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5

## 6 **How Does Culture Influence a Country's Travel and Tourism** 7 **Competitiveness? A Longitudinal Frontier Study on 39 Countries**

8

### 9 **Abstract**

10 The greater competitiveness of a firm improves the chances of its success. Likewise, countries  
11 are constantly attempting to improve their travel and tourism competitiveness to attract global  
12 tourists. In this study, we present a theoretical framework linking the culture of a country and its  
13 travel and tourism competitiveness. We adopted the theoretical foundation of global leadership  
14 and organizational behavior effectiveness (GLOBE) cultural values and practices to examine the  
15 panel effects of culture on competitiveness. We conducted a longitudinal study by using  
16 secondary data from 39 countries from 2011 to 2021. Results show that the culture of a country  
17 influence its travel and tourism competitiveness. Furthermore, we provide empirical evidence by  
18 performing longitudinal frontier analysis to determine which GLOBE model, that is, cultural  
19 practices or cultural values, is appropriate for future studies. Findings of this longitudinal study  
20 contribute to the novel understanding of competitiveness and culture.

21 **Keywords:** Travel and tourism competitiveness; GLOBE; Longitudinal study; Culture;  
22 Competitiveness

23

24

## 25 **1. Introduction**

26 The culture of a country contributes significantly in the development of its tourism industry,  
27 which is an indication of its tourism competitiveness. A destination generally presents its most  
28 conspicuous images to attract tourists and position itself as better and more sustainable than  
29 other destinations (Bramwell et al., 2017). Such representation of destinations influence tourists'  
30 destination selection (Carr et al., 2016; Filimonau & Perez, 2018; Kumar et al., 2018).  
31 Characteristics such as culture, heritage, and architecture, among others, are typically used to  
32 present destinations distinctly. Among such characteristics, culture is widely used to promote a  
33 destination owing to its inherent advantages (Carr et al., 2016). For example, the culture of a  
34 destination is unique and cannot be adopted by other destinations for their promotion. The  
35 advantages of increased destination competitiveness are reflected in economic growth (Rinaldi et  
36 al., 2022; Zadeh & Kiliç, 2021) and increased employment (Jenkins, 2020). Realizing the  
37 importance of destination competitiveness, countries have begun to use several means to  
38 promote their destinations, such as improving basic infrastructure, enhancing logistics and  
39 transportation modes, and training staff to interact with global tourists (Carr et al., 2016; Reggers  
40 et al., 2016).

41 Previous cross-sectional studies found that culture can shape the pro-environmental behavior  
42 of tourists visiting the United Kingdom and China (He & Filimonau, 2020; Thompson, 2022)  
43 along with tourist satisfaction (Wei et al., 2020) and destination selection (Ahn & McKercher,  
44 2015). A certain cultural attribute may be attractive to tourists, whereas others may be repulsive.  
45 Few studies explored the role of culture of a host country in developing and maintaining the  
46 competitiveness of the tourism sector. For example, Kumar and Dhir (2020) examined the  
47 associations between tourism competitiveness and culture from a cross-sectional perspective.  
48 However, longitudinal studies on the relationship between a country's culture and travel and  
49 tourism competitiveness are scarce. The literature did not study how culture contributes in  
50 improving the tourism competitiveness of a country. Moreover, although scholars argued that  
51 culture impact the destination competitiveness, limited studies provided empirical support.  
52 Furthermore, almost no study examined the impact of culture on destination competitiveness  
53 over several countries by using a decade of dataset. These research gaps are very important for

54 academicians and practitioners so that they can understand how to use resources to improve the  
55 destination competitiveness.

56 Accordingly, our work extends the knowledge in the field by using alternative measures of  
57 culture to perform longitudinal research. Additionally, **we examined the moderating effects of**  
58 **cultural attributes on the association of GDP per capita with tourism competitiveness.**  
59 Longitudinal research serves two crucial purposes. First, it can help us understand and describe  
60 the patterns of change (e.g., Nunkoo et al., 2013; Reggers et al., 2016). Although change is  
61 identified as the central premise to understand (e.g., Cadarso et al., 2015) the nature and extent of  
62 the influence on tourism, longitudinal research is recognized as integral to studies on tourism-  
63 related changes (e.g., Sæþórsdóttir & Hall, 2020). Second, longitudinal studies can establish the  
64 direction and magnitude of causal relationships (Caruana et al., 2015). Such studies are scant  
65 owing to the implications of cost, opportunity, and time. In the creation of resilient and  
66 sustainable tourism (Bramwell et al., 2017), the long-term understanding of the relationship  
67 between culture and competitiveness is crucial (Carr et al., 2016; Rinaldi et al., 2022).

68 Thus, in this study, we address three research questions (RQs). **RQ 1:** What is the association  
69 between culture and destination competitiveness? The literature highlights the role of economic  
70 progress (e.g., GDP per capita) in improving the competitiveness of destinations. Therefore, we  
71 formulate **RQ 2:** Do the cultural attributes moderate the association between GDP and  
72 destination competitiveness? To address these RQs, we utilize the global leadership and  
73 organizational behavior effectiveness (GLOBE) cultural dimensions and explore the cultural  
74 practices and cultural values separately. Scholars (e.g., Brewer & Venaik, 2010) highlighted the  
75 discrepancy between cultural values and practices, making the situation complex and worth  
76 exploring using longitudinal data. Studies using GLOBE data expressed difficulty and confusion  
77 in determining which of the two models, that is, cultural practices or cultural values, to choose as  
78 the input variable. In this study, we aim to clarify the confusion regarding which cultural model  
79 to use and address the issue through **RQ 3:** Which of the models, that is, cultural practices or  
80 cultural values, can explain destination competitiveness better?

81 **To address RQ1 and RQ2, we develop three separate models.** We employ data from 39  
82 countries from 2011 to 2021 for the longitudinal research. We measure destination  
83 competitiveness in tourism across countries using the travel and tourism competitiveness index

84 (TTCI) developed by the **World Economic Forum (WEF)**. Data for cultural dimensions are taken  
85 from GLOBE cultural model. We use the GDP per capita from World Bank as an indicator of the  
86 economic progress of countries. The variables for our model include TTCI, cultural dimensions,  
87 and GDP per capita. For each of the three models, we further develop three sub models. The first  
88 three models examine the panel effects of cultural values on competitiveness, and the next three  
89 models examine the panel effects of cultural practices on competitiveness. The last three models  
90 examine the panel effects of cultural differences in values and practices on competitiveness. The  
91 findings suggest that cultural values and cultural practices impact a country’s travel and tourism  
92 industry competitiveness. We focus on the distinction between cultural values and practices in  
93 developing competitiveness. **RQ3 is addressed through SFA analysis and mixed SFA-regression**  
94 **analysis**. The findings suggest that at an aggregate level, cultural practices as a whole can better  
95 explain the variances in the tourism competitiveness. However, the values model is found to be  
96 more efficient for many countries. Our study enhances understanding of the association between  
97 the dimensions of culture and competitiveness. Furthermore, it offers guidelines to policymakers  
98 in different income-group countries to create policies to encourage tourism.

99

## 100 **2. Literature Review**

### 101 **2.1 Travel and tourism competitiveness (TTCI)**

102 Competitiveness is the ability of individuals, groups, or firms to offer “a more attractive  
103 package of benefits” than their competitors (Ganguli & Ebrahim, 2017; Kayar & Kozak, 2010).  
104 Competitiveness is a well-known concept in international trade, with studies comparing the  
105 competitiveness of different exported products in a country ( Kumar, Kumar, Sengupta, & Giri,  
106 2022) or different countries around the world for the same product ( Kumar, Kumar, Sengupta, &  
107 Giri, 2021) Along this line, D’Hautesserre (2000) defined destination competitiveness as “the  
108 ability of a destination to keep its attractiveness and improve it over time.” Tourism  
109 competitiveness can help earn valuable foreign exchange (Jenkins, 2020). Scholars argued that  
110 the competitiveness of destinations can be assessed by the standard of living of the resident as  
111 well as the tourists (Bazargani & Kiliç, 2021; Crouch & Ritchie, 1999; Perez Leon et al., 2021).

112 To effectively understand and measure the competitiveness of a tourist destination, the WEF  
113 created the TTCI (Pulido-Fernández and Rodríguez-Díaz, 2016). The TTCI was designed to  
114 measure the competitiveness of a country by including the factors and policies in the country  
115 created to attract tourists and develop its tourism industry (Kumar & Dhir, 2020; Martín et al.,  
116 2017). The TTCI is released every two years by the World Economic Forum to measure the  
117 competitiveness of a country. It can effectively capture the changes applied by a country to  
118 improve its attractiveness. In 2021, it has evolved as Travel and Tourism Development Index  
119 (TTDI) to capture several aspects of tourism development in a country (Uppink & Soshkin,  
120 2022).

121 We adopt the TTCI in our study for two reasons. First, the TTCI is built on components that  
122 are updated regularly. Previously, TTCI consists of three indices that were updated to four  
123 indices in 2015 (Vasanicova et al., 2022; WEF, 2019) and then to five indices in 2021 (TTDI;  
124 Uppink & Soshkin, 2022). These indices are (a) Enabling Environment, (b) T&T Policy and  
125 Enabling Conditions, (c) Infrastructure, (d) T&T Demand Drivers, and (e) T&T Sustainability,  
126 which consist of five, three, three, three, and three pillars, respectively. These pillars are derived  
127 from 112 indicators. In other words, the TTCI can effectively capture the current trends in the  
128 tourism industry and account for changes, making it a robust mechanism to understand  
129 destination competitiveness. For example, to capture marine environmental sustainability  
130 effectively, The WEF (2019) updated the “coastal shelf fishing pressure” indicator and replaced  
131 it with the “fish stock status.” Second, scholars utilized the TTCI to examine tourism (e.g.,  
132 Kumar & Dhir, 2020) and competitiveness (Kubickova & Martin, 2020), thereby validating its  
133 applicability to scholarly work. Furthermore, no other measure of competitiveness offers a  
134 comprehensive assessment of the competitiveness of destinations.

