that is expected to impact local community perception of impacts. In short and for this dissertation, PV is the personal interest amongst citizens, knowledge and care about sustainability of Qatar.

2.3.2 LOCAL COMMUNITY SUPPORT FOR HOSTING

Local community support for hosting a M-SE is a very important factor in the successful outcome of the event (Gursoy et al., 2016; Máté & Kajos, 2023) and can influence the political support bidding and funding the hosting (Preuss & Solberg, 2006) and therefore has been receiving scholar's attention. Lorde et al. (2011) claims that the use of the triple bottom line paradigm did not help available studies in understanding perceived impacts of M-SE. Following the model

proposed by Prayag et al. (2013) for connecting the locals' perception of impacts, their attitude and their support to hosting the M-SE, both SET and TRA were used, to form an understanding of support, using a triple bottom line impact framework. Therefore, instead of testing merely the three dimensions of sustainability impacts, positive and negative of each were separated, making six groups of impacts instead of three. Evaluation of resident's perception of each is expected to show differential impacts on the overall attitude and support.

2.3.3 Psychic Income

Psychic income (PI) can be defined as imputed income, a reward, psychological advantages, intangible subjective benefits, joy or satisfaction that is non-monetary or non-material, with increasing self-esteem, pleasure, prestige, feeling of power and fame, or felt QoL, while doing a job or a service, due to the added value it brings to an individual or a group without the need for any materialistic or monetary personal benefit in return, as seen in watching or hosting many sports events. (Delamere, 2001; Haley et al, 2005; Ko et al., 2002; Williams & Lawson, 2001; Crompton, 2004; Kim & Walker, 2012; Ishac et al., 2022; Weight et al., 2019; Merriam Webster, 2024; Collins Dictionary, 2024). In the context of M-SE, the psychic impact refers to the positive emotional and mental effects that the local community in the host country feels from being attached to a team or event, even if they are not present or actively engaged in its planning (Kim & Walker, 2012).In empirical research, to measure psychic income, some items in the scale developed by Kim and Walker (2012) and modified by Ishac et al. (2018) were adopted. Thus, the items in the survey measuring psychic income cover five different dimensions (adopted from both Kim and Walker (2012 & Ishac et al. (2018)) : Community pride as a result of enhanced image (CP), Enhanced community attachment (CA), Event excitement (EE), Pride in efforts to improve community infrastructure (CI), community excitement (CE). In my research I tested impacts of psychic income mainly based on these five-dimension framework, as mediating effect between citizens' perception of impacts on DS and their support for the hosting of the M-SE. Psychic income can be impacted by demographic variables as mentioned by previous studies (Ishac et al, 2022; Ma et al., 2023).

2.3.4 Institutional Trust

Institutional trust refers to the belief a person has in his own government or other institutions that they will make the best decisions to the benefit of the people, or an expected qualities from decision makers to advance local society gains in an exchange situation (Gursoy et al., 2016). Besides the direct effect between perceived impacts by local community and their support to hosting the MSE under question, exogenous factors have influence on support such as the residents' trust

in their government (Gursoy et al., 2018), and trust in organizing committee (Gursoy et al., 2016).

Gursoy et al (2016) found that local residents' trust in their government is a significant determinant of impact perceptions. Their trust in institutes or a certain person(s) running it, has the potential to affect their support to hosting the event as well as their impacts' perceptions. According to the SET, trust is a must for locals to engage in potentially dangerous future interactions with unclear results. (Gursoy et al., 2016).

2.4 Social exchange Theory and Theory of Reasoned Actions

The Social Exchange Theory (SET) is based on the assumption that a person tends to get involved in an exchange if (s)he is expecting more gains than losses from that involvement or in anticipation of reciprocal benefit, and in relevance to M-SEs: they will support it if their gains from those events are more than their losses (Máté & Kajos, 2023). SET has been used by scholars to understand local community support for hosting M-SEs, due to its flexibility in analyzing conflicting feedback (Ap, 1992) drawing from experimental and psychological outputs (Waitt, 2003; Gursoy & Kendall, 2006; Prayag et al., 2013; Ishac et al; 2022; Al-Emadi et al., 2022). SET has been used long to explore local community support for tourism related projects and events (Perdue et al., 1990; Zou & Ap, 2009; Prayag et al., 2013). The triple pillars of sustainability are considered as the main elements for exchange (Andriotis & Vaughan, 2003) considering positive and negative impacts. Ishac & swart (2019) used SET to study the key variables impacting perception of the local community of hosting M-SE focusing on young generation. SET is used to explain local community perception of negative and positive impacts of hosting M-SE. Familiarity of the game for instance was found to create a positive perception about hosting the event (Vetitnev & Bobina, 2015). In my study, SET was used to understand Qatari citizens' attitudes toward hosting the 22nd FIFA World Cup event in their country and impacts of that hosting. SET is a useful concept contributing to understanding the complexity by which citizens at host destination weigh emotions and interactions in addition to cost and benefit while processing these attitudes (Rua, 2020); Revilla et al.,2023). Moreover, according to SET, success in hosting the event necessitates community support which necessitates trust [in the ones making the decisions] in situations that seem to be risky and unpredictable in relevance to hosting (Gursoy et al., 2016). Theory of Reasoned Actions TRA was first presented by Fishbein (1979) and further explained by Han and Kim (2010) and Fishbein and Ajzen (1977) to understand and predict the voluntary choices persons take guided by reasons, motivations and rationality, which was confirmed by other researchers (e.g. Sheppard et al., 1988). It is used often to study the willingness to pay, and the willingness to make trade-offs for sustainability.

Theory of reasoned action (TRA) was used in my dissertation to predict perception of impacts and therefore support from citizens' personal valuation of destination sustainability. Citizens' awareness, and willingness to make trade-offs for destination sustainability among other personal traits were first examined in the empirical study, and the results were analyzed against perception of negative impacts and therefore support for hosting M-SE. It is also used to predict support from citizens' perception of impacts, and citizens' trust in their government.

2.5 Study Area

The state of Qatar is one of six Arabic Islamic countries in the Arabian Peninsula forming the Gulf Cooperation Council (GCC) and referred to often as the Arabian Gulf Countries, or in short, the Gulf States. The region known for its strong Arabic tradition and strong Islamic values and rich history being home for the Prophet Muhammad and the first capital of the Arab Empire through most of the Rashedin Ruling. Before that and for centuries, the Arabian Peninsula was the land for Arab tribes, poetry regional contests and a religious scared land even before Islam. The Arabic population in the Arabian Gulf countries take great pride in their ethnicity and belonging to known Arabic tribes, and in protecting the traditions and conventions that form important part of societal accepted norms of behavior up to date. Environmentally, it is an arid area with no surface water, and high dependence of water desalination from the sea for all purposes except drinking and cooking that consumed bottled water from aquifer or imported, but recently the quality of water supplied to household is safe and drinkable after several stages of treatment. The economy depends, to a high percentage, on oil and gas, with public projects and plans to diversify the economy away from this nonrenewable natural resource. In the 1960s, significant offshore oil and gas fields were discovered in Qatar, putting the country amongst the world's largest producers of crude oil and the chief exporter of liquefied natural gas by supplying 30% of World annual demand (Brannagan & Giulianotti, 2018).

3 OBJECTIVES of the study

3.1 Objectives and Research Hypotheses

The dissertation studies the perception of impacts of hosting M-SEs on destination sustainability (DS). The population under study is local community in the state of Qatar in response to hosting FIFA Football World Cup 2022 in Qatar. The research has two main objectives: (1) To understand their perception of positive and negative impacts on destination sustainability from hosting, and possibly link it to institutional trust, personal valuation of DS, Psychic income, and support for

the hosting of the event, and future M-SE (2) To give recommendations to multiply the benefits for future hosting in the Qatar, and the Arabian Gulf Region and other relevant similar destinations, and reduce the negative impacts and lost opportunities on destination sustainability, resulting from hosting a M-SE.

3.2 Scientific Research Model and Hypotheses proposed in the current study

The theoretical model of the study (Figure 1) encompasses 11 dimensions, six of which focus on assessing the positive and negative environmental (ENV), economic (ECO), and sociocultural (CUL) impacts of hosting M-SE. Additional dimensions influencing support for M-SE include personal valuation of destination sustainability (PVDS), psychic income, trust in government, and trust in the organizing committee. Furthermore, the model accounts for the indirect effects of personal valuation of destination sustainability on support, mediated through perceptions of the positive and negative environmental, economic, and sociocultural impacts of hosting such events.
Based on the above, the study comprises the following hypotheses to examine the direct and mediating effects of the variables and answer the research questions.

Hypothesis 1. Differences exist between Qatari Citizens and Residents in their perceptions of the positive and negative socio-cultural, economic, and environmental impacts of hosting M-SE. These differences extend to their personal valuation of destination sustainability, levels of trust in the government and organizing committee, psychic income felt due to hosting the M-SE, and overall support for hosting such events.

Hypothesis 2 – A higher perception of positive environmental impacts from hosting M-SE among citizens (residents) increases their support for hosting such events.

Hypothesis 3 – A higher perception of negative environmental impacts from hosting M-SE among citizens (residents) decreases their support for hosting such events.

Hypothesis 4 – A higher level of citizens' (residents') perception of the positive economic impacts of hosting M-SE on destination sustainability positively influences their support for hosting such events.

Hypothesis 5 – A higher level of citizens' (residents') perception of the negative economic impacts of hosting M-SE on destination sustainability reduces their support for hosting such events.

Hypothesis 6 – A higher level of citizens' (residents') perception of the positive socio-cultural impacts of hosting M-SE on destination sustainability increases their support for hosting such events**.**

Hypothesis 7 – A higher level of citizens' (residents') perception of the negative socio-cultural impacts of hosting M-SE on destination sustainability reduces their support for hosting such events.

Hypothesis 8 – A higher level of citizens' (residents') personal valuation of destination sustainability positively influences their support for hosting M-SE.

Hypothesis 9 – Citizens' (Residents') personal valuation of destination sustainability indirectly affects their support for hosting mega-sport events (M-SE) through their perceptions of the events' environmental (9a, 9b), economic (9c, 9d), and socio-cultural (9e, 9f) impacts, both positive and negative.

Hypothesis 10 – A higher level of citizens' (residents') sense of psychic income positively influences their support for hosting M-SE.

Hypothesis 11 – A higher level of trust in government among citizens (residents) has a positive effect on their support for hosting M-SE.

Hypothesis 12 – A higher level of trust in the organizing committee among citizens (residents) has a positive effect on their support for hosting M-SE.

Hypothesis 13 – Significant differences exist among groups of Citizens (Residents) categorized by gender, generation, educational level, and ages of their children, in their perceptions of the negative and positive environmental, economic, and socio-cultural impacts of hosting M-SE, their psychic income, their personal valuation of destination sustainability (PVDS), and their support for these events.

The listed hypotheses corresponding to the study's theoretical model are illustrated below in Figure 1. below.

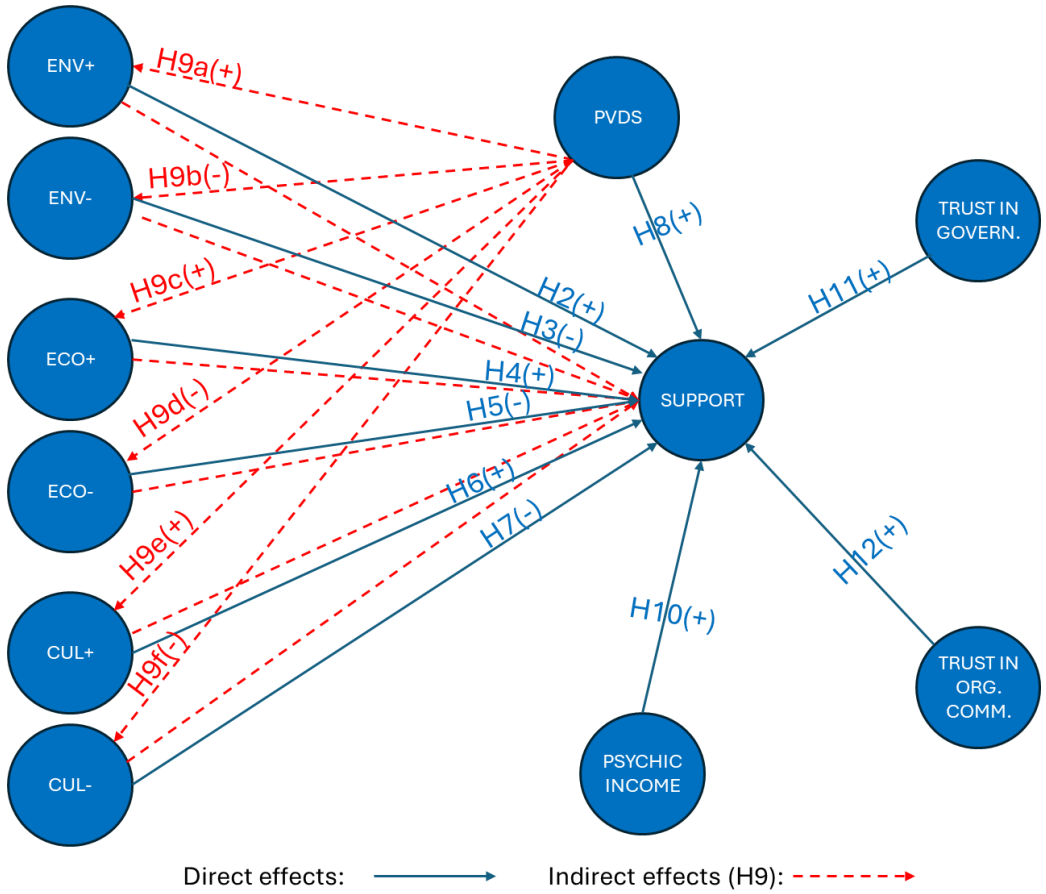


Figure 1. The System of Hypotheses Corresponding to the Study's Structural Model
Source: Author's own construction

4 METERIALS AND METHODS

4.1 Research Process

The study follows a triangulation research method that involves using multiple approaches, and mixed methods research, conducting a quantitative survey, followed and preceded by qualitative research involving Focus Group Discussions (FGD) and semi-structured interviews (SSI) to gather non-numeric data in-depth and analyze the phenomenon under investigation (See Figure 9.). The study builds on previous studies of demand-based perception of destination sustainability (Aydın & Alvarez, 2020; Tölkes , 2020), and residents' impacts perception (Ritchie et al., 2009; Kim et al., 2017; Scheu & Preuss ,2018; Oshimi

& Harada, 2019; Yamashita, 2021; Vibber & Lovari , 2022), and trust impacts (Gursoy et al., 2016), and mediated effect of overall attitude (Prayag et al., 2013), and extend the study of Psychic income (Crompton, 2004; Kim & Walker, 2012; Ishac et al, 2022). The study uses both focus group discussion (qualitative) and Likert scale survey (quantitative) to read Qatari community perception. It also uses semi-structured interview qualitative method with experts for interpretation of the results and understanding potential implementations of the study. Bibliometric analysis and literature review are used at the beginning to form a broad understanding of the topic and find potential research gaps. This was also used at a later stage to form deeper comprehension of the specific study areas selected topic and subtopics such as perception in relevance to M-SE, and published article regarding 2022 World Cup. Document analysis (DA) was conducted on key public documents (namely the national vision and the strategy) in relevance to sustainability and local community participation (LCP). Systematic Review (SR) was used to address narrow research questions such as literature published about the 22nd FFC, in a focused and rigorous manner, to present an understanding of. the focus of those literature and whether similar studies to my research exist. The findings of the FGD helped both to develop the DSA and research dimensions and to interpret the results from the questionnaire.

The research uses both primary and secondary data. Mixed Method used to combine quantitative and qualitative methods within the same framework, triangulation research methods can incorporate the strengths of both methodologies (Table 1.).

Table 1. Different methods used in the research and their expected outputs

Method	Subject studied	O/p Data type	Expected O/P	Type
Bibliometric analysis & LR	Literature	Secondary data	DSA & Study Dimensions	Qualitative
Document analysis	QV2030; QNS	Secondary data	Enhanced DSA	Qualitative
FGD	Qatari Citizens	Primary Data	Finalized DSA & enhanced study Dimensions	Qualitative & Quantitative
Scale	Qatari Citizens	Primary Data	Weight of important DSA and dimensions	Quantitative

LR & SR	Literature about FIFA 2022	Secondary data	Results comparison	Qualitative
In depth SSI	Experts from Qatar	Primary Data	Interpretation & Implementation ideas	Qualitative

Source: Author's construction

4.2 Design Development

The research study is based on primary data gathered from a qualitative FGD and used to develop quantitative scale questionnaire that results in primary data answering the questions of the research. The objective of the scale and the empirical research is to examine the effects between research dimensions. Locals play an important role in the success of hosting a M-SE (Sharma et al, 2008; Gurosy et al, 2016). Therefore, knowing their perception, concerns and aspirations from an early stage of planning the hosting is very important for the host government. Hence, the research is carried out as follows. There are five main groups of constructs in the study, including variables from SET and TRA. The first group is perceptions of impacts, and second is influencers of perception. The third is mediating constructs and the third is support for hosting. The fifth is profiling participants according to their valuation of DS. Table 12 (in Appendix 8.12) shows the study constructs and their respected attributes. The elements in the table of constructs represent the questions in the questionnaire for data collection based on participants answers. By employing a 5-point Likert scale design, the participants have the chance to choose the level of agreement or disagreement with the statements that are related to the constructs of the study. The Likert (1931) scale is used widely as a tool to evaluate attitude, beliefs and behavior (Taherdoost, 2019). As the choice based on Likert (1931) ranges between "Strongly Agree" and "Strongly Disagree" with "Neutral" in the middle, and "Agree" being the send choice, while "disagree" being the fourth choice, the participants have five levels to choose from. And as the survey is reached via a link on-line with anonymity, the participants have the freedom to mark their choices with no immediate pressure from researcher's side that could have created a bias, either to please the researcher, to look good, or to avoid being linked to a certain answer. The questionnaire used is designed by the researcher based on several previous literature as indicated in table 12. The survey has five main categories, visible to the participants to increase their focus and reduce the feeling of length. The first category of questions focuses on personal valuation of DS, while the last ends with a question for the first category but constitutes mainly questions related to building a Sociodemographic profile for participants

including their nationality, just to ensure that the analysis is conducted for Citizens. The second question in the second category explores DS attributes and perception of impacts. The third category constitutes institutional trust, and the fourth measures overall attribute and support for the hosting. The fourth also explores the level of psychic income

4.3 Sampling Procedure and Description of the Sample for the empirical study

Data collection

Questionnaire design is a multistage process demanding attention to many details simultaneously (Pew, 2024). The questionnaire was reviewed by the "content expert" during the pilot test, in addition to 10-20 individuals from the target population for pre-testing as recommended (Peterson, 2000). The participants in my pilot test were from different Sociodemographic groups. Based on the results of the pilot test, and in the light of comments from the pilot respondents, modifications were made. A simple link is provided leading to the questionnaire, with an introduction first, including a covering letter. Although Data were collected using personal interviews by Gursoy et al. (2016), I used social media to distribute and collect questionnaires as it seems more appropriate for Qatari community and more likely to yield responses, as was confirmed from the FGD. The questionnaire is a second step after the FGD. It is also a third step, if I consider the collection of secondary data from BA, LR, DA and SR. The fourth step is the SSI, to help interpret results generated from the previous steps. Especially the empirical study.

The sample was drawn from diverse groups in social media such as students, housewives, military, diplomats, researchers, teachers, NGOs, tourism group, businessmen and women, directors, academics, media center, divers, health workers, volunteers, exclusive Qatari nationals' groups. The sample also included Qatari tribes from different municipalities Al Shamal Municipality was challenging, but it also was approached and included in the study. Participants cover males and females from different occupations, working sector, and work status. The sampling process aimed at diversifying the sample from gender, age group, educational level, occupation and residential area.

Description of the Sample

Out of valid 367 citizens participants in the empirical study, 53.1% were females, and 74.7% were either from generations Y and X. 80.1% of the citizens participants attained tertiary and higher education, and 95.1% have average and above household income. 64.6% are married, and 61.3% have children under their responsibility. 53.1% are among working power, 29% of that are in managerial

and higher jobs. Less than 34% of citizen participants indicated that they volunteered with NGOs or other initiatives for environmental purposes or community development. More than 43% of citizens participants live in Doha the capital, and 74.7% are in three of the eight governorates, namely: Al Rayyan, Al Khor and Doha. Around 50% of Citizen participants choose destinations for natural or cultural interest, while 10% prefer sports destinations

4.4 Data Analysis of the empirical study

The fit of the predefined research dimensions to the observed data was examined using Confirmatory Factor Analysis (CFA) within the framework of Covariance-based Structural Equation Modeling (CM-SEM) and implemented using SmartPLS software. SmartPLS supports the creation of graphical CFA models. In the CFA process, the acceptability of factor loadings is crucial for determining the model's validity. Factor loadings of 0.6 or higher indicate that the given items significantly contribute to measuring the dimension. Such items can be regarded as reliable indicators for the latent construct representing the research dimension (Gallagher & Brown, 2013)

Subsequently, the internal consistency of the dimensions identified in the literature was evaluated. Several metrics are available for assessing the reliability of constructs. One commonly used metric is Cronbach's alpha (Netemeyer et. al,2003), which evaluates the reliability of a dimension (construct or scale) by comparing the sum of the individual variances of items used to measure the dimension with the variance of the construct itself. A good Cronbach's alpha value is typically 0.7 or higher, indicating strong internal consistency (Tavakol & Dennick, 2011). Lower values suggest that the items may not consistently measure the same construct.

Composite Reliability (CR) is another indicator of internal consistency, similar to Cronbach's alpha. It measures the shared variance of the items within each latent construct. In the model, every latent variable (dimension) must achieve a CR value of at least 0.7 (Brunner & Süß, 2005).

To validate the dimensions further, additional metrics were utilized. The Average Variance Extracted (AVE) indicates the proportion of variance in the items explained by the latent construct. AVE values above 0.5 are generally considered acceptable, as they suggest that more than half of the variance is captured by the latent construct (Hair et al., 2010).

Discriminant validity assesses the extent to which different constructs are distinct from one another. A common metric for this is the Fornell-Larcker criterion (Fornell & Larcker, 1981), which states that the square root of each construct's AVE value should be greater than the correlation between that construct and any other construct.

To statistically test the relationships hypothesized in the theoretical model, Structural Equation Modeling (SEM) was employed using the Partial Least Squares (PLS) path analysis method with SmartPLS software. SEM has been widely applied in various studies (Kim & Kaplanidou, 2019; Duan et al.,2020; Jeong & Kim, 2019; Jiang et al., 2017; Xu et al., 2022; Máté & Kajos, 2023) exploring public perception and support for M-SE.

SEM comprises two primary components:

1. **Measurement Model:** Examines the relationship between latent variables (e.g., theoretical constructs like information security awareness) and observed variables (e.g., questionnaire items).
2. **Structural Model:** Focuses on relationships among latent variables and tests the fit of theoretical model assumptions to the data.

For assessing the fit of the structural model, the following acceptance ranges are applied:

- **Chi-square/degree of freedom ratio (χ^2/df):** Generally below 3, although values under 5 could be accepted considering on the complexity of the model (Byrne, 2010).
- **Root Mean Square Error of Approximation (RMSEA):** Accepted values are typically under 0.08 (Hu & Bentler, 1999).
- **Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI):** These indices are considered acceptable if they reach 0.9 or higher.

The One-Sample Kolmogorov-Smirnov test results ($p < 0.05$ for most groups) reveal that the distribution of values for the analyzed research dimensions significantly deviates from normality. As a result, the Mann-Whitney nonparametric test was utilized to test the difference significance comparing males and females, individuals with pre-tertiary education and those with tertiary or higher education, as well as those who have volunteered in an NGO or social initiative versus those who have not.

To assess differences in research dimensions across generations, income groups, and groups categorized by the age of children, the Kruskal-Wallis test was applied. This nonparametric test evaluates differences among three or more independent groups for a continuous variable that does not conform to a normal distribution. When significant differences were detected by the Kruskal-Wallis test, the Dunn-Bonferroni post hoc test was used to find out the specific set exhibited significant variations.