135

## 136 **2.2 Cultural theory**

137 Culture is defined as “the collective programming of the mind that distinguishes the members  
138 of one group from others” (Hofstede, 2011). This definition was presented by Hofstede, who  
139 offered a classification for national culture dimensions. Although previous studies used the  
140 classification of culture developed by Hofstede (e.g., Kumar et al., 2019), the model’s limited  
141 scope is its weak point (Hofstede, 2011; Nazarian et al., 2021). The GLOBE project presented an

142 improvement of the Hofstede model by increasing the number of cultural dimensions (Frese,  
143 2015; Kumar, Baishya, Sreen, Sadarangani, & Samalia, 2021). In this study, culture is  
144 understood as “a set of shared collective parameters, where motives, values, beliefs, identities,  
145 and meanings are shared from common experiences of members of that society” (Filimonau et  
146 al., 2018; Simha et al., 2021). The GLOBE cultural dimensions are indicative of how much a  
147 society or country values and rewards specific behaviors.

148 We choose the GLOBE model for two main reasons. First, the GLOBE project is a  
149 comprehensive framework that offers cultural practices and dimensions (House et al., 2004). The  
150 project began in 1991, with the purpose of forming a framework for “national culture,  
151 organizational practices, and leadership,” and continues to collect data to the present day. Its  
152 main premise is centered around the situation and contextual leadership, which means that the  
153 beliefs, societal norms, and values of followers determine the perception of their leader. Second,  
154 scholars (e.g., Egger et al., 2022; Nazarian et al., 2021; Pagda et al., 2021; Simha et al., 2021)  
155 determined that owing to its comprehensiveness, the GLOBE cultural model is an appropriate  
156 framework for understanding the national culture. Its applicability across multiple contexts,  
157 including sustainable tourism, confirms its robustness. Additionally, the GLOBE cultural model  
158 can provide cultural data for a number of countries, allowing the application of various statistical  
159 tools and decreasing spurious effects owing to a small sample size, thereby generalizing the  
160 findings (Kumar et al., 2019).

161 The GLOBE cultural model offers nine cultural dimensions in the form of values and  
162 practices, which were created by collecting data from 17,300 managers of 951 organizations in  
163 62 different societies (House et al., 2002; Pagda et al., 2021). The cultural dimensions include  
164 (1) “assertiveness - level of directness, forcefulness, or aggression”; (2) “institutional  
165 collectivism - more validation of broad societal interests than individual goals”; (3) “in-group  
166 collectivism - loyalty toward families and organizations”; (4) “future orientation - planning,  
167 delaying gratification”; (5) “gender egalitarianism - equal treatment of genders”; (6) “humane  
168 orientation - fairness, generosity, kindness”; (7) “performance orientation - appreciation for  
169 setting and reaching goals”; (8) “power distance - acceptance of an unequal distribution of  
170 power”; and (9) “uncertainty avoidance - fear of ambiguity.”

171

### 172 3. Hypothesis Development

#### 173 3.1 Direct effect hypothesis

174 **Assertiveness** refers to the extent to which individuals are assertive, aggressive, and  
175 confrontational in social relationships (Pagda et al., 2021). High assertiveness is associated with  
176 competition, direct communication, and control, whereas low assertiveness is associated with  
177 cooperation, indirect communication, and trust (Grove, 2005). Previous studies (e.g., Huang,  
178 Liu, & Lu, 2022) argued that assertiveness can stimulate tourist intention to visit a destination,  
179 especially when the travel time is the near future. Ma et al. (2020) examined rural tourism and  
180 found that confrontation is not useful to rural tourism development. Based on previous studies,  
181 we posit that countries that show aggressive behavior toward tourists in social setting will not be  
182 favored by tourists, as they will likely avoid confrontational situations. Studies suggested that  
183 tourists seeking active tourism favor risk taking as part of their experience but only to a limited  
184 extent (Kumar & Dhir, 2020; Nazarian et al., 2017), which means that high assertiveness may  
185 reduce a country's competitiveness. Thus, we propose the following hypothesis:

186 **H1:** The assertiveness of a country is negatively associated with its TTCI.

187 **Institutional collectivism** refers to the extent to which societies or institutions inspire and  
188 admire collective action (Lim & Ok, 2021). Scholars argued that institutional collectivism fosters  
189 social ties (e.g., Font et al., 2016; Nazarian et al., 2021; Pagda et al., 2021) and thus may attract  
190 tourists seeking immersive tourism experiences. Nedeljković-Knežević and Pavluković (2020)  
191 examined the tourism sector in Serbia and found that institutional collectivism is not  
192 significantly associated with autonomy and risk readiness. Based on previous studies, we argue  
193 that countries with high institutional collectivism are likely to build infrastructure for everyone to  
194 use. Actions such as the distribution of resources are supported when they are applicable to large  
195 communities that can attract tourists. Thus, we propose the following hypothesis:

196 **H2:** The institutional collectivism of a country is positively associated with its TTCI.

197 **In-group collectivism** refers to the intensity to which individuals convey pride and  
198 cohesiveness (Lim & Ok, 2021). In in-group collectivism, loyalty to a group comes into play, as  
199 it is a duty-bound relational approach to care (Egger et al., 2022). Scholars (e.g., Nedeljković-  
200 Knežević & Pavluković, 2020) suggested that in-group collectivism reflects an arrangement in

201 which social norms dictate individuals' behaviors. In this study, we argue that such an  
202 arrangement may not be favored by tourists, as it may indicate that a country may have  
203 inadequate policies, as norms dictate individuals' actions. In other words, high in-group  
204 collectivism may not be preferred by tourists and will be reflected in a country's  
205 competitiveness. Furthermore, few avenues may exist to innovate in a timely manner, as actions  
206 require social confirmation of new ideas, and departures from social norms are not expected.  
207 Thus, we propose the following hypothesis:

208 **H3:** The in-group collectivism of a country is negatively associated with its TTCI.

209 **Future orientation** refers to the degree to which individuals are focused on future behaviors,  
210 including planning, investing, and delaying gratification (Ashkanasy et al., 1994; Egger et al.,  
211 2022). Future-oriented countries are highly adaptable and learn from other countries to improve  
212 their competitive strategies (Kumar & Dhir, 2020). Countries can also take inspiration from other  
213 countries to improve their existing tourism policies (Huang & Crofts, 2019), which may be  
214 helpful in improving their TTCI. We argue that future-oriented countries are likely to invest in  
215 capacity building and infrastructure, which will boost their destination competitiveness. Thus,  
216 we propose the following hypothesis:

217 **H4:** The future orientation of a country is positively associated with its TTCI.

218 **Gender egalitarianism** shows the extent to which countries promote gender equality and  
219 attempt to reduce gender role differences (Eriksson et al., 2020; Prasad et al., 2021; Pagda et al.,  
220 2021). Scholars argued that gender egalitarianism reflects the soft power of a country where  
221 women hold leadership positions and are involved in decision making (Huq, 2019; Simha et al.,  
222 2021). Such decisions are likely to be inclusive, fostering the development of inclusive tourism  
223 policies. Every one in five tourism ministers is a woman, and the tourism sector has a healthy  
224 women's participation and 60:40 workforce ratio in favor of women (World Tourism  
225 Organization, 2019). Thus, countries with high gender egalitarianism are likely to have improved  
226 competitiveness, and we propose the following hypothesis:

227 **H5:** The gender egalitarianism of a country is positively associated with its TTCI.

228 **Humane orientation** demonstrates the degree to which individuals promote and reward  
229 others for their generosity, altruism, and caring attitude (Egger et al., 2022; Pagda et al., 2021).

230 Scholars indicated that a humane orientation is reflected in the welcoming approach of a host  
231 country (e.g., Khurana et al., 2021; Ollier-Malaterre et al., 2020). Lim and Ok (2021) suggested  
232 that “human resource practices and performance of firm tended to be stronger in countries with a  
233 highly humane orientation,” which means that tourists will find it easy to talk about, discuss, and  
234 share their problems in a highly humane-oriented country. Such impressions may encourage  
235 tourists to visit and recommend a country to others, thereby improving its competitiveness. Thus,  
236 we propose the following hypothesis:

237 **H6:** The humane orientation of a country is positively associated with its TTCI.

238 **Performance orientation** reflects the intensity to which a country encourages and rewards  
239 individuals for excellence and improved performance (Egger et al., 2022; Pagda et al., 2021).  
240 Scholars found that a performance orientation can improve the competitiveness of individuals  
241 (Salin et al., 2018). In this study, we argue that countries aiming to project themselves as favorite  
242 tourist destinations will institute multiple initiatives to measure and improve their performance.  
243 Furthermore, such countries will provide the necessary skills enhancement and capacity-building  
244 training to improve their performance (e.g., Koc, 2020; Nazarian et al., 2021), thereby improving  
245 their competitiveness in the tourism industry. Thus, a performance-oriented country will likely  
246 be associated with improved destination competitiveness, and we propose the following  
247 hypothesis:

248 **H7:** The performance orientation of a country is positively associated with its TTCI.