5 RESULTS AND DISCUSSION

5.1 Validity and Reliability of Measurement (Outer) Model

Descriptive statistics of items and examined dimensions

The perception of negative socio-cultural impacts of hosting on DS has the highest mean value (4.41) for studied dimensions among Citizens, followed immediately by Trust in Government (4.40), while Psychic Income (PI) scored the highest mean value for Residents (4.46), followed by Trust in Government (4.44). The lowest mean value among dimensions was found, for Citizens, in negative environment perception of hosting's impact on DS, with a mean value of (2.66), compared to (2.36) for the same dimension among Residents. In terms of lowest agreement on an item of the dimensions, Citizens showed the lowest agreement (2.35) with the item: "Economic growth should come first, in my opinion, even if it means sacrificing the environment and certain social aspects". Residents, interestingly, showed their lowest agreement on the same item, but with a lower mean value (2.20). This is a reversed item, which could indicate a high PVDS from both Residents and Citizens, indicating high personal valuation (PV) of socio-cultural and environmental destination sustainability (Appendix8.1, Table 2. & Appendix 8.2, Table 3.).

Reliability of Measurement

Citizens

For Citizens participants (Appendix 8.1, Table 2), the Composite Reliability (CR) values for all constructs are high, indicating strong internal consistency. The Average Variance Extracted (AVE) values exceeding 0.50 demonstrate good convergent validity.

For the constructs ECO- (citizens' perception of negative economic impacts) and PVDS (personal valuation of destination sustainability) the Cronbach's alpha values are low (0.558 and 0.560, respectively). However, the constructs are considered reliable based on Composite Reliability (CR) and demonstrate convergent validity based on Average Variance Extracted (AVE), making them acceptable for further analysis. The low Cronbach's alpha values are primarily due to the small number of items in these constructs (e.g., PVDS contains only two items).

For the construct "Trust in Government," the Cronbach's alpha is close to the threshold value of 0.7. In this case, the CR and AVE values also support the reliability and validity of the construct, making it suitable for further analysis.

(Appendix 8.6, Table 9. showing Content validity of constructs and descriptive statistics for items and constructs in the Citizens model)

Residents

For Residents participants (Appendix 8.3, Table 3), the Composite Reliability (CR) values for all constructs are high, indicating strong internal consistency. The Average Variance Extracted (AVE) values exceeding 0.50 demonstrate good convergent validity.

For the construct PVDS (personal valuation of destination sustainability), the Cronbach's alpha value is low (0.560). However, the construct is considered reliable based on Composite Reliability (CR) and demonstrates convergent validity based on Average Variance Extracted (AVE), making it acceptable for further analysis. The low Cronbach's alpha values are primarily due to the small number of items in the construct (only two items).

For the construct ECO- (residents' perception of negative economic impacts), and TRSTORG (trust in organization committee), the Cronbach's alpha values are close to the threshold value of 0.7 (0,695 and 0,696 respectively). The CR and AVE values for both constructs also support the reliability and validity of the construct, making both constructs suitable for **further** analysis.

Overall, in the Residents model, the values in Table 3. (Appendix 8.2) indicate strong reliability and validity for all constructs used in the model.

Table 5. (Appendix 8.4) showing Content validity of constructs and descriptive statistics for items and constructs in the Residents model)

5.2 Differences in Qatari Citizens' and Residents' Perceptions of the Cultural, Economic, and Environmental Impacts of Hosting M-SE

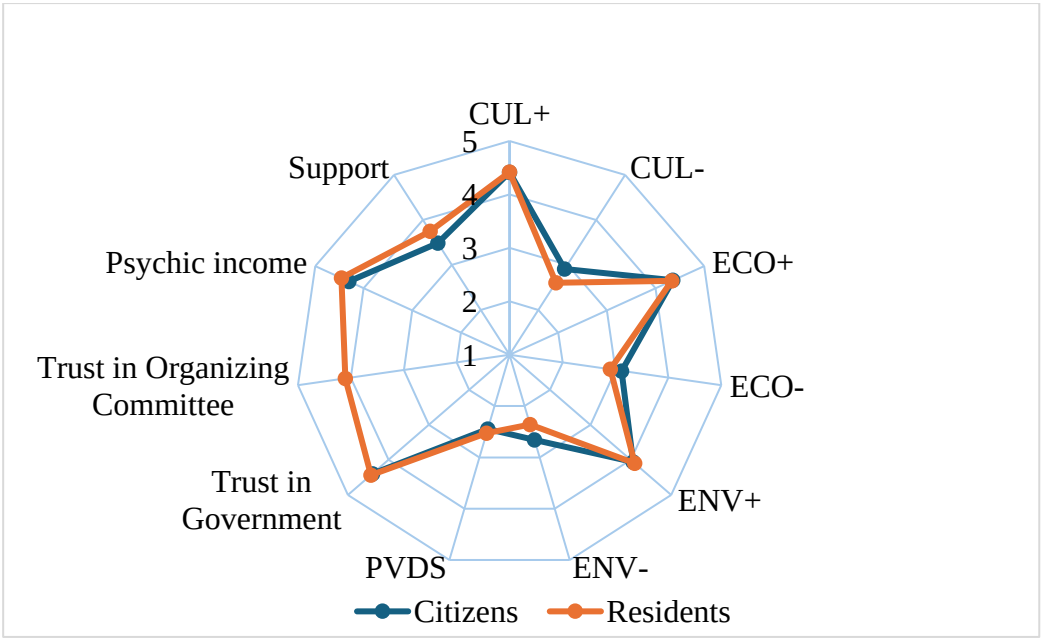
To statistically test the relationships hypothesized in the theoretical model, Structural Equation Modeling (SEM) was conduted using the Partial Least Squares (PLS) path analysis method with SmartPLS software. The hypotheses were tested with the Mann-Whitney test, Kruskal-Wallis test, Cronbach's test, and Dunn-Bonferroni post hoc test.

The first hypothesis pertains to the differences between citizens and residents, resulting in a total of 12 hypotheses specifically related to citizens or Residents separately (One of these (H13) pertains to the differences among sociodemographic groups).

The analysis of the empirical study confirms the significance of some constructs, while others remain unsupported. (Details in Table 4. for citizens, and Table 7. for Residents)

Hypothesis 1 - Differences exist between Qatari Citizens and Residents in their perceptions of the positive and negative socio-cultural, economic, and environmental impacts of hosting M-SE. These differences extend to their personal valuation of destination sustainability, levels of trust in the government and organizing committee, psychic income felt due to hosting the M-SE, and overall support for hosting such events.

The radial diagrams are shown below to present the results of the first hypothesis test. Differences are seen between most studied constructs.
Based on the results of the Mann-Whitney test (Figure 2. below), significant differences have been justified between Qatari citizens and residents in five of the ten examined dimensions. Residents evaluate cultural positive impacts higher ($Z=-3.216$, $p=0.001$) compared to the citizens, and the citizens consider the negative cultural impacts higher ($Z=-2.907$, $p=0.004$) than residents (Figure X). Qatari citizens perceive the negative economic ($Z = -2.699$, $p = 0.007$) and environmental ($Z = -3.390$, $p < 0.001$) impacts of hosting M-SE more strongly than residents. This contributes to residents showing greater support for hosting such events compared to citizens ($Z = -3.018$, $p = 0.003$).



Note: The Citizens model does not include the Trust in Organizing Committee dimension

Figure 2. Mean values of the constructs for Citizens and Residents
Source: Author's own construction

The results of the Mann-Whitney test revealed a significant **difference in psychic income** between Qatari citizens and residents only within Generation X ($Z = -3.445$, $p < 0.001$). Specifically, residents reported a higher level of psychic income compared to citizens. (Figure 3.)

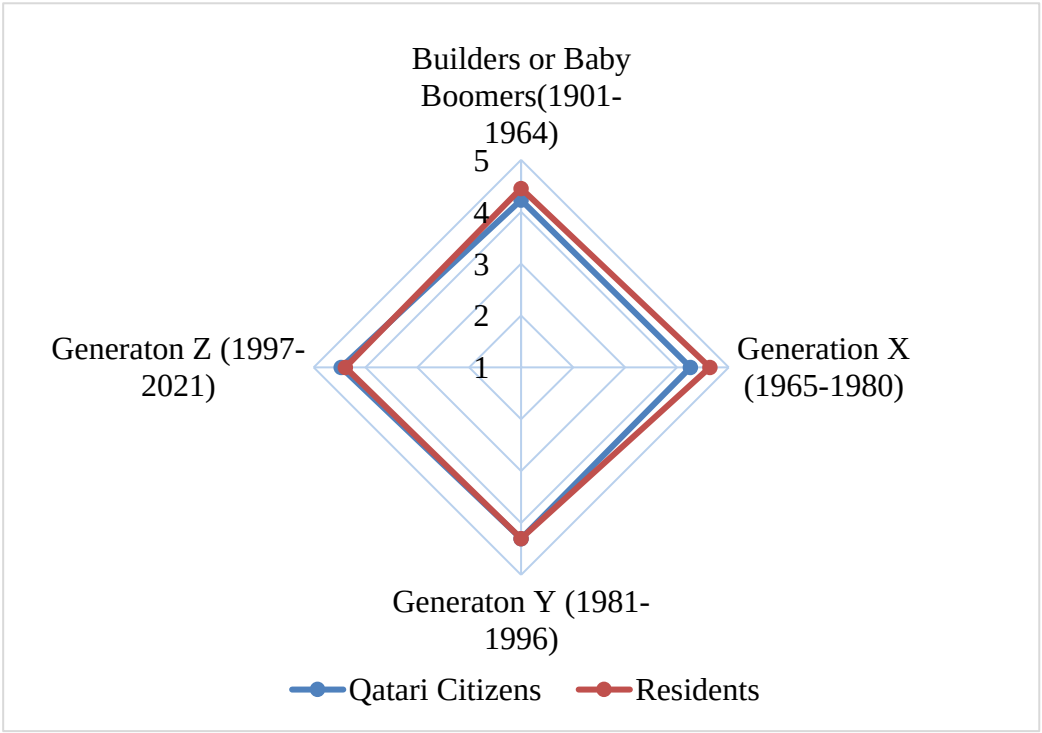
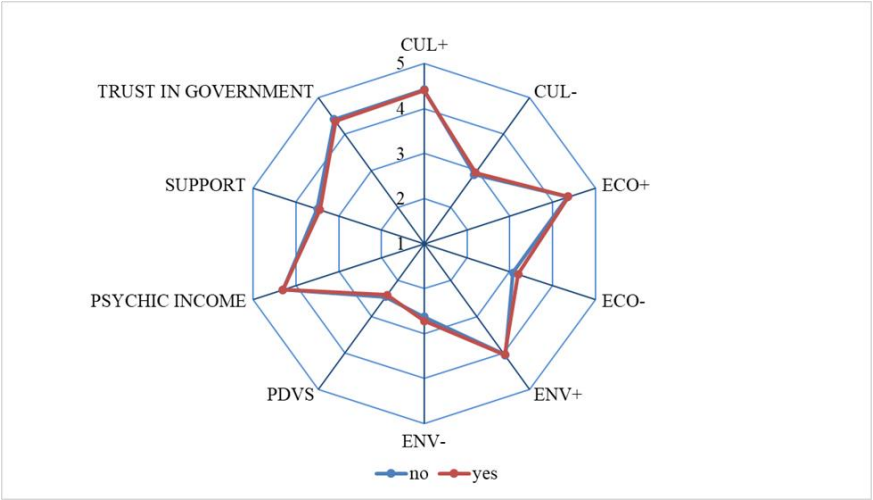


Figure 3. Mean values of the Psychic Income construct for Citizens and Residents Across Generations
Source: Author's edit from Mann-Whitney Test

Further, the results of the Mann-Whitney test suggest that there is no significant difference in the average values of the examined dimensions between individuals who volunteered in an NGO or social initiative and those who did not, both among Citizens (Figure 4.) and Residents (Figure 10.).



a. Grouping Variable: citizen status

Figure 4. Comparison among Citizens of construct mean values in relation to volunteering in NGOs or social initiatives to serve the community

Source: Author's calculations

However, from Figure 5 below, there is a small difference among Residents indicating more support and more perception of positive socio-cultural impacts among those who did not volunteer in NGOs or community services.

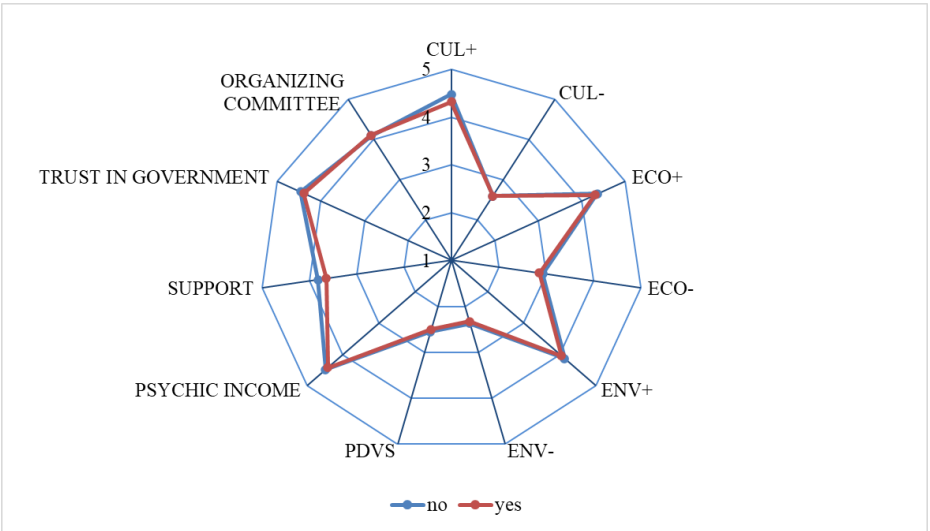


Figure 5. Comparison of construct means values in relation to volunteering in NGOs or social initiatives to serve the community

These results show support for Hypothesis 1.

Hypothese 2-13 are specifically related to Citizens or Residents separately, and therefor discussed in the next subsections sperately, first for Citizens and then for Resudents.

First Citizens

5.3 The Perception of M-SE Hosting's Impacts on DS Hypotheses

Testing impacts of perception of positive and negative environmental, socio-cultural and economic impacts of hosting on destination sustainability hypotheses (H2 – H7), followed by testing impacts of PVDS (H8, H9), then psychic income (H10), institutional trust (H11, H12), and finally impact of sociodemographic factors (H13), the results are shown for Citizens first (Figure 6.) and Residents (Figure 10.). Figure 6. presents the graphical results of the structural equation modeling, with the path coefficients and significance tests for the Citizens' structural model.

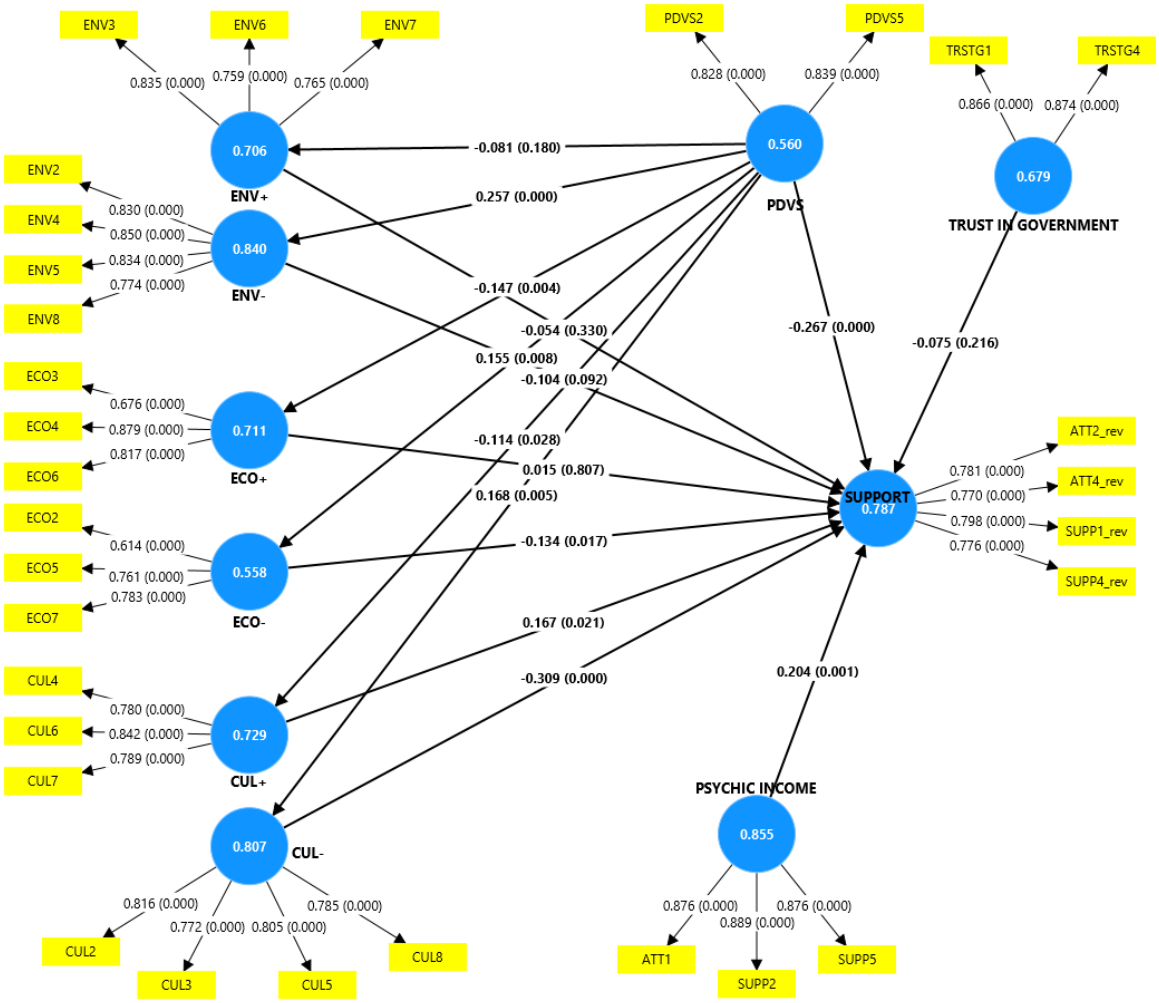


Figure 6. Results of Measurement and Structural Models for Citizens

The level of citizens' (residents') perception of the negative environmental impacts of hosting M-SE on destination sustainability directly reduces their support for hosting such events.

The findings indicate that 5 out of the 11 hypotheses related to the structural model demonstrate statistical significance.

Hypothesis 2 – A higher perception of positive environmental impacts from hosting M-SE among Citizens increases their support for hosting such events.
Hypothesis 2 was not supported, as the results did not indicate a significant influence of the perception of positive environmental impacts from hosting M-SEs on the support for organizing such events (β =-0.054, p=0.330).

Hypothesis 3 – A higher perception of negative environmental impacts from hosting M-SE among Citizens decreases their support for hosting such events.

Hypothesis 3 was not supported, as the results did not indicate a significant influence of the perception of negative environmental impacts from hosting M-SEs on the support for organizing such events (β =-0.104, p=0.092).

Hypothesis 4 – A higher level of Citizens' perception of the positive economic impacts of hosting M-SE on destination sustainability positively influences their support for hosting such events.

Hypothesis 4 was not supported, as the results did not indicate a significant influence of the perception of positive economic impacts from hosting M-SEs on the support for organizing such events (β =-0.015, p=0.807).

Hypothesis 5 – A higher level of Citizens' perception of the negative economic impacts of hosting M-SE on destination sustainability reduces their support for hosting such events.

The structured model for Citizens revealed that the level of citizens' perception of the negative economic impacts of hosting M-SE on destination sustainability has a direct negative effect on their support for hosting such events (β = -0.134, P= 0.017),

And therefore Hypothesis 5 is supported by the data

Hypothesis 6 – A higher level of Citizens' perception of the positive socio-cultural impacts of hosting M-SE on destination sustainability increases their support for hosting such events.

The structured model for Citizens revealed that Citizens' perception of the positive sociocultural impacts of hosting M-SE on destination sustainability has a direct positive influence on their level of support for hosting such events ($\beta = 0.167$, $P = 0.021$)

And therefore Hypothesis 6 is supported by the data

Hypothesis 7 – A higher level of Citizens' perception of the negative socio-cultural impacts of hosting M-SE on destination sustainability reduces their support for hosting such events.

The structured model for Citizens revealed that Citizens' perception of the negative sociocultural impacts of hosting M-SE on destination sustainability directly reduces their support for hosting these events ($\beta = -0.309$, $P < 0.001$)

And therefore Hypothesis 7 is supported by the data

Hypothesis 8 – A higher level of Citizens' personal valuation of destination sustainability positively influences their support for hosting M-SE.

The structured model for Citizens revealed that Citizens' personal valuation of destination sustainability has a direct positive impact on their support for hosting M-SE ($\beta = -0.267$, $P < 0.001$)

And therefore Hypothesis 8 is supported by the data

Hypothesis 10 – A higher level of Citizens' sense of psychic income positively influences their support for hosting M-SE

The structured model for Citizens revealed that Citizens' sense of psychic income directly and positively influences their support for hosting M-SE ($\beta = 0.204$, $P = 0.001$)

And therefore Hypothesis 10 is supported by the data

5.4 Indirect (Mediating) Impacts on Support via PVDS

Hypothesis 9 – Citizens' personal valuation of destination sustainability indirectly affects their support for hosting mega-sport events (M-SE) through their perceptions of the events' environmental (9a, 9b), economic (9c, 9d), and socio-cultural (9e, 9f) impacts, both positive and negative.

The structural model for Citizens revealed that the personal valuation of destination sustainability indirectly influences support for hosting M-SE, but only in the context of negative sociocultural impacts (β = -0.052, p = 0.017). The negative beta coefficient (β = -0.052) suggests that as citizens perceive destination sustainability more positively, their concerns about negative sociocultural impacts lead to slightly reduced support for hosting M-SE. In other words, citizens who value sustainable practices at a destination may be more sensitive to the potential negative sociocultural consequences of hosting large events. Hypothesis 9 was not supported.

Hypothesis 11 – A higher level of trust in government among Citizens has a positive effect on their support for hosting M-SE.

Hypothesis 11 was not supported, as the results did not indicate a significant influence of the level of trust in government among citizens has a direct positive impact on their support for hosting M-SE (β =-0.075, p=0.216).

The hypothesis is not supported

Hypothesis 12 – A higher level of trust in the organizing committee among Citizens has a positive effect on their support for hosting M-SE.

The "Trust in Organizing Committee" was excluded from the Citizens' model due to its high correlation with Trust in Government, rendering the hypothesis untestable.

5.5 Effect of Sociodemographic Characteristics on the Values of Examined Dimensions

Hypothesis 13 – Significant differences exist among groups of Citizens categorized by gender, generation, educational level, and ages of their children, in their perceptions of the negative and positive environmental, economic, and socio-cultural impacts of hosting M-SE, their psychic income, their personal valuation of destination sustainability (PVDS), and their support for these events.

The analysis of the empirical study confirmed the significant differences in relation to sociodemographic characteristics, as will be shown below.

Gender differences

The results of the Mann-Whitney test (Figure 7.) show that, among citizens, females had a significantly stronger perception of the negative socio-cultural ($Z=-4.058$, $p<0.001$) and environmental ($Z=-4.306$, $p<0.001$) impacts of the M-S events.