249 **Power distance** refers to the extent to which individuals accept and agree that power is  
250 shared unequally by all members of society (Pagda et al., 2021; Yu et al., 2021). Power distance  
251 reflects the power asymmetry in a country, where an increase in distance refers to the  
252 centralization of power and autocratic governance (Kumar, Baishya, Sadarangani, & Samalia,  
253 2020). A considerable power distance indicates that tourism policies are driven by a top-down  
254 approach, in which authorities decide and design the policies (Gao et al., 2018). We argue that  
255 the power distance will likely restrict communication from tourists to authorities. Such an  
256 approach may limit policy implications, as the views of an important stakeholder, namely,  
257 tourists, are not considered in policymaking. Thus, countries with considerable power distance  
258 will likely have poor tourism policies, which will be reflected in reduced destination  
259 competitiveness. Hence, we propose the following hypothesis:

260 **H8:** The power distance in a country is negatively associated with its TTCI.

261 **Uncertainty avoidance** reflects that degree to which a country avoids uncertain situations by  
262 relying on existing social norms and regulations (Nazarian et al., 2021; Simha et al., 2021).  
263 Uncertainty-avoiding countries attempt to diminish the likelihood of encountering uncertain  
264 situations through strict codes of conduct, guidelines, and regulations as well as the  
265 condemnation of nonstandard beliefs (Kumar & Dhir, 2020). We argue that extending such  
266 regulations to tourist destinations may be appreciated by tourists, as they understand that  
267 destinations may be destroyed if left unchecked, without regulations. Thus, we anticipate that  
268 countries with high uncertainty avoidance will attract a considerable number of tourists and  
269 exhibit improved destination competitiveness, so we propose the following hypothesis:

270 **H9:** The uncertainty avoidance of a country is positively associated with its TTCI.

271 Economic development is typically assessed through the GDP or GDPPC, which has a strong  
272 association with the travel and tourism industry growth of a country (Gómez-Vega & Picazo-  
273 Tadeo, 2019; Lee & Chang, 2008). Scholars (e.g., Kumar, Baishya, Sadarangani, & Samalia,  
274 2020; Kumar, Baishya, Sreen, Sadarangani, & Samalia, 2021) suggested that the GDP can  
275 significantly shape the competitiveness of a country (Webster & Ivanov, 2014), which is  
276 reflected in the increased inflow of global tourists. Countries with a high GDP per capita will  
277 have sufficient resources to invest in destination development as well as that of related  
278 infrastructure, transport, and supporting destination activities. By contrast, countries with a low  
279 GDP per capita must fulfill their citizens' basic needs before investing in destination promotion,  
280 which suggests that a country with a high GDP per capita denotes a wealthy country that may be  
281 more vocal about its destination competitiveness than a country with a low GDP per capita. We  
282 argue that the higher the GDP of a country, the more its resource allocation for infrastructure  
283 development, which will ultimately improve its destination competitiveness (see Ayikoru, 2015).  
284 Therefore, we propose the following hypothesis:

285 **H10:** The GDPPC of a country is positively associated with its TTCI.

286

287 **3.2 Moderating effect of cultural attributes on association between GDP and TTCI**

288 The concept of the inflow of tourists improving with the GDP of a country is well-  
289 established (Castro-Nuño et al., 2013). Tourism also offers multiple advantages to the hospitality  
290 industry, transportation industry, and several ancillary industries, among others, thereby  
291 contributing to increase in per capita income (or the GDP per capita; Perez-Rodríguez et al.,  
292 2015). Furthermore, high-GDP countries can allocate funds for promoting their destinations  
293 globally, thereby improving their competitiveness. However, economic development changes do  
294 not lead to proportional increase in the tourism competitiveness. This is because the tourism  
295 experience also requires a social and cultural exchange along with preserving of environment  
296 and culture (Kumar & Kumar, 2022). Various cultural attributes are expected to limit the over-  
297 exploitation and enhance tourism judiciously by moderating the impact of GDP per capita on  
298 TTCI. Hence, we propose the following hypothesis:

299 **H11:** A country's cultural "(a) assertiveness, (b) institutional collectivism, (c) in-group  
300 collectivism, (d) future orientation, (e) gender egalitarianism, (f) humane orientation, (g)  
301 performance orientation, (h) power distance, and (i) uncertainty avoidance" moderate the  
302 association between GDP and TTCI.

### 303 **3.3 Cultural values versus cultural practices**

304 The GLOBE project offers nine cultural dimensions in two aspects, namely, cultural values  
305 and cultural practices. This distinction was not highlighted by previous conceptualizations of  
306 culture, such as that of Hofstede (Hofstede, 2011). Cultural values reflect "what should be," and  
307 cultural practices represent "what is" (House et al., 2004). In this study, cultural practices are  
308 mutually shared perceptions of how individuals routinely behave in a culture, whereas values are  
309 the shared ideals of a culture (Frese, 2015). The majority of the GLOBE cultural dimensions  
310 shows a negative relationship between cultural practices and cultural values (Frese, 2015; House  
311 et al., 2004). Scholars asserted that "cultural values are inside the individual," whereas "cultural  
312 practices are outside the individual" and governed by descriptive norms. In the context of  
313 tourism competitiveness, we argue that as the majority of tourists' behaviors or individuals'  
314 actions is guided by descriptive norms (e.g., Stephan & Uhlaner, 2010), developing a model  
315 using cultural practices rather than cultural values is essential. Descriptive norms prescribe  
316 certain codes of conduct for tourists or individuals (e.g., Shteynberg et al., 2009), and when such  
317 conducts are socially regulated, they will become practices. Thus, norms or cultural practices are

318 built on tourists' common behaviors, that is, how people think and behave around tourists.  
319 Hence, we propose that cultural practices can explain the TTCI better than cultural values.

320 **H12:** The cultural practices model can explain tourism competitiveness better than the cultural  
321 values model.

#### 322 **4. Research Methods**

323 To investigate the influence of cultural values/practices on travel and tourism  
324 competitiveness, we conceptualized a model that can be represented as

325

$$326 \quad \quad \quad TTCI = f(Cultural\ Values/Practices, GDPPC). (1)$$

327

328 To test the model, we utilized secondary data sources for the TTCI, cultural values/practices,  
329 and GDPPC. We collected data (from 2011 to 2021) on the TTCI of all the available countries  
330 from the World Economic Forum, which are generated in five waves of reports released in  
331 alternate years. For 2021, we used the Travel and Tourism Development Index, which replaced  
332 the TTCI (Uppink & Soshkin, 2022). For the cultural values/practices, we referred to Harzing  
333 (2022), which provided GLOBE cultural model (House et al., 2004) data for 39 countries in the  
334 nine cultural dimensions. Finally, we collected the GDP data from the World Bank (2022). In  
335 summary, we utilized strongly balanced data points from 39 countries (Appendix A) for 6 years  
336 for the analysis.

337 The TTCI score values vary between 1 and 7, where 1 = worst and 7 = best. It is computed  
338 through successive aggregations of indication and pillar level scores using a simple average to  
339 combine the components. The globe cultural dimension aggregated responses<sup>1</sup> and the final  
340 aggregate scores ranged between 1 and 7, with a higher value representing more presence of that  
341 dimension. Scholars (e.g., Kumar et al., 2021) argued that a country's culture tends to remain  
342 constant over time and changes slowly (Table 1). To illustrate their implications, we analyzed

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<sup>1</sup> <https://globeproject.com/data/GLOBE-Dimensions-Definitions-and-Scale-Items.pdf>

343 the GLOBE cultural values and practices separately, with the analysis comprising three stages.  
344 The analysis was performed using STATA SE 17.0.

**Table 1: Summary of Data**

Variable	Year/Description	Values				Log Linearized			
		Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
TTCI	2011	4.34	0.68	3.09	5.68	1.67	0.13	1.41	1.90
	2013	4.36	0.67	3.14	5.66	1.67	0.12	1.42	1.90
	2015	4.06	0.63	2.80	5.23	1.61	0.13	1.33	1.83
	2017	4.06	0.63	2.80	5.23	1.61	0.13	1.33	1.83
	2019	4.20	0.66	2.82	5.39	1.64	0.13	1.34	1.85
	2021	4.18	0.60	3.00	5.20	1.64	0.12	1.39	1.83
Cultural values	“Assertiveness” (AST)	3.86	0.63	2.68	5.84	1.57	0.13	1.30	1.92
	“Institutional collectivism” (ICT)	4.73	0.46	3.79	5.60	1.74	0.08	1.57	1.89
	“In-group collectivism” (IGC)	5.67	0.35	4.98	6.54	1.90	0.05	1.79	2.02
	“Future orientation” (FTO)	5.54	0.33	4.93	6.30	1.88	0.05	1.78	1.99
	“Gender egalitarianism” (GEG)	4.47	0.48	3.34	5.19	1.69	0.09	1.47	1.82
	“Humane orientation” (HMO)	5.36	0.22	4.85	5.72	1.85	0.03	1.77	1.91
	“Performance orientation” (PRO)	5.92	0.31	5.09	6.52	1.93	0.05	1.81	2.02
	“Power distance” (PWD)	2.76	0.35	2.21	3.80	1.32	0.09	1.17	1.57
Cultural practices	“Uncertainty avoidance” (UCA)	4.64	0.58	3.20	5.71	1.63	0.10	1.46	1.86
	“Assertiveness” (AST)	4.11	0.36	3.41	4.77	1.63	0.07	1.48	1.75
	“Institutional collectivism” (ICT)	4.22	0.41	3.41	5.26	1.65	0.08	1.48	1.83
	“In-group collectivism” (IGC)	5.15	0.69	3.46	6.18	1.81	0.12	1.50	1.97
	“Future orientation” (FTO)	3.86	0.45	3.10	4.88	1.58	0.09	1.41	1.77
	“Gender egalitarianism” (GEG)	3.35	0.31	2.59	3.87	1.47	0.07	1.28	1.58
	“Humane orientation” (HMO)	4.19	0.43	3.29	5.12	1.64	0.08	1.46	1.81
	“Performance orientation” (PRO)	4.08	0.39	3.34	5.04	1.62	0.08	1.47	1.80
	“Power distance” (PWD)	5.11	0.36	4.31	5.70	1.81	0.06	1.67	1.90
“Uncertainty avoidance” (UCA)	4.13	0.54	3.32	5.42	1.63	0.10	1.46	1.86	
GDPPC (constant 2015 US\$)	2011	20183	21619	1244	82678	9.24	1.25	7.13	11.32
	2013	20460	21694	1321	83345	9.28	1.23	7.19	11.33
	2015	20947	22149	1338	84776	9.31	1.21	7.20	11.35
	2017	21398	22521	1354	86119	9.34	1.21	7.21	11.36
	2019	21859	22985	1349	88413	9.36	1.20	7.21	11.39
	2021	21845	23098	1282	88224	9.35	1.21	7.16	11.39