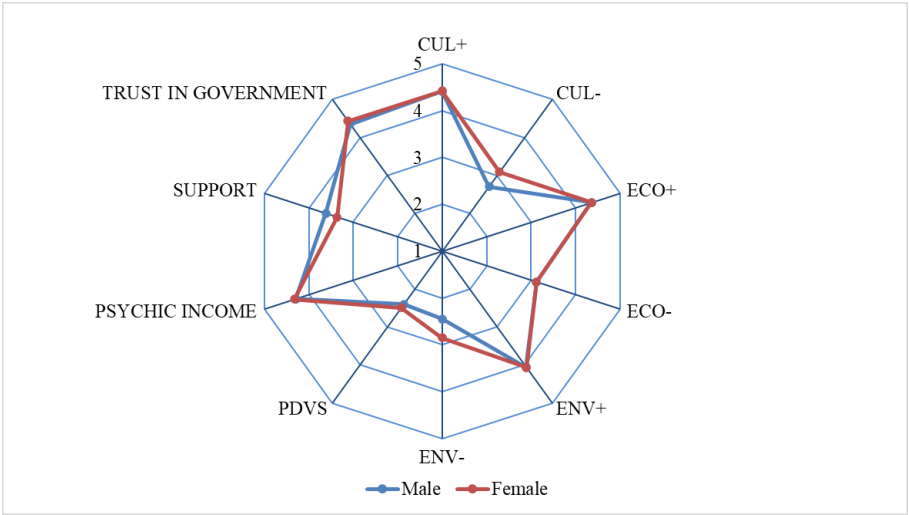


Figure 7. Construct comparison for citizens participants in the empirical study based on gender using Mann-Whitney test
Source: Author's own construction

Having children

The Kruskal-Wallis test reveals significant differences among groups categorized by the age of children for perceived negative environmental impacts ($H=8.307$, $p=0.040$) and personal valuation of destination sustainability ($H=8.673$, $p=0.034$) among citizens. According to the Dunn-Bonferroni post hoc test results, citizens with children under 10 years old perceive negative environmental impacts more strongly compared to those with children aged 19-24 years. This could reflect the

impacts of environmental awareness of children (Gen Alpha) on their parents. Additionally, results showed that personal valuation of destination sustainability (PVDS) is higher among citizens without children compared to those with children aged 10-18 years. (Figure 8. below)

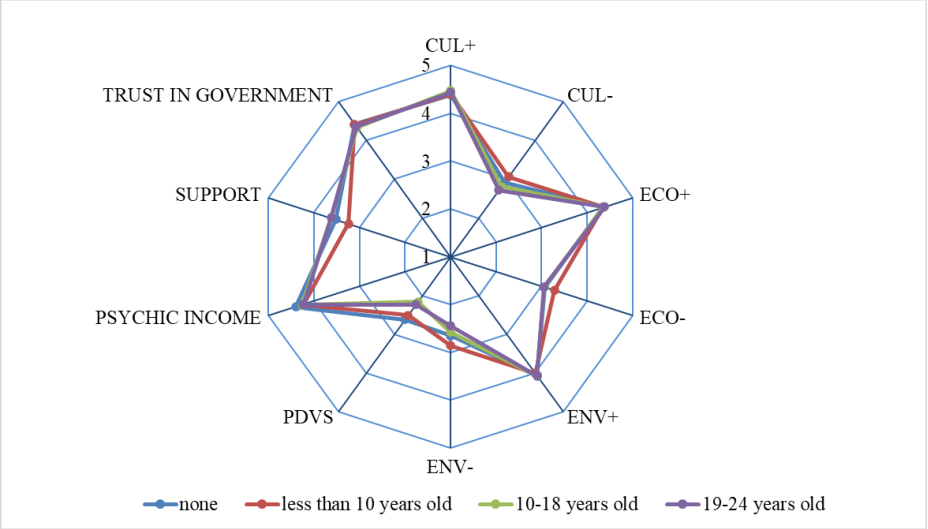


Figure 8. Comparing Citizens' scores of constructs in relation to having children under their care

Source: Author's calculations from Kruskal-Wallis test

Generations/ Age Differences

The hypotheses related to generations of the study were all tested using the Independent-Samples Kruskal-Wallis Test and results are shown in Table 11 (in the Appendix 8.9). Among citizens, perception of negative socio-culture impacts, perception of negative environmental impacts and personal valuation of DS showed variation across different generations.

The Kruskal-Wallis test indicates significant generational differences among Citizens (Figure 9.)

The findings suggest distinct generational perspectives on the sociocultural and environmental impacts of M-S events, highlighting varying levels of positive and negative perceptions across age groups. Specifically:

1. Positive Sociocultural Impacts: Generation X perceives the positive sociocultural impacts of M-S events more favorably than Generation Z. This

suggests that older generations may see these events as beneficial in promoting cultural or social cohesion.

2. Negative Sociocultural Impacts: Generation Z, compared to Generations X and Y, perceives stronger negative sociocultural impacts from these events. This may indicate a more critical view among younger generations regarding the social disruptions or cultural changes associated with M-S events.

3. Negative Environmental Impacts: Generation Z reports the highest perception of negative environmental impacts, more so than any other generation. This aligns with broader research indicating that younger generations are often more environmentally conscious and sensitive to ecological issues.

Conclusion: These findings underscore a generational divide in how M-SE are perceived, with younger generations, particularly Generation Z, more attuned to the negative sociocultural and environmental impacts. In contrast, Generation X perceives greater sociocultural benefits. These insights could inform policymakers and event organizers, who might consider tailoring communication and mitigation strategies to address the concerns of each generation, particularly in minimizing perceived environmental harm and enhancing positive sociocultural outcomes.

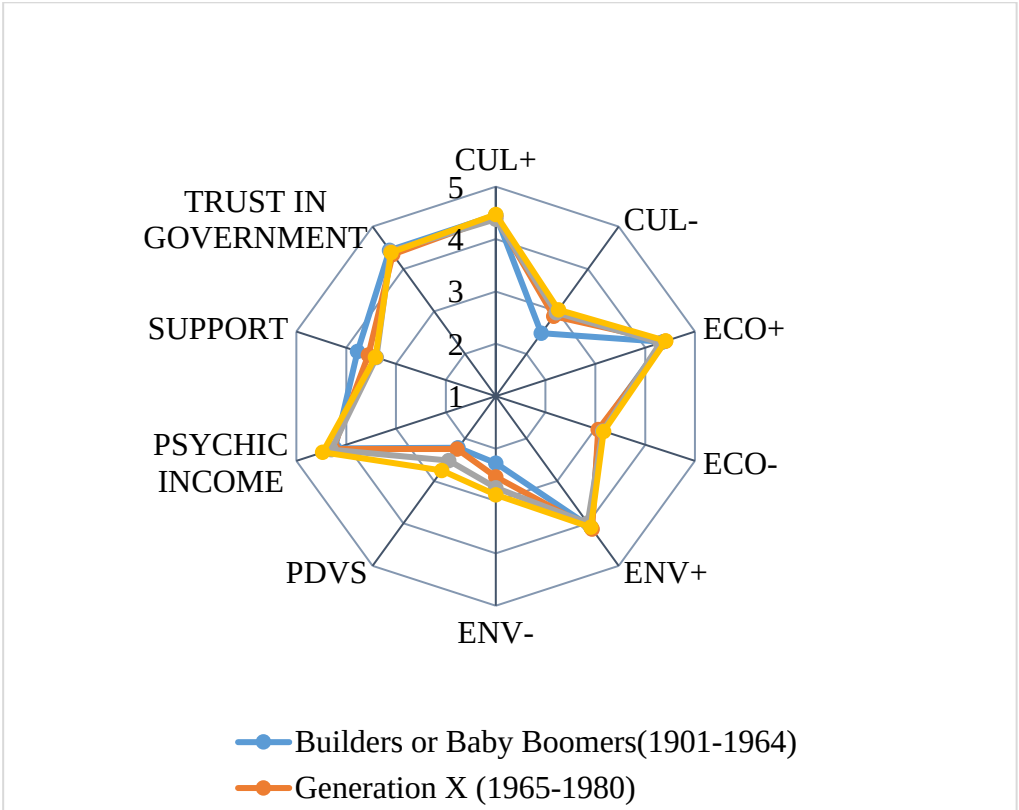


Figure 9. Generational differences among citizens in their perceptions of the six layers of sustainability impacts and other constructs

Second Residents

5.6 The perception of M-SE hosting's impacts on DS Hypotheses for Residents

Testing impacts of perception of positive and negative environmental, socio-cultural and economic impacts of hosting on destination sustainability hypotheses (H2 – H7), followed by testing impacts of PVDS (H8 & H9), then psychic income (H10), institutional trust (H11, H12), and finally impact of sociodemographic factors (H13), the results are shown below for Residents. Figure 10. represents the graphical results of the structural equation modeling including path coefficients and significance tests for the Residents' structural model.

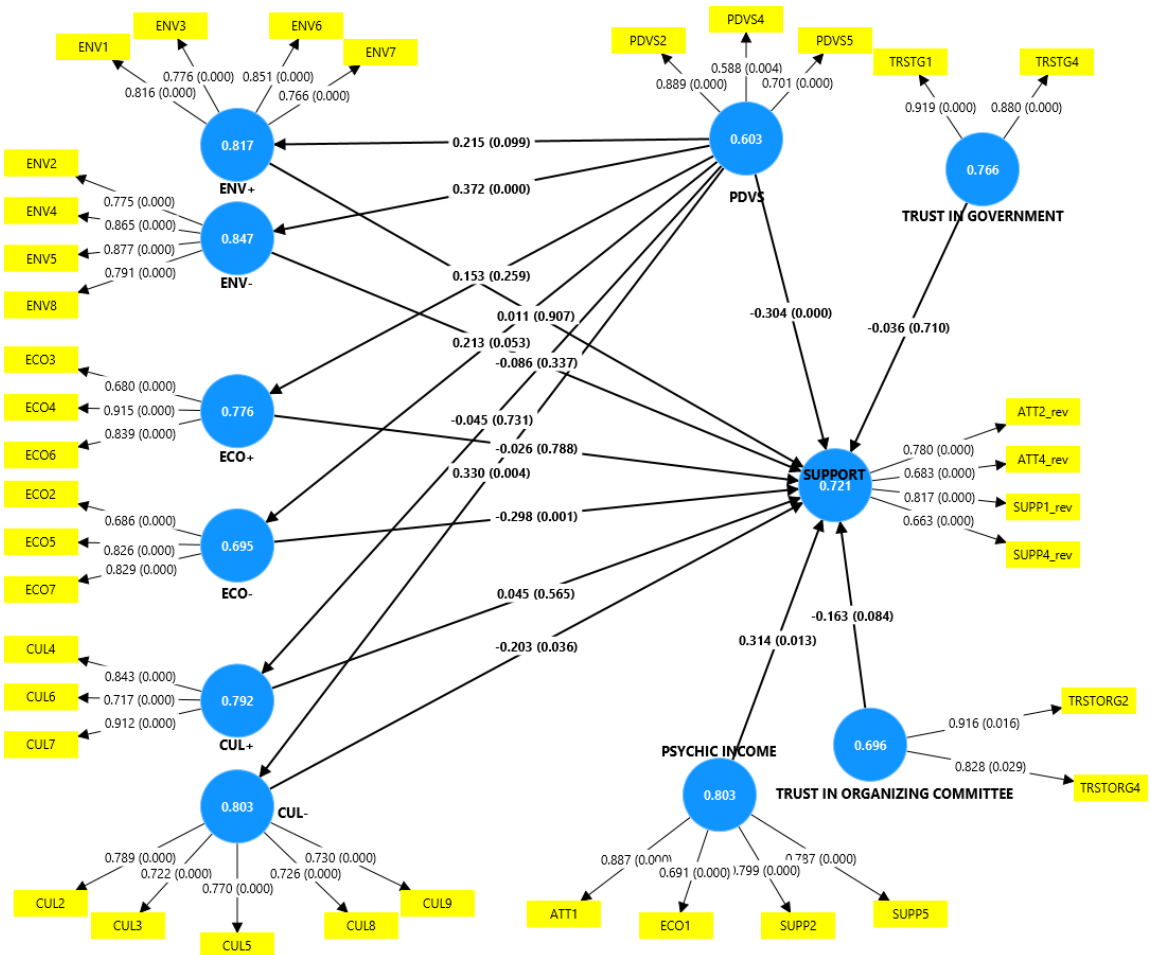


Figure 10. Results of Measurement and Structural Models for Residents

The findings indicate that 4 out of the 11 hypotheses related to the structural model demonstrate statistical significance. None of the indirect effects of PVDS were supported.

Hypothesis 2 – A higher perception of positive environmental impacts from hosting M-SE among Residents increases their support for hosting such events.
Hypothesis 2 was not supported, as the results did not indicate a significant influence of the Residents' perception of positive environmental impacts from hosting M-SEs on the support for organizing such events (β =0.011, p=0.907).

Hypothesis 3 – A higher perception of negative environmental impacts from hosting M-SE among Residents decreases their support for hosting such events.