345

346

347 First, we ascertained that the data were balanced, in line with the panel data analysis  
 348 preconditions of Bartels (2008) and Bell and Jones (2015). In our study, we considered three data  
 349 analysis approaches: fixed effects regression, random effects regression, and pooled regression.  
 350 As the data contained cultural data, which are time invariant, fixed effects regression is not  
 351 applicable, as the model will be invalid for fixed-effects analysis. Breusch–Pagan Lagrange  
 352 multiplier (LM) test helps us decide between a random effects regression and a simple OLS  
 353 regression (Torres-Reyna, 2007). The LM test results ( $p = 0.000$ ) confirmed the existence of  
 354 significant differences across the observations (Córcoles et al., 2019). In other words, the LM  
 355 test confirmed the presence of panel effects in the data, and pooled regression may not be  
 356 suitable to data with panel effects. Therefore, random effects regression is appropriate for the  
 357 data analysis, which can be represented as

358

$$359 \quad TTCI_{it} = \alpha + \begin{bmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \cdot \\ \cdot \\ \cdot \\ \beta_{10} \end{bmatrix} [Cultural (Practices/Values) [1 - 9]_i GDPPC_{it}] + \mu_i + \epsilon_{it} \quad (2),$$

360  
 361 where subscript  $i$  represents the 39 countries, and  $t$  represents the variations in time of the  
 362 variable and captures the value for each year  $t$ .

363 In addition,  $\alpha$  is the common bias (the mean of all unit-specific effects), which forms the  
 364 intercept of the linear regression model;  $\mu_i$  is the time-invariant variance introduced by the unit-  
 365 specific effect for unit  $i$ ; and  $\epsilon_{it}$  is the error balance amount from all the other sources introduced  
 366 for unit  $i$  at time  $t$ .

367 Next, to determine whether cultural values or cultural practices are better predictors of travel  
 368 and tourism competitiveness, we conducted stochastic frontier analysis (SFA), which can help in  
 369 understanding the boundary, frontier, or optimal behavior. In this study, we performed SFA,  
 370 assuming that the TTCI is a production function of the cultural practices/values and GDP per  
 371 capita (Aigner et al., 1977). By considering inefficiency and random shocks, SFA considered the

372 deviation between the observed and optimal values and thus can obtain the technical efficiency  
 373 (TE) scores.

374 The specification of the SFA model is as follows:

$$375 \quad TTCI_{it} = \beta_0 + \begin{bmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \cdot \\ \cdot \\ \cdot \\ \beta_{10} \end{bmatrix} [Cultural (Practices/Values) [1 - 9]_i GDP_{PC_{it}}] - u_i + v_i \quad (3),$$

376 where subscript i represented the 39 countries, t represented the variations in time of the variable  
 377 and captured the value for each year t, and  $u_i$  and  $v_i$  are the error terms.

378 Lastly, after the SFA, we estimated the TE of the TTCI (Battese & Coelli, 1995). The TE  
 379 ranged from 0 to 1 such that when the actual TTCI equals the potential TTCI, TE would take the  
 380 value of 1, and any value within the interval (0, 1) would reflect a discrepancy between the  
 381 actual and potential values. We employed the TE of the cultural practices and cultural values to  
 382 obtain the TE ratio (TER), as follows:

$$383 \quad TER = \frac{TE_{Practices}}{TE_{Values}} \quad (4),$$

384 where  $TE_{Practices}$  and  $TE_{Values}$  were the TE of the cultural practices and values models. On  
 385 the one hand, if the TER was greater than 1, then cultural practices were better predictor of travel  
 386 and tourism competitiveness than cultural values. On the other hand, a TER less than 1 showed  
 387 that cultural values were a better predictor of tourism competitiveness than cultural practices,  
 388 where 1 = a neutral point. For easy comparison, we employed the following equation to obtain a  
 389 zero-adjusted neutral point:

$$390 \quad ATER = \frac{TE_{Practices}}{TE_{Values}} - 1 \quad (5)$$

391 Thus, an adjusted TER (ATER) greater than 0 would show that cultural practices were a  
 392 superior predictor of tourism competitiveness, whereas an ATER less than 0 would show that  
 393 cultural values were a superior predictor of tourism competitiveness, with 0 as the neutral point.

394 In addition, we perform a mixed SFA-regression analysis, where we model

395 
$$TTCI_{it} = \beta_0 + \beta_1[GDPPC_{it}] - u_i + v_i \quad (6)$$

396 The technical (TE) of the model from equation 6 is used to find the inefficiency (IE) remaining in  
397 the model.

398 
$$IE = 1 - TE \quad (7)$$

399 
$$IE_i = \alpha + \begin{bmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \cdot \\ \cdot \\ \cdot \\ \beta_9 \end{bmatrix} [Cultural (Practices/Values) [1 - 9]_i] + \epsilon_i \quad (8)$$

400 Where  $i$  represent the different countries.

401 A significant variable in the IE model is expected to have an opposite sign to that in the TTCI model  
402 to have the same impact on the competitiveness. **The goodness of fit of the values and practices models  
403 is used to answer RQ3.**

## 404 5. Results

405 Before proceeding to the random effects analysis, we performed collinearity testing. Table 2  
406 presents the variance inflation factors. All the values were within the limits, thereby avoiding the  
407 issue of multicollinearity, which suggested that we can easily proceed with the random effects  
408 regression. The variance inflation factor ranges from 1 to 5, well below the standard thresholds  
409 (Gareth et al., 2013), relieving any concerns about multicollinearity.

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416 Table 2: Variance Inflation Factors (VIF)

Culture (Values)	VIF	1/VIF	Culture (Practices)	VIF	1/VIF
FTO	2.87	0.348	UCA	3.93	0.254
UCA	2.78	0.360	ICT	3.53	0.282
ICT	2.52	0.397	FTO	3.28	0.304
GEG	2.46	0.405	IGC	2.43	0.4117
LGDPPC	2.17	0.460	PRO	2.41	0.415
IGC	2.01	0.496	LGDPPC	2.27	0.440
HMO	2.01	0.498	AST	2.01	0.498
PRO	1.99	0.502	HMO	1.85	0.540
AST	1.7	0.589	PWD	1.56	0.641
PWD	1.69	0.590	GEG	1.38	0.723
Mean VIF	2.22		Mean VIF	2.47	

417 *Note: All variables are log linearized; “assertiveness” = AST, “institutional collectivism” = ICT, “in-group*  
 418 *collectivism” = IGC, “future orientation” = FTO, “gender egalitarianism” = GEG, “humane orientation” =*  
 419 *HMO, “performance orientation” = PRO, “power distance” = PWD, “uncertainty avoidance” = UCA, “GDP per*  
 420 *capita” (log) = LGDPPC*

421

## 422 5.1 Measuring association and moderation effect of cultural attributes: Regression analysis

423 We performed random effects regression to find the association between culture and travel  
 424 and tourism competitiveness. **Specifically, we conducted separate analyses for the cultural**  
 425 **values, cultural practices and cultural differences model. Table 3 provides the results of the**  
 426 **random effects regression. RQ1 and RQ2 are examined through models 3, 6 and 9 of the**  
 427 **regression analyses in Table 3.**

### 428 Cultural values

$$\begin{aligned}
 429 \quad TTCI_{it} = & \alpha + \beta_1 AST_i + \beta_2 ICT_i + \beta_3 IGC_i + \beta_4 FTO_i + \beta_5 GEG_i + \beta_6 HMO_i + \\
 430 \quad & \beta_7 PRO_i + \beta_8 PWD_i + \beta_9 UCA_i + \beta_{10} LGDPPC_i + \mu_i + \epsilon_{it}. \text{where } AST = \text{“assertiveness,” } ICT \\
 431 \quad & = \text{“institutional collectivism,” } IGC = \text{“in-group collectivism,” } FTO = \text{“future orientation,” } GEG \\
 432 \quad & = \text{“gender egalitarianism,” } HMO = \text{“humane orientation,” } PRO = \text{“performance orientation,”} \\
 433 \quad & PWD = \text{“power distance,” } UCA = \text{“uncertainty avoidance,” } LGDPPC = \text{“GDP per capita” (log)} \\
 434 \quad & = LGDPPC
 \end{aligned}$$

435 To perform the regression, we introduced the cultural values and LGDPPC into the model  
 436 (Model 1), without including the time dummies and interaction terms, and found that GEG ( $\beta =$   
 437  $0.409, p < 0.1$ ) and LGDPPC ( $\beta = 0.329, p < 0.001$ ) significantly influenced the TTCI (Table 3).  
 438 In the next model (Model 2), we introduced the year dummies, and our findings indicated the

439 significant influence of FTO ( $\beta = 0.41, p < 0.05$ ), GEG ( $\beta = 0.454, p < 0.1$ ), HMO ( $\beta = -0.671, p$   
440  $< 0.1$ ), PWD ( $\beta = -0.345, p < 0.05$ ), and LGDPPC ( $\beta = 0.454, p < 0.001$ ). The coefficient of the  
441 year variables was negative and significant for 2015, 2017, 2019, and 2021. In the next model  
442 (Model 3), we included the interaction terms, and the findings indicated the significant influence  
443 of AST ( $\beta = 0.221, p < 0.1$ ), FTO ( $\beta = 0.698, p < 0.001$ ), GEG ( $\beta = 0.475, p < 0.05$ ), and  
444 LGDPPC ( $\beta = 0.482, p < 0.001$ ). In addition, the interaction variables of GEG ( $\beta = 0.415, p <$   
445  $0.05$ ) were significant.