Hypothesis 3 was not supported, as the results did not indicate a significant influence of the Residents' perception of negative environmental impacts from hosting M-SEs on the support for organizing such events (β =-0.86, p=0.337).

Hypothesis 4 – A higher level of Residents' perception of the positive economic impacts of hosting M-SE on destination sustainability positively influences their support for hosting such events.

Hypothesis 4 was not supported, as the results did not indicate a significant influence of the Residents' perception of positive economic impacts from hosting M-SEs on the support for organizing such events (β =-0.026, p=0.788).

Hypothesis 5 – A higher level of Residents' perception of the negative economic impacts of hosting M-SE on destination sustainability reduces their support for hosting such events.

The structured model for Residents revealed that the level of Residents' perception of the negative economic impacts of hosting M-SE on destination sustainability has a direct negative effect on their support for hosting such events (β = -0.298, P= 0.001),

And therefore Hypothesis 5 is supported by the data

Hypothesis 6 – A higher level of Residents' perception of the positive socio-cultural impacts of hosting M-SE on destination sustainability increases their support for hosting such events.

The structured model for Residents revealed that Residents' perception of the positive sociocultural impacts of hosting M-SE on destination sustainability has a direct positive influence on their level of support for hosting such events (β = 0.045, P= 0.575)

And therefore Hypothesis 6 is NOT supported

Hypothesis 7 – A higher level of Residents' perception of the negative socio-cultural impacts of hosting M-SE on destination sustainability reduces their support for hosting such events.

The structured model for Residents revealed that Residents' perception of the negative sociocultural impacts of hosting M-SE on destination sustainability directly reduces their support for hosting these events (β = -0.203, P= 0.036)

And therefore Hypothesis 7 is supported by the data

Hypothesis 8 – A higher level of Residents' personal valuation of destination sustainability positively influences their support for hosting M-SE.

The structured model for Residents revealed that Residents' personal valuation of destination sustainability has a direct positive impact on their support for hosting M-SE (β = -0.304, P< 0.001)

And therefore Hypothesis 8 is supported by the data

Hypothesis 10 – A higher level of Residents' sense of psychic income positively influences their support for hosting M-SE.

The structured model for Residents revealed that Residents' sense of psychic income directly and positively influences their support for hosting M-SE (β = 0.314, P= 0.0013)

And therefore Hypothesis 7 is supported by the data

5.7 Indirect (Mediating) Impacts on Support via PVDS for Residents

Hypothesis 9 – Residents' personal valuation of destination sustainability indirectly affects their support for hosting mega-sport events (M-SE) through their perceptions of the events' environmental (9a, 9b), economic (9c, 9d), and socio-cultural (9e, 9f) impacts, both positive and negative.

The structural model for Residents revealed that the personal valuation of destination sustainability indirectly influences support for hosting M-SE, but only in the context of negative sociocultural impacts (β = -0.052, p = 0.017). The negative beta coefficient (β = -0.052) suggests that as Residents perceive destination sustainability more positively, their concerns about negative sociocultural impacts lead to slightly reduced support for hosting M-SE. In other words, citizens who value sustainable practices at a destination may be more sensitive to the potential negative sociocultural consequences of hosting large events. Hypothesis 9 was not supported.

Hypothesis 11 – A higher level of trust in government among Residents has a positive effect on their support for hosting M-SE.

Hypothesis 11 was not supported, as the results did not indicate a significant influence of the level of trust in government among Residents has a direct positive impact on their support for hosting M-SE (beta=-0.036, p=0.710).

Hypothesis 12 – A higher level of trust in the organizing committee among Residents has a positive effect on their support for hosting M-SE.

Hypothesis 12 was not supported, as the results did not indicate a significant influence of the level of trust in government among citizens has a direct positive impact on their support for hosting M-SE (beta=-0.163, p=0.084).

Hypothesis 13 - Significant differences exist among groups of Residents categorized by gender, generation, educational level, and ages of their children, in their perceptions of the negative and positive environmental, economic, and

socio-cultural impacts of hosting M-SE, their psychic income, their personal valuation of destination sustainability (PVDS), and their support for these events.

5.8 Effect of Sociodemographic Characteristics on the Values of Examined Dimensions

Sociodemographic characteristics seem to have influence on perception, valuation and support.

Gender differences

The Mann-Whitney test results indicate that, for Residents (Figure 11.), there is no significant difference in the mean values of the examined dimensions between males and females.

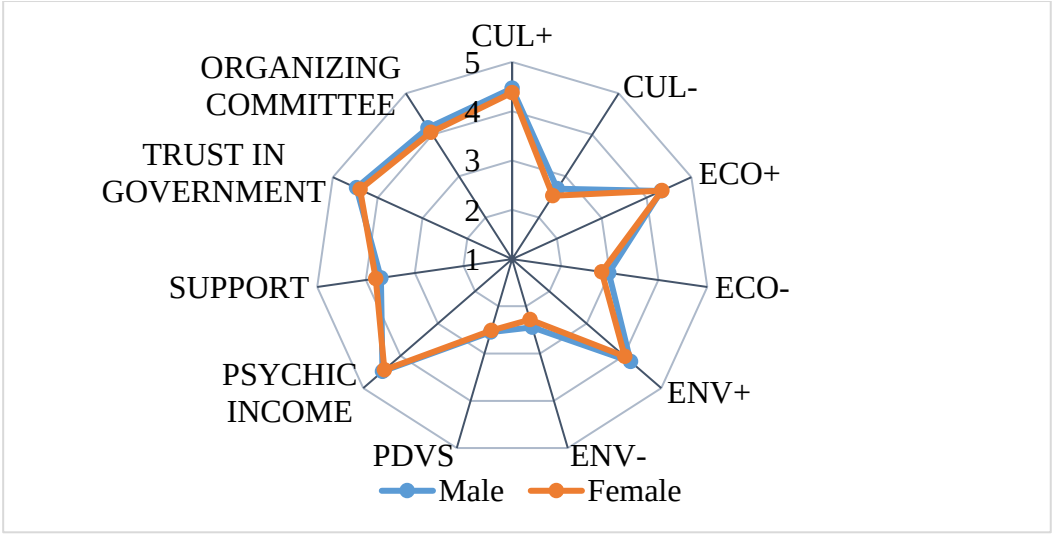


Figure 11. Construct comparison for Residents participants in the empirical study based on gender using Mann-Whitney test
Source: Author's own construction

Having children

The Kruskal-Wallis test results indicate that among Residents, there are no significant differences in the average values of the examined dimensions across groups categorized by the age of children. (Figure 12.)

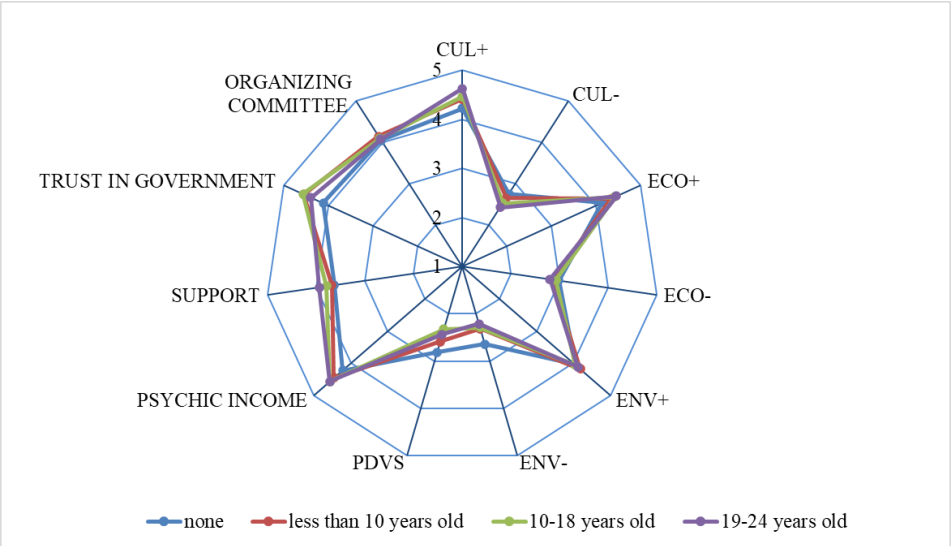


Figure 12. Comparing Residents' scores of constructs in relation to having children under their care

Generations/ Age Differences

The hypotheses related to generations of the study were all tested using the Independent-Samples Kruskal-Wallis. Among residents, perception of socio-cultural positive impacts as well as perception of negative socio-cultural impacts, and negative environmental impacts showed variation across different generations.

The Kruskal-Wallis test indicates significant generational differences among residents (Figure 13.) in their perceptions of positive ($H=8.304$, $p=0.040$) and negative ($H=13.701$, $p=0.003$) sociocultural impacts, as well as negative environmental impacts ($H=15.944$, $p=0.001$) of M-S events. Generation X perceives positive sociocultural impacts as significantly higher compared to Generation Z. Generation Z, in contrast, has a stronger perception of negative sociocultural impacts compared to Generations X and Y. Furthermore, Generation Z perceives negative environmental impact of hosting M-SE as significantly higher than all other generations.

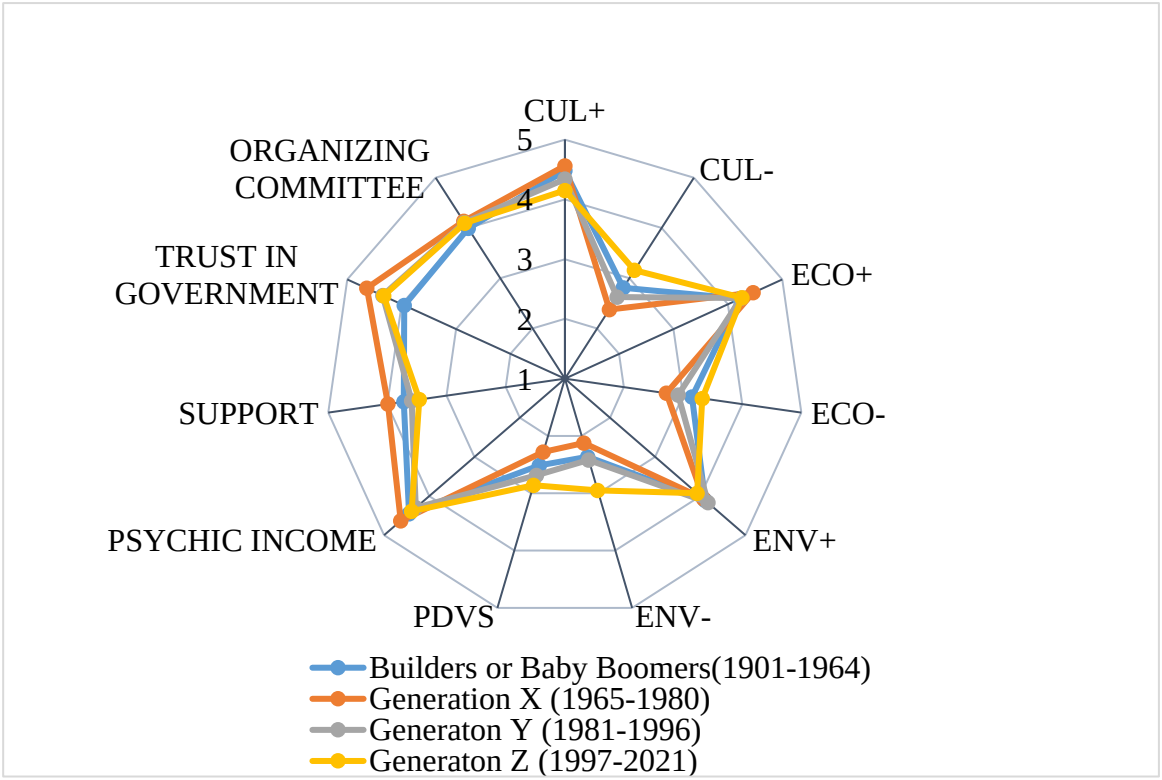


Figure 12. Generational differences among residents in their perceptions of the six layers of sustainability impacts and other constructs
Source: Author's edit

Therefore, the perception of negative cultural and environmental impacts seems to be different across generations for both citizens and residents.

Hypothesis 13 is supported by data for both Citizens and Residents.