#### 446 **Cultural practices**

$$447 \quad TTCl_{it} = \alpha + \beta_1 AST_i + \beta_2 ICT_i + \beta_3 IGC_i + \beta_4 FTO_i + \beta_5 GEG_i + \beta_6 HMO_i + \beta_7 PRO_i$$

$$448 \quad + \beta_8 PWD_i + \beta_9 UCA_i + \beta_{10} LGDPPC_i + \mu_i + \epsilon_{it}.$$

449 In Model 4 (Table 3), we introduced the cultural practices variables and LGDPPC and found  
450 that AST ( $\beta = -0.477, p < 0.001$ ), ICT ( $\beta = -0.453, p < 0.05$ ), IGC ( $\beta = -0.167, p < 0.1$ ), FTO ( $\beta =$   
451  $0.536, p < 0.001$ ), PRO ( $\beta = 0.486, p < 0.001$ ), PWD ( $\beta = 0.388, p < 0.1$ ), and LGDPPC ( $\beta =$   
452  $0.289, p < 0.001$ ) significantly influenced the TTCI (Table 3). In the next model (Model 5), we  
453 introduced the time dummies, and the findings indicated the significant influence of AST ( $\beta = -$   
454  $0.528, p < 0.001$ ), ICT ( $\beta = -0.553, p < 0.001$ ), FTO ( $\beta = 0.545, p < 0.001$ ), PRO ( $\beta = 0.474, p <$   
455  $0.001$ ), PWD ( $\beta = 0.37, p < 0.05$ ), and LGDPPC ( $\beta = 0.401, p < 0.001$ ). Similar to the values  
456 model, the coefficient of the year variables was negative and significant for 2015, 2017, 2019,  
457 and 2021. Furthermore, we included the interaction terms in Model 6, and the findings indicated  
458 the significant influence of AST ( $\beta = -0.895, p < 0.001$ ), IGT ( $\beta = -0.378, p < 0.1$ ), FTO ( $\beta =$   
459  $0.559, p < 0.001$ ), HMO ( $\beta = -0.314, p < 0.05$ ), PRO ( $\beta = 0.463, p < 0.001$ ), PWD ( $\beta = 0.543, p$   
460  $< 0.001$ ), and LGDPPC ( $\beta = 0.413, p < 0.001$ ). In addition, the interaction variables of IGC ( $\beta =$   
461  $-0.269, p < 0.001$ ), FTO ( $\beta = 0.354, p < 0.001$ ), PWD ( $\beta = 0.399, p < 0.001$ ), and UCA ( $\beta = -$   
462  $0.517, p < 0.05$ ) were significant.

463 **Cultural differences model:** We determined the differences between the cultural practices  
464 and cultural variables to conduct the regression. For example,  $\Delta AST$  is equal to AST cultural  
465 practices minus AST cultural values.

$$466 \quad TTCl_{it} = \alpha + \beta_1 \Delta AST_i + \beta_2 \Delta ICT_i + \beta_3 \Delta IGC_i + \beta_4 \Delta FTO_i + \beta_5 \Delta GEG_i + \beta_6 \Delta HMO_i + \beta_7 \Delta PRO_i$$

$$467 \quad + \beta_8 \Delta PWD_i + \beta_9 \Delta UCA_i + \beta_{10} \Delta LGDPPC_i + \mu_i + \epsilon_{it}.$$

468 In Model 7, we introduced the delta cultural variables and LGDPPC and found that AST ( $\beta =$   
469  $-0.138, p < 0.1$ ), IGC ( $\beta = -0.226, p < 0.05$ ), PRO ( $\beta = 0.416, p < 0.001$ ), PWD ( $\beta = 0.305, p <$   
470  $0.001$ ), and LGDPPC ( $\beta = 0.254, p < 0.001$ ) were significant and thus influenced the TTCI  
471 (Table 3). In the next model (Model 8), we introduced the time dummies, and the findings  
472 indicated the significant influence of AST ( $\beta = -0.153, p < 0.1$ ), PRO ( $\beta = 0.389, p < 0.001$ ),  
473 PWD ( $\beta = 0.288, p < 0.05$ ), and LGDPPC ( $\beta = 0.382, p < 0.001$ ). Similar to the practices and  
474 values models, the coefficient of the year variables was negative and significant for 2015, 2017,  
475 2019, and 2021. Furthermore, we included the interaction terms in Model 9, and the findings  
476 indicated the significant influence of PRO ( $\beta = 0.462, p < 0.001$ ), PWD ( $\beta = 0.461, p < 0.1$ ), and  
477 LGDPPC ( $\beta = 0.388, p < 0.001$ ). In addition, the interaction variables of PWD ( $\beta = 0.227, p <$   
478  $0.1$ ) and UCA ( $\beta = -0.206, p < 0.1$ ) were significant. **Table 4 shows the results of the hypothesis**  
479 **tests related to RQ1 and RQ2.**

480 **Table 3: Results of Random Effects**

	Model 1 (values)	Model 2 (values)	Model 3 (values)	Model 4 (practices)	Model 5 (practices)	Model 6 (practices)	Model 7 delta	Model 8 delta	Model 9 delta
AST	0.11 (0.1)	0.135 (0.1)	0.221* (0.129)	-0.477*** (0.171)	-0.528*** (0.172)	-0.895*** (0.145)	-0.138* (0.08)	-0.153* (0.078)	-0.154 (0.115)
ICT	-0.158 (0.148)	-0.188 (0.152)	0.095 (0.247)	-0.453** (0.212)	-0.553*** (0.208)	-0.378* (0.227)	-0.156 (0.109)	-0.147 (0.107)	-0.228 (0.16)
IGC	-0.273 (0.204)	-0.336 (0.206)	-0.219 (0.231)	-0.167* (0.087)	-0.084 (0.11)	0.022 (0.123)	-0.226** (0.109)	-0.157 (0.149)	-0.254 (0.173)
FTO	0.32 (0.243)	0.41** (0.205)	0.698*** (0.239)	0.536*** (0.143)	0.545*** (0.18)	0.559*** (0.116)	0.221 (0.141)	0.185 (0.172)	0.167 (0.159)
GEG	0.409* (0.234)	0.454* (0.25)	0.475** (0.187)	0.288 (0.193)	0.242 (0.233)	0.208 (0.143)	0.11 (0.121)	0.025 (0.163)	0.256 (0.222)
HMO	-0.515 (0.359)	-0.671* (0.344)	-0.461 (0.35)	0.008 (0.1)	0.085 (0.11)	-0.314** (0.137)	-0.057 (0.095)	0.003 (0.104)	-0.053 (0.159)
PRO	-0.261 (0.225)	-0.276 (0.233)	-0.27 (0.175)	0.486*** (0.162)	0.474*** (0.168)	0.463*** (0.168)	0.416*** (0.121)	0.389*** (0.136)	0.462*** (0.174)
PWD	-0.255 (0.164)	-0.345** (0.147)	-0.162 (0.207)	0.388** (0.164)	0.37** (0.182)	0.543*** (0.123)	0.305*** (0.103)	0.288** (0.137)	0.461*** (0.175)
UCA	-0.18 (0.144)	-0.028 (0.126)	-0.084 (0.16)	-0.102 (0.209)	-0.129 (0.207)	0.027 (0.147)	0.012 (0.135)	-0.046 (0.141)	0.07 (0.151)
LGDPPC	0.329*** (0.058)	0.454*** (0.058)	0.482*** (0.059)	0.289*** (0.062)	0.401*** (0.068)	0.413*** (0.047)	0.254*** (0.062)	0.382*** (0.075)	0.388*** (0.072)
2013		0.001 (0.012)	0 (0.013)		0.003 (0.013)	0.002 (0.013)		0.004 (0.013)	0.001 (0.014)

	Model 1 (values)	Model 2 (values)	Model 3 (values)	Model 4 (practices)	Model 5 (practices)	Model 6 (practices)	Model 7 delta	Model 8 delta	Model 9 delta
2015		-0.313*** (0.035)	-0.314*** (0.035)		-0.309*** (0.035)	-0.31*** (0.036)		-0.308*** (0.035)	-0.311*** (0.035)
2017		-0.326*** (0.036)	-0.327*** (0.035)		-0.321*** (0.035)	-0.32*** (0.036)		-0.319*** (0.036)	-0.322*** (0.035)
2019		-0.197*** (0.041)	-0.197*** (0.043)		-0.191*** (0.041)	-0.19*** (0.041)		-0.188*** (0.042)	-0.191*** (0.041)
2021		-0.216*** (0.04)	-0.214*** (0.043)		-0.21*** (0.04)	-0.206*** (0.041)		-0.207*** (0.041)	-0.209*** (0.039)
ASTxLGDPPC			0.066 (0.099)			0.082 (0.114)			-0.023 (0.092)
ICTxLGDPPC			0.121 (0.208)			-0.236 (0.266)			-0.087 (0.155)
IGCxLGDPPC			0.023 (0.179)			-0.269*** (0.08)			-0.144 (0.109)
FTOxLGDPPC			0.254 (0.201)			0.354*** (0.09)			0.032 (0.111)
GEGxLGDPPC			0.415** (0.169)			0.116 (0.138)			-0.008 (0.142)
HMOxLGDPPC			0.248 (0.297)			0.075 (0.118)			-0.055 (0.1)
PROxLGDPPC			0.068 (0.207)			-0.017 (0.128)			0.164 (0.139)
PWDxLGDPPC			0.06 (0.228)			0.399*** (0.131)			0.227* (0.123)
UCAxLGDPPC			0.073 (0.115)			-0.517*** (0.139)			-0.206* (0.109)
Constant	5.25* (2.922)	4.421 (3.037)	0.158* (0.088)	-0.368 (1.582)	-0.984 (1.729)	0.201*** (0.067)	2.151*** (0.616)	1.046 (0.769)	0.271** (0.109)
Mean dependent var.	4.193	4.193	0	4.193	4.193	0	4.193	4.193	0
SD dependent var	0.646	0.646	0.646	0.646	0.646	0.646	0.646	0.646	0.646
Number of obs.	234	234	234	234	234	234	234	234	234
R-squared	0.745	0.757	0.878	0.796	0.804	0.916	0.778	0.787	0.84
Overall r-squared	0.686	0.738	0.848	0.734	0.781	0.884	0.718	0.766	0.815

481 Note: \*\*\* $p < .01$ , \*\* $p < .05$ , and \* $p < .1$ ; numbers in parentheses represent standard deviation; “assertiveness” = AST,  
482 “institutional collectivism” = ICT, “in-group collectivism” = IGC, “future orientation” = FTO, “gender  
483 egalitarianism” = GEG, “humane orientation” = HMO, “performance orientation” = PRO, “power distance” =  
484 PWD, “uncertainty avoidance” = UCA, “GDP per capita” (log) = LGDPPC

485

486

487

488 **Table 4: Results of Hypothesis Tests**

	Hypothesis	Model 3	Model 6	Model 9	H11*
H1: Assertiveness	Negative	x^	✓	x	xxx
H2: Institutional Collectivism	Positive	x	x^	x	xxx
H3: In group collectivism	Negative	x	x	x	x✓x
H4: Future Orientation	Positive	✓	✓	x	x✓x
H5: Gender Egalitarianism	Positive	✓	x	x	✓xx
H6: Humane orientation	Positive	x	x^	x	xxx
H7: Performance orientation	Positive	x	✓	✓	xxx
H8: Power Distance	Negative	x	x^	x^	x✓✓
H9: Uncertainty Avoidance	Positive	x	x	x	x✓✓
H10 GDP	Positive	✓	✓	✓	-

489 *Note: ✓ and x represents support and non-support of hypotheses, respectively. \*The three symbols under*  
 490 *the column represent results from model 3, 6, and 9. ^ the variable in these models show a sign opposite*  
 491 *to the hypothesis*

492

493 **5.2 Finding the better cultural models: Stochastic frontier analysis**

494 The cultural values and practices models were distinctly different in many of the cultural  
 495 dimensions, which we expected, as the cultural values and practices dimensions were negatively  
 496 correlated in many of the countries. However, to determine the superior tourism competitiveness  
 497 indicator through the TTCI, we compared the cultural values and practices models by  
 498 considering tourism competitiveness (i.e., the TTCI) as a production function of the cultural  
 499 dimensions, along with the GDP per capita. The SFA model was realistic in assuming that the  
 500 different countries had yet to reach their maximum tourism competitiveness potential, as  
 501 predicted by the variables. **Table 5 provides the results of the SFA and mixed SFA regression**  
 502 **models. The RQ3 is examined through models 10, 11,12, and 13 in Table 5.**

503 In Table 5, Models 10 and 11 presented the SFA results, where  $\lambda > 1$  for each model showed  
 504 the inefficiency in the estimation models (Kumar, Kumar, Sengupta, & Giri, 2022). Regarding  
 505 parameter  $\gamma$ , it had a value close to 1, representing a satisfactory model fit (Battese & Coelli,  
 506 1995). As gamma ( $\gamma$ ) must be within the (0, 1) interval, we optimized it by parameterizing the  
 507 logit of  $\gamma$  (lgtgamma). As  $\sigma_s^2$  must be greater than zero, we optimized it by parameterizing  $\ln(\sigma_s^2)$   
 508 (lnsigma2). Figure 1 shows the TE of the models for all the countries. A TE of 1 represented the  
 509 attainment of the highest possible tourism competitiveness score.

510 **Table 5: SFA Results**

	Model 10	Model 11	Model 12	Model 13
	Values (SFA)	Practices (SFA)	Values (Mixed SFA Regression)	Practices (Mixed SFA Regression)
AST	0.095 (0.059)	-0.534*** (0.202)	-0.082** (0.036)	0.481*** (0.062)
ICT	-0.178 (0.123)	-0.505*** (0.174)	0.151** (0.069)	0.502*** (0.073)
IGC	-0.837*** (0.202)	-0.121 (0.15)	0.289*** (0.097)	0.088** (0.036)
FTO	0.488*** (0.17)	0.538*** (0.189)	-0.329*** (0.121)	-0.442*** (0.061)
GEG	0.1 (0.107)	0.077 (0.2)	-0.318*** (0.061)	-0.232*** (0.05)
HMO	-0.752** (0.302)	-0.175 (0.146)	0.609*** (0.142)	-0.051 (0.048)
PRO	0.186 (0.2)	0.59*** (0.204)	0.338*** (0.111)	-0.426*** (0.063)
PWD	-0.244** (0.114)	0.525** (0.208)	0.198*** (0.05)	-0.337*** (0.065)
UCA	-0.143 (0.109)	-0.199* (0.118)	0.138*** (0.047)	0.096 (0.06)
LGDPPC	0.086*** (0.013)	0.058*** (0.015)		
Constant	3.169*** (1.194)	0.836 (0.764)	-1.69*** (0.461)	0.609** (0.262)
Mu ( $\mu$ )	-41.175 (434.322)	-0.132 (0.385)		
Lnsigma2	1.029 (10.505)	-3.987*** (1.398)		
llgtgamma	7.588 (10.51)	2.521* (1.516)		
Sigma2 (	2.797 (29.38)	0.019 (0.026)		
Gamma ( $\gamma$ )	0.999 (0.005)	0.925 (0.104)		
Sigma_u2	2.796 (29.38)	0.017 (0.025)		
Sigma_v2	0.0014 (0.000)	0.001 (0.000)		
Lambda ( $\lambda$ )	44.69	4.12		
Mean dependent var.	1.64	1.64	0.113	0.113
Number of obs.	234	234	39	39
Prob > chi2	0	0		
SD dependent var.	0.125	0.125	0.062	0.062

	Model 10	Model 11	Model 12	Model 13
Chi-square	204.423	248.796		
Akaike criterion	-743.608	-751.701	-693.431	-762.047
Adjusted R-squared			0.2449	0.4368
F-test			9.398	21.082
Prob > F			0	0

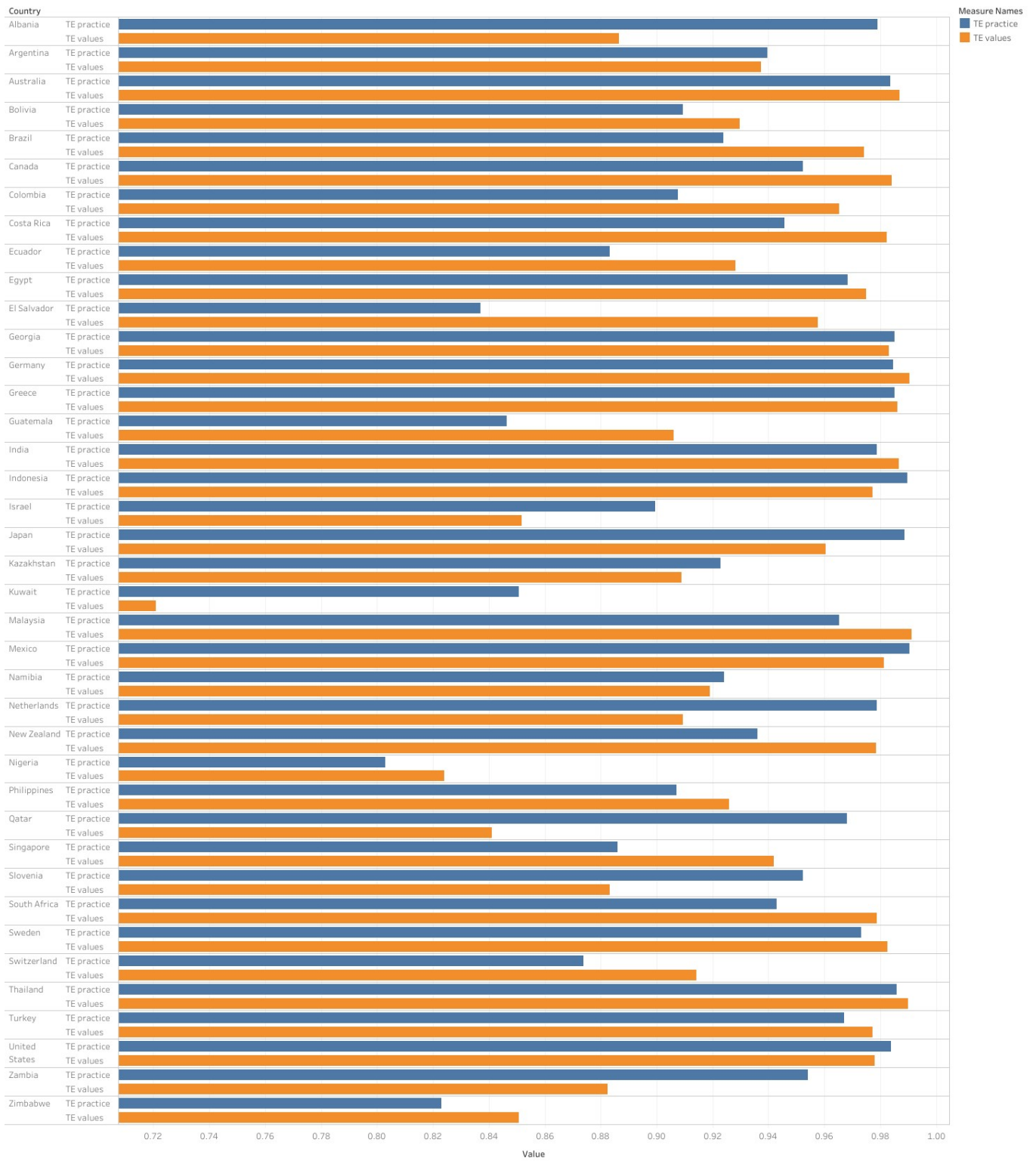
511 *Note: \*\*\*p<.01, \*\*p<.05, and \*p<.1; numbers in parentheses represent standard deviation; “assertiveness” =*  
512 *AST, “institutional collectivism” = ICT, “in-group collectivism” = IGC, “future orientation” = FTO, “gender*  
513 *egalitarianism” = GEG, “humane orientation” = HMO, “performance orientation” = PRO, “power distance” =*  
514 *PWD, “uncertainty avoidance” = UCA, “GDP per capita” (log) = LGDPPC. Mixed SFA Regression model is SFA*  
515 *on LGDPPC followed by regression on inefficiency*