In summary, besides H1 and H13, 5 out of 11 hypotheses were supported for Citizens and 4 for Residents. For Citizens H5, H6, H7, H8 and H10 were supported, while only one part of H9 was supported. For Residents, H5, H7, H8, H10 only were supported.

6 CONCLUSIONS, RECOMMENDATIONS, LIMITATIONS AND FUTURE DIRECTIONS

6.1 Conclusions

"Despite its small size, Qatar succeeded in hosting the most prominent international football tournament accommodating mass tourism of international groups with comfort, and a memorable cultural experience" (Al-Muhannadi et al., 2024). Qatar succeeded in building a good destination image with potential to gain tourists trust, being a "multicultural destination or a sustainable technology hub" with a distinguished identity (Al-Muhannadi et al., 2024), heritage, and a great welcoming generous hospitality, possibly leading to a positive legacy, DS, and the optimization of the benefits to be derived from it.

This research represents an initial attempt to illuminate the effects of hosting a M-SE on tourism and destination sustainability, as well as other facets of the host to the 22nd FFC, by deep and detailed reading local community prospective from within, and a thorough literature review, and document analysis of most important Qatari documents.

The support of local community at host destination for hosting a M-SE is essential for the success of hosting (Sharma et al., 2008), as absence of support and cohesion can have catastrophic impacts on the destination's political and social stability (Gursoy et al., 2016). Therefore, the support of citizens and residents for Qatar's decision to host the 22nd FFC played a vital role in the attained results.

Therefore, this study was conducted to examine the perception of local community in Qatar of hosting M-SE, while studying factors impacting their perception. Another important objective of this study is to explore destination sustainability globally and reflect that on the Arabian Gulf Region, to form a baseline for further specific studies on Qatar and other GCC countries as they are heading to host more M-SE in the near future. The study uses various theories to study the perception and its impact on support for hosting, as well as mediating variables. The mediating variables are trust, personal valuation, psychic income and overall attitude. While trust and overall attributes have been studied before for their mediating effect, the other two are not. Theories used are SET, TRA, and Identity Theory. Psychic income is studied for its possible mediating effect for the first time, as far as I know. Personal valuation is customed defined for this study to define the traits of participants irrelevance to destination sustainability, and PV is also investigated for its possible mediating effect.

Hence, with validating the use of trust for perception studies in relation to support for hosting M-SE, this study added two new variables namely personal valuation of destination sustainability, and psychic incomes mediating effects between perception of impacts of hosting on DS and support for hosting. This is in addition to the overall attitude that was added previously by Gursoy et al., (2016).

Although this study did not come with strong support for either, it presented an invitation for focused carefully designed studies to further investigate each separately. It also uses and validated the triple bottom line impact framework to study perception adopted from Prayag et al. (2013), with six categories: positive socio-cultural, negative socio-cultural, positive environmental, negative environmental, positive economic and negative economic, instead of the three categories previously used.

Further, the study presented some interesting results worthy of further investigations such as generational differences. Results also showed significant between males and females among citizens in the perception of negative environmental and socio-cultural impacts on DS. Qatari nationals' ladies seem to be more aware and concerned regarding potential negative impacts on DS from hosting M-SE, than Qatari nationals' gentlemen. This calls for a more profound focused study on confirming and investigating these results further, to form a clearer understanding of the perception's aspect and possibly motives behind it.

The data was collected through On-line questionnaire, that was designed and interpreted using different qualitative methods on the studied population, namely FGD and SSI. The model was tested and validated. The findings showed enthusiasm among citizens and residents for hosting mega events in the future, the importance of consultation with them and adding values and benefits to the local community as a result of hosting, which was also shown in previous studies such as Jebbouri et al. (2022). It was also shown that the population (especially citizens) value their local culture, identity and values and would like this to be respected and valued by tourists and policies that regulate hosting mega events. Differences exist between citizens and residents, and between different groups such as generations and gender.

The results suggest that to reduce the direct or indirect negative impacts on destination sustainability due to hosting, it is vital to design targeted awareness programs catered for different generations and groups, to promote both DS objectives and policies, and citizen-science and knowledge-based personal valuation of DS amongst citizens and residents. Prior to that public consultations and public hearings in different forms and reaching all different categories should be well designed and conducted to ensure full understanding of local community worries and aspirations.

6.2 Limitations

Among limitations, the empirical study was conducted with limited time and resources for the purpose of the study. It would have provided a clearer picture if we were able to distribute the same questionnaire before, during and after the event. The conclusion drawn is for Qatar, and although other GCC countries have similar culture and values, there might be differences among the six GCC states,

as each has its own unique characteristics due to many factors including economic and political factors. It will be interesting for future similar studies to be conducted in each of the GCC countries and draw a comparison. This paper centers on an LR that covers almost half a century, yet the scope may not include all pertinent literature because of database access limitations and search parameters. Although the Bbl was thorough, it may have overlooked relevant studies that are not included in the selected keywords 'sport tourism' and 'mega-sport'. The LR might show a geographical bias, given that a large portion of the current research on M-SE concentrates on Western contexts. The distinctive socio-cultural and political circumstances of Qatar, as an Islamic Arabic state, may not be adequately captured in the wider literature, potentially restricting the generalizability of findings.

Figures from FIFA were used and referenced in this paper, although I am aware of the recommendation of Matheson (Matheson, 2006) (p. 21) and other researchers regarding the importance of vigilantly evaluating any economic benefit estimates presented by organizations that have motivations and interest to show exaggerated positive impact figures. It is worthwhile for prospective research to cross-check the statistics with official and scholarly economic data when they become available (Al-Muhannadi et al., 2024).

6.3 Recommendations

Three main recommendations are presented:

1. For the government: linking the vision and results from FGD pre- and post-event and results from the Likert scale and building on experience built for both, government need to initiate a dialogue mechanism with citizens to inform them about the vision and its implications on them and get their feedback on how to do things better to ensure maximum benefit for local community and minimal negative impacts from hosting future M-SE.
2. A scientific debate in form of workshops or an international conference of seminars and workshops to discuss all valuable scientific papers about Qatar's FIFA Worl Cup and conclude with both learnt lessons and recommendations for forthcoming hosting of M-SE in Qatar and in the region, and production of a scientific book about the lessons learnt from the first Arab M-SE. This could be a Qatari initiative that allows Qatar to take a leading role in harvesting best goods from hosting M-SE, especially in terms of sustainability, human development, human rights and social responsibility, civilizations dialogue, and world peace.
3. For researchers: in-depth research with qualitative and quantitative mix, to understand negative impacts and perceptions in general, and link it to best practices to minimize impacts and maximize benefits for locals and all. Capacity building and awareness building for destination sustainability before, during and after hosting events is a very important topic for scientific research, that can

reflect on turning hosting M-SE into actual conservation and destination sustainability and not just sustainability marketing.

As suggested early in my dissertation, for attaining sustainability practicing in addition to sustainability marketing, a robust political will, an inclusive resilience-based framework, and stakeholders' complete understanding and early involvement in decision-making (Al-Muhannadi, 2020).

Over the past three decades, tourists' involvement with destinations has changed from being primarily a passive gaze (Pera, 2014) or consumption (Miles, 2010) to more engaging ways of relationship and creating own experience or co-creating the destinations (Richards, 2011). This Co-creation involves sharing knowledge and skills between tourists and locals and emerging as a form of creative tourism (Richards & Wilson, 2006). This can be the new emerging topic in destination sustainability and hosting Mega and Gega sport events and other gigantic global events.

7 NEW SCIENTIFIC RESULTS

1. This study introduces a novel framework for understanding the perceptions of Qatari Citizens and Residents regarding the hosting of M-SE and empirically validates the proposed model. This tool was tested using a triple bottom line framework adapted from Prayag et al. (2013), covering six categories—positive and negative aspects of the economic, socio-cultural, and environmental dimensions.

2. The study results confirm significant differences between Qatari Citizens and Residents in their perceptions of hosting M-SE. Residents tend to view the positive socio-cultural impacts of hosting M-SE more favorably than Citizens, while Citizens perceive the negative socio-cultural, economic, and environmental impacts more strongly. As a result, Residents show greater overall support for hosting these events compared to Citizens. The empirical study identified a significant difference in psychic income between Qatari Citizens and Residents exclusively within Generation X. In this group, Residents reported a higher level of psychic income than Citizens.

3. The study found that positive socio-cultural and environmental impacts had a minimal effect on shaping support for Mega-Sport Events (M-SE). In

contrast, negative socio-cultural and economic impacts emerged as significant deterrents, strongly influencing reduced support for hosting such events.

4. Psychic income, which includes emotional benefits such as pride and excitement from hosting Mega-Sport Events (M-SE), was identified as a moderate direct factor influencing overall support for hosting these events among both Qatari Citizens and Residents.

5. Personal Valuation of Destination Sustainability (PVDS) was found to significantly influence the perception of negative socio-cultural and economic impacts for both Citizens and Residents. Individuals with high sustainability awareness tended to be more critical of the potential harms of M-SE on DS.

6. Empirical research revealed that while trust in the government and organizing committees was high among both Citizens and Residents, it did not significantly influence support for hosting Mega-Sport Events (M-SE).

7. The findings of the empirical research indicate that Generation Z perceived greater negative socio-cultural and environmental impacts of hosting M-SE compared to Generations X and Y, while Generation X showed a stronger recognition of positive socio-cultural impacts than Generation Z.

8. Significant differences were identified among Citizens based on the age of their dependent children regarding perceived negative environmental impacts and personal valuation of destination sustainability. Citizens with children under 10 years old perceived more pronounced negative environmental impacts, while those without children exhibited a higher valuation of destination sustainability compared to Citizens with children aged 10-18. Among Residents, no significant differences were observed across these dimensions.

9. Qualitative FGD and SSI surveys revealed that Qatari citizens' initial concerns about potential negative socio-cultural impacts of the mega-sport event (M-SE) transformed into a strong sense of national and cultural pride during and after the event, fueled by positive on-the-ground experiences and international appreciation.

8 APPENDICES

8.1 **Table 2.** Internal Consistency Reliability and Convergent Validity of Constructs in the Citizens Model

Construct	Cronbach's alpha	CR	AVE
CUL+	0.729	0.846	0.647

CUL-	0.807	0.873	0.632
ECO+	0.711	0.836	0.632
ECO-	0.558	0.765	0.523
ENV+	0.706	0.830	0.620
ENV-	0.840	0.893	0.676
PVDS	0.560	0.820	0.695
PSYCHIC INCOME	0.855	0.912	0.775
SUPPORT	0.787	0.862	0.610
TRUST IN GOVERNMENT	0.679	0.862	0.757

Source: Author's calculations

8.2 **Table 3.** Internal Consistency Reliability and Convergent Validity of Constructs in the Residents Model

Construct	Cronbach's alpha	CR	AVE
CUL+	0.792	0.866	0.685
CUL-	0.803	0.864	0.559
ECO+	0.776	0.856	0.668
ECO-	0.695	0.825	0.613
ENV+	0.817	0.879	0.645
ENV-	0.847	0.897	0.686
PDVS	0.603	0.776	0.543
PSYCHIC INCOME	0,803	0,871	0,631
SUPPORT	0,721	0,827	0,546
TRSTORG	0,696	0,865	0,763
TRUST IN GOVERNMENT	0,766	0,894	0,809

Source: Author's calculations

8.3 **Table 4.** Content validity of constructs and descriptive statistics for items and constructs in the Citizens model

Code	Construct/Items	Mean (SD)	Loadings
ENV+		**4.06 (0.70)**	
ENV3	I think planning to host the event will bring green cities, green buildings, green transport technologies which will continue to exist in Qatar after the event	4.15 (0.84)	0.835
ENV6	I think the hosting and its high international standards will promote environmental awareness amongst people in Qatar and visitors	3.96 (0.88)	0.759
ENV7	I believe that hosting will lead to a more sustainable lifestyle in Qatar, including the use of green transportation.	4.05 (0.93)	0.765
ENV-		**2.66 (0.94)**	
ENV2	In my opinion, hosting M-SE has negative impacts on environmental sustainability of the host country	2.61 (1.19)	0.830
ENV4	I believe that the hosting of M-SE has its high carbon footprint due to travel, construction, excessive waste generation and high energy consumption	2.78 (1.09)	0.850
ENV5	I believe that air, water, soil, visual, and audio pollution will result from hosting.	2.62 (1.15)	0.834
ENV8	Nature and natural resources are negatively impacted, in my opinion, by construction related to hosting.	2.62 (1.14)	0.774
ECO+		**4.36 (0.66)**	
ECO3	I think that SMEs in Qatar will benefit from hosting if their services and products were used instead of foreign firms	4.23 (0.89)	0.676
ECO4	I believe that the hosting will lead to stunning hotels, cutting-edge tourism services, and infrastructure that will	4.39 (0.80)	0.879

	support travel within the country and for staycations.		
ECO6	I think hosting global M-SE will promote Qatar as a tourism destination for international travelers.	4.41 (0.80)	0.817
ECO-		**3.12 (0.89)**	
ECO2	In my opinion, hosting an M-SE will result in price inflation in our local market	3.59 (1.16)	0.614
ECO5	In my opinion, if the hosting went poorly or if errors occurred, Qatar's image and reputation could be ruined globally.	2.85 (1.24)	0.761
ECO7	I believe that any local economic benefits will be outweighed by the hosting's huge financial costs.	3.08 (1.21)	0.783
CUL+		**4.41 (0.63)**	
CUL4	I believe we have a legacy to leave for our kids because of Qatar's successful hosting of the first FIFA in the MENA region.	4.52 (0.80)	0.780
CUL6	I think hosting will facilitate cultural exchange between us and other nations and give us an opportunity to introduce our culture and values	4.41 (0.74)	0.842
CUL7	In my opinion, hosting will enhance public services, facilities and infrastructure, such as roads and public spaces, and provide recreational areas.	4.33 (0.84)	0.789
CUL-		**2.91 (0.97)**	
CUL2	Hosting a global M-SE, in my opinion, will result in crimes like theft and vandalism.	2.94 (1.18)	0.816
CUL3	I am concerned about the negative effects, from the large influx of tourists coming from different cultures and behavioral norms, on our kids.	3.04 (1.21)	0.772
CUL5	I think hosting a M-SE will result in road congestion and overcrowding and other associated issues	2.93 (1.28)	0.805

CUL8	Weeks of hosting a gigantic global M-SE, in my opinion, will have negative effects on our everyday lives and quality of life.	2.72 (1.23)	0.785
PVDS		**2.45 (1.10)**	
PVDS2	Economic growth should come first, in my opinion, even if it means sacrificing the environment and certain social aspects.	2.35 (1.26)	0.828
PVDS5	Community identity and culture, in my opinion, belong in the past and shouldn't stand in the way of progress because they are historical rather than contemporary.	2.54 (1.37)	0.839
Trust in Government		**4.40 (0.70)**	
TRSTG1	With all due diligence, Qatar will undoubtedly assess all circumstances throughout the hosting of the M-SE, and determine what is best for its people, the nation, and the preservation of its natural resources, culture, identity, and values.	4.36 (0.87)	0.866
TRSTG4	In my opinion, Qatar has the financial and logistics capacity to successfully host a global M-SE and bring honor and pride to our nation.	4.43 (0.75)	0.874
Psychic income		**4.31 (0.81)**	
ATT1	I was excited about hosting FIFA 2022, and I am still excited about hosting more events	4.18 (0.99)	0.876
SUPP2	Given its capacity for success, excellence, and miraculous feats, Qatar ought to host more M-SE events.	4.34 (0.90)	0.889
SUPP5	In general, I believe that during FIFA 2022, we experienced excitement that was beyond compare, and we wish to experience it once more.	4.40 (0.89)	0.876
Support		**3.48 (0.98)**	
ATT2*	I believe that there will be more negative impacts on Qatar than positive ones from hosting an M-SE.	3.47 (1.20)	0.781

ATT4*	Hosting FIFA 2022 was good for Qatar, but I am not sure if Qatar should be hosting more events	3.33 (1.23)	0.770
SUPP1*	In my opinion, hosting FIFA 2022 should never have occurred, and there should never be another M-SE.	3.92 (1.26)	0.798
SUPP4*	I support hosting M-E but cultural, scientific or economic, but not sport events	3.19 (1.32)	0.776

8.4 Table 5. Content validity of constructs and descriptive statistics for items and constructs in the Residents model

Code	Construct/Items	Mean (SD)	Loadings
ENV+		4.10 (0.69)	
ENV1	I believe that having the M-SE in Qatar will encourage administrative practices that safeguard the environment, like recycling and pollution control.	3.97 (0.93)	0.816
ENV3	I think planning to host the event will bring green cities, green buildings, green transport technologies which will continue to exist in Qatar after the event	4.17 (0.85)	0.776
ENV6	I think the hosting and its high international standards will promote environmental awareness amongst people in Qatar and visitors	4.10 (0.81)	0.851
ENV7	I believe that hosting will lead to a more sustainable lifestyle in Qatar, including the use of green transportation.	4.16 (0.87)	0.766
ENV-		2.36 (0.83)	
ENV2	In my opinion, hosting M-SE has negative impacts on environmental sustainability of the host country	2.33 (1.04)	0.775
ENV4	I believe that the hosting of M-SE has its high carbon footprint due to travel, constructions, excessive waste generation and high energy consumption	2.48 (0.95)	0.865

ENV5	I believe that air, water, soil, visual, and audio pollution will result from hosting.	2.29 (1.02)	0.877
ENV8	Nature and natural resources are negatively impacted, in my opinion, by construction related to hosting.	2.32 (1.00)	0.791
ECO+		4.34 (0.67)	
ECO3	I think that SMEs in Qatar will benefit from hosting if their services and products were used instead of foreign firms	4.24 (0.70)	0.680
ECO4	I believe that the hosting will lead to stunning hotels, cutting-edge tourism services, and infrastructure that will support travel within the country and for staycations.	4.30 (0.86)	0.915
ECO6	I think hosting global M-SE will promote Qatar as a tourism destination for international travelers.	4.43 (0.78)	0.839
ECO-		2.90 (0.93)	
ECO2	In my opinion, hosting an M-SE will result in price inflation in our local market	3.44 (1.22)	0.686
ECO5	In my opinion, if the hosting went poorly or if errors occurred, Qatar's image and reputation could be ruined globally.	2.63 (1.20)	0.826
ECO7	I believe that any local economic benefits will be outweighed by the hosting's huge financial costs.	2.81 (1.12)	0.829
CUL+		4.42 (0.70)	
CUL4	I believe we have a legacy to leave for our kids because of Qatar's successful hosting of the first FIFA in the MENA region.	4.55 (0.75)	0.843
CUL6	I think hosting will facilitate cultural exchange between us and other nations and give us an opportunity to introduce our culture and values	4.35 (0.83)	0.717

CUL7	In my opinion, hosting will enhance public services, facilities and infrastructure, such as roads and public spaces, and provide recreational areas.	4.35 (0.89)	0.912
CUL-		2.60 (0.86)	
CUL2	Hosting a global M-SE, in my opinion, will result in crimes like theft and vandalism.	2.50 (1.16)	0.789
CUL3	I am concerned about the negative effects, from the large influx of tourists coming from different cultures and behavioral norms, on our kids.	2.80 (1.11)	0.722
CUL5	I think hosting a M-SE will result in road congestion and overcrowding and other associated issues	2.71 (1.16)	0.770
CUL8	Weeks of hosting a gigantic global M-SE, in my opinion, will have negative effects on our everyday lives and quality of life.	2.43 (1.08)	0.726
CUL9	I believe that hosting a global M-SE may impose on our government things compromising our culture, identity, and values	2.58 (1.22)	0.730
PVDS		2.53 (0.94)	
PVDS2	Economic growth should come first, in my opinion, even if it means sacrificing the environment and certain social aspects.	2.20 (1.23)	0.889
PVDS4	I believe that environmental legislations should focus on waste segregation and environmental events, and not on preventing pollution from source	3.32 (1.17)	0.588
PVDS5	Community identity and culture, in my opinion, belong in the past and shouldn't stand in the way of progress because they are historical rather than contemporary.	2.50 (1.26)	0.701
Trust in Government		4.44 (0.74)	

TRSTG1	With all due diligence, Qatar will undoubtedly assess all circumstances throughout the hosting of the M-SE, and determine what is best for its people, the nation, and the preservation of its natural resources, culture, identity, and values.	4.42 (0.84)	0.919
TRSTG4	In my opinion, Qatar has the financial and logistics capacity to successfully host a global M-SE and bring honor and pride to our nation.	4.45 (0.79)	0.880
Trust in Organizing Committee			
TRSTORG2	The organizing committee of any M-SE that Qatar hosts, in my opinion, possesses a great deal of experience and expertise to enable informed decisions.	4.11 (0.82)	0.916
TRSTORG4	I have no doubt that the organizing committee of any M-SE that Qatar hosts will take into account the interests of the Qatari community in all aspects of the hosting.	4.09 (0.91)	0.828
Psychic income		4.46 (0.65)	
ATT1	I was excited about hosting FIFA 2022, and I am still excited about hosting more events	4.42 (0.85)	0.887
ECO1	In my opinion, Qatar's International image will likely improve as a result of hosting M-SE.	4.47 (0.79)	0.691
SUPP2	Given its capacity for success, excellence, and miraculous feats, Qatar ought to host more M-SE events.	4.49 (0.75)	0.799
SUPP5	In general, I believe that during FIFA 2022, we experienced excitement that was beyond compare, and we wish to experience it once more.	4.47 (0.84)	0.787
Support		3.75 (0.85)	
ATT2*	I believe that there will be more negative impacts on Qatar than positive ones from hosting an M-SE.	3.67 (1.06)	0.780

ATT4*	Hosting FIFA 2022 was good for Qatar, but I am not sure if Qatar should be hosting more events	3.51 (1.08)	0.683
SUPP1*	In my opinion, hosting FIFA 2022 should never have occurred, and there should never be another M-SE.	4.20 (1.16)	0.817
SUPP4*	I support hosting M-E but cultural, scientific or economic, but not sport events	3.43 (1.28)	0.663

*Reversed item

8.5 List of publications

SCIENTIFIC JOURNAL ARTICLES

AL-MUHANNADI, **K.**, BOROS, A., VINOGRADOV, S., & DÁVID, L. (2024): Literature Review of Impacts of Mega Sport Global Events on Destination Sustainability and Sustainability Marketing—Reflection on Qatar 2022 FIFA World Cup. *Journal of Infrastructure, Policy and Development*. 8(12): 6214. https://doi.org/10.24294/jipd.v8i12.6214.

AL-MUHANNADI, K., ALHABAYSHEH, R., & ALNAWAYSEH, J. (2023): The Potential of Sustainable Tourism and Circular Economy in the Historic City of Karak. *Humanities & Natural Sciences Journal*, 2023, 4(10), 435-465. https://doi.org/10.53796/hnsj41026. (Published Language: Arabic).

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BOROS, A., BORISOV, I., **AL-MUHANNADI, K.**, & VINOGRADOV, S. (2025). Exploring Pro-Environmentalism: A Multivariate Approach Using Affective, Cognitive, Dispositional, and Active Components. (Under publication)

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CONFERENCE PROCEEDINGS

AL-MUHANNADI, K. (2020), Value proposition for a business solution in ecotourism using ReSOLVE Framework *In: Horváth, Bálint; Földi, Péter; Kápolnai, Zsombor* (eds.) VI. Winter Conference of Economics PhD Students and Researchers: Book of Abstracts Gödöllő, Hungary: Szent István Egyetem, DOSZ, Közgazdaságtudományi Osztály (2020) 128 p. p. 67, 1 p.

AL-MUHANNADI, K. (2021). Review of impacts of the pandemic's precautionary procedures on circular economy and sustainability and lessons learned in developed and developing countries (2021). Előadás, *International Scientific Conference* „Contemporary Issues in Business, Management and Economics Engineering", May 13-14. 2021,

BİNEK, D., & **AL-MUHANNADI, K.** (2020). Challenges and Opportunities for Small and Medium-sized Enterprises In Circular Economy In: Bujdosó, Zoltán; Dinya, László; Csernák, József (eds.) XVII. Nemzetközi Tudományos Napok : online konferencia : Környezeti, gazdasági és társadalmi kihívások 2020 után: Tanulmányok Gyöngyös, Hungary: Károly Róbert Közhasznú Nonprofit Kft. (2020) 1,241 p. pp. 1249-1257., 9 p.

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