516

517 Models 12 and 13 present the regression results followed by SFA on GDP variable. Model  
518 13 has an adjusted R-square of 0.4368 whereas model 12 has an adjusted R-square of 0.2449.  
519 Further, when comparing Model 10 with Model 12 and Model 11 with Model 13, if a variable is  
520 significant in both models, the signs are opposite, showcasing that inefficiency of the model is  
521 opposite of the TTCI competitiveness.

522

TTCI



523

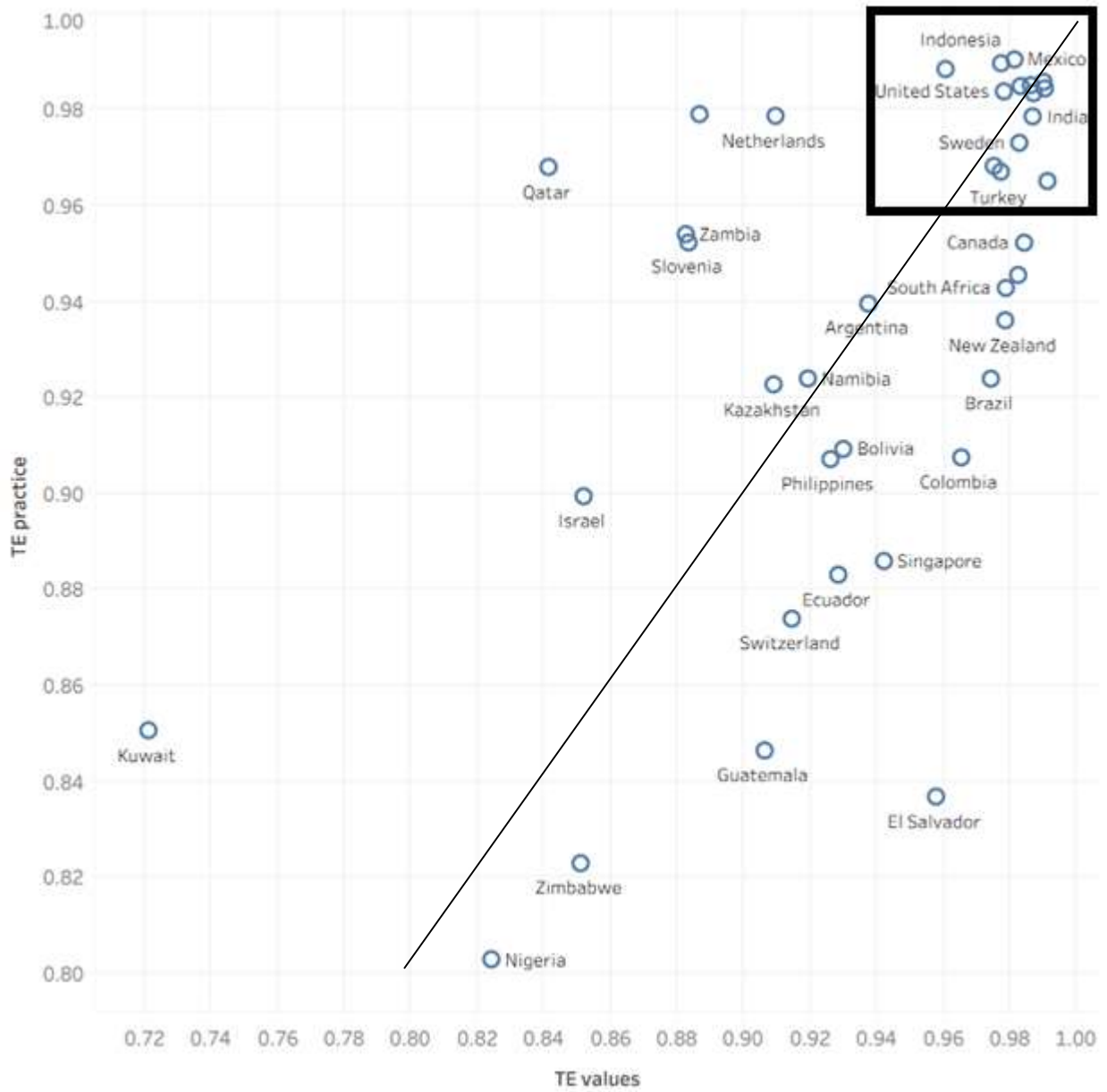
524 **Figure 1. TE of Cultural Practices and Values**

525

526

Figures 2(a) and 2(b) illustrate the TE of the cultural values and practices models.

527

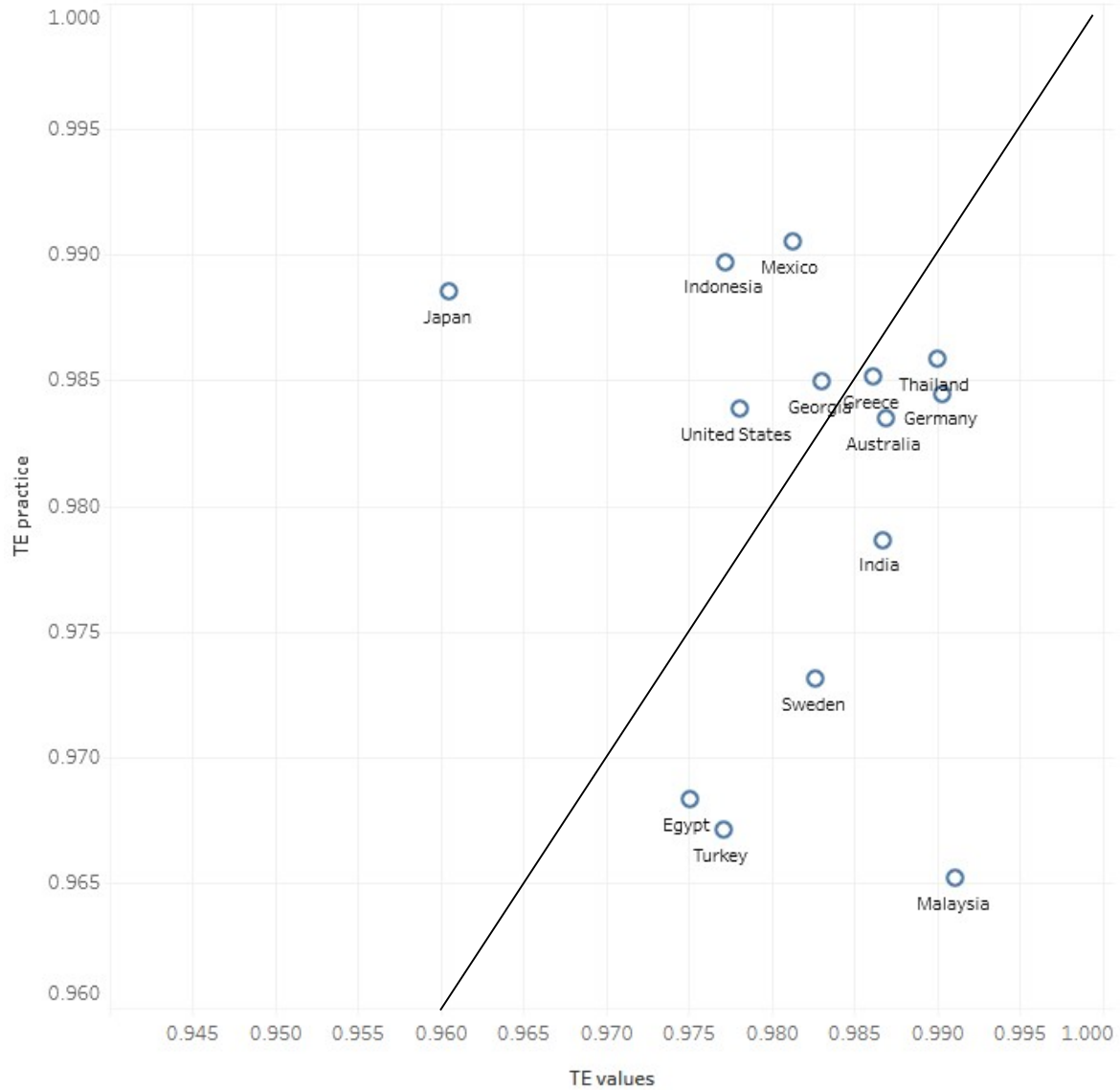


528

529

**Figure 2 (a). Comparison of TE of the Practices and Values Models**

530



531

532 **Figure 2 (b). Comparison of TE of the Practices and Values Models (Upper Right Corner**  
 533 **Zoomed)**

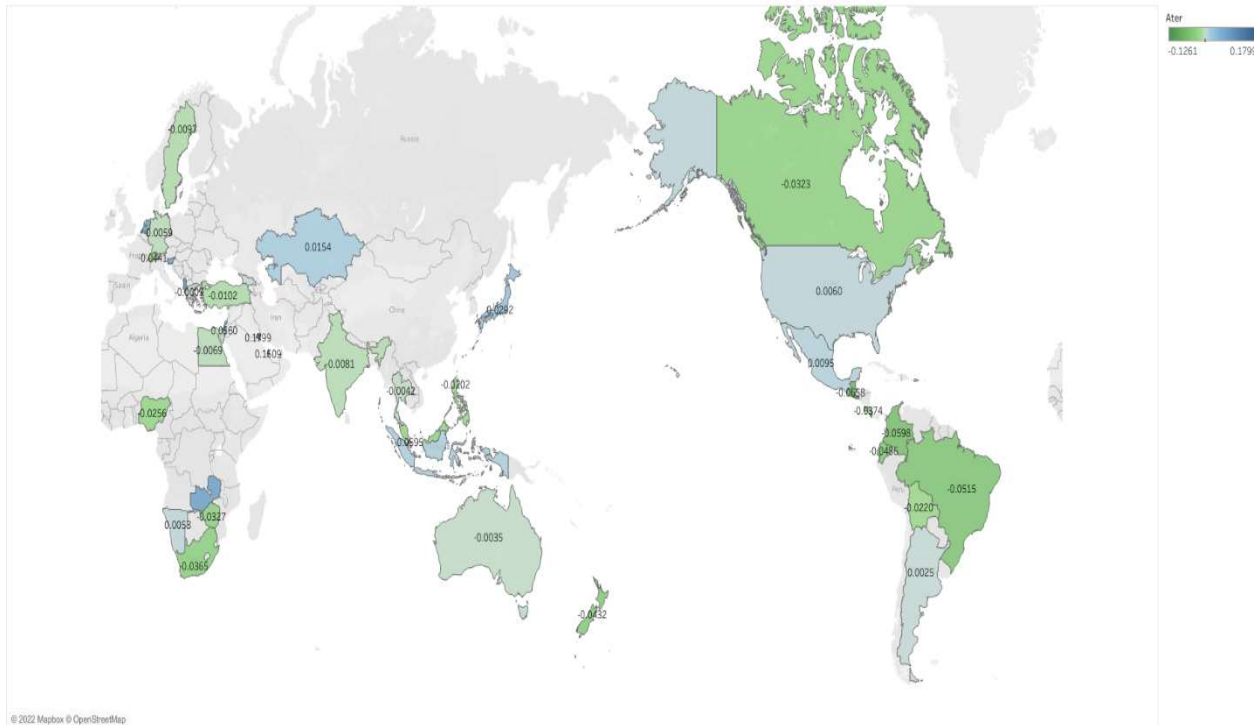
534

535 Figure 3 presents the ATER of the countries. A value less than zero (greenish shade)  
 536 indicates that the cultural values model had a high TE, whereas a value greater than zero (bluish  
 537 shade) shows that the cultural practices model had a high TE.

538

539

540



542

543 **Figure 3. Adjusted technical efficiency ratio**

544

545 **6. Discussion and Implications**

546 The findings of regressions, interactions, and SFA provide several reflections. We analyzed  
 547 the role of various cultural dimensions and its moderating role on GDP per capita in tourism  
 548 competitiveness as well as the main effects.

549 For the main effects, we examined the relationship between assertiveness and TTCI through  
 550 Models 3, 6, and 9. The literature shows that tourists have behavioral expectations on the use of  
 551 words, agreeability, and talkativeness of a host, depending on their own level of assertiveness  
 552 (Leclerc & Martin, 2004; Parham et al., 2015). We expect and determine that tourists may find it  
 553 difficult and unpleasant to communicate with highly assertive hosts. The signs are positively  
 554 significant at 10 percent significance level for the cultural values model, which is supported by  
 555 Huang, Liu, and Lu (2022). However, this relationship is negative and highly significant for the  
 556 cultural practices model as argued by Ma et al. (2020). The practical experience of assertiveness  
 557 matters more to tourists, who seem to value competition, direct communication, and control only

558 to a certain extent. The results suggest that destinations demonstrating high practical  
559 assertiveness may induce unpleasant experiences and attain low tourism competitiveness.  
560 Furthermore, a large difference between the practical assertiveness of a culture and assertiveness  
561 value of a host can decrease tourism competitiveness (Kumar & Dhir, 2020; Nazarian et al.,  
562 2017), thereby reflecting guests' aversion to unexpected high assertiveness.

563 For institutional collectivism, we expect high institutional collectivism to increase tourism  
564 competitiveness. The sign is negative in practices and the delta models, which is against the  
565 argument of Nedeljković-Knežević and Pavluković (2020). This relationship is statistically  
566 significant only in cultural practices model (Model 5), which is in agreement with previous  
567 studies (e.g., Font et al., 2016; Nazarian et al., 2021; Pagda et al., 2021). This suggests that  
568 consensus is necessary in a collectivist society, making change a slow process (Kumar & Dhir  
569 2020). Reaching a consensus in a society with high practical institutional collectivism may take  
570 time, accompanied by rejections, thereby hindering tourism competitiveness.

571 In-group collectivism is insignificant in all the models, which is against the previous studies  
572 arguments (Egger et al., 2022; Nedeljković-Knežević & Pavluković, 2020). This indicates that  
573 tourism competitiveness and enhanced tourism experience arise despite a society being  
574 collectivist or individualistic. A collectivist society with high in-group collectivism may also be  
575 welcoming to visitors, as depicted in the ancient Indian Sanskrit phrase, "*Vasudhaiva*  
576 *kutumbakam*," which means "The world is one family" (e.g., Ahamed, 2018). This finding can  
577 be seen in individualistic Western and collectivist Eastern societies with famous tourist spots.

578 For future orientation, we expect high tourism competitiveness in the presence of stronger  
579 future orientation. The results are positive and significant for the cultural values and cultural  
580 practices models and supported by extant literature (Huang & Crotts, 2019; Kumar & Dhir,  
581 2020). Measures such as limits on the number of allowed tourists and forbidden zones can  
582 enhance tourists' experience. Planning and investment focused on delaying gratification will not  
583 have an adverse impact on the current level of competitiveness. The future orientation results  
584 show that competitiveness can be maintained in the short term while planning for a long-term  
585 sustainable tourism ecosystem.

586 Next, for gender egalitarianism, we found weak significant evidence for gender egalitarian  
587 values leading to high tourism competitiveness which is supported by previous studies

588 arguments (Huq, 2019; Simha et al., 2021). Gender egalitarian practices are not influencing  
589 competitiveness due to a weak gender-equal culture and tourism. Despite the feminization of the  
590 workforce of the tourism industry, issues related to gender discrimination and women's lack of  
591 power prevail (Alarcón & Cole, 2019). A highly egalitarian society will create policies and  
592 structures that will encourage egalitarian employment opportunities and make it convenient for  
593 women to enjoy tourist locations.

594 For humane orientation, we found weak negative relationship between HMO and tourism  
595 competitiveness which is partially supported by literature (e.g., Khurana et al., 2021; Ollier-  
596 Malaterre et al., 2020). The friendly, generous, caring, and kind values of a host may not be  
597 suitable to all guests. In practice, a humane orientation does not impact tourism competitiveness  
598 and neither does the difference in the practices and values of a humane-oriented culture.

599 We found that high performance orientation, in practice, and higher practical performance  
600 orientation compared with performance orientation values can significantly improve tourism  
601 competitiveness. The findings are supported by extant studies (e.g., Koc, 2020; Salin et al.,  
602 2018). Tourism experience takes center stage for tourists, and a higher-than-expected practical  
603 performance-oriented culture is desirable such as valuing harmony with the environment, family,  
604 and societal relationships, training, competitiveness, direct communication, and feedback.

605 We hypothesized the negative effect of power distance on tourism competitiveness. The  
606 results of the cultural values model are negative as suggested by previous studies (Gao et al.,  
607 2018; Kumar et al., 2020), but statistically insignificant. By contrast, the practices model has  
608 opposite signs, showing the positive effect of power distance, which is against the findings of  
609 Kumar and Dhir (2020). The delta model shows that a greater power distance in practice  
610 compared with values can exert a positive effect on tourism competitiveness. This means a  
611 centralized approach to tourism policies, with a clear objective, can contribute to the  
612 development of multiple tourism destinations in a country. In addition, policies proved to be  
613 effective for top-down and bottom-up approaches, with a feedback loop requirement to modify  
614 the policies with input from the local communities (Kumar et al., 2022).

615 Uncertainty avoidance is insignificant in all three models, which is consistent with previous  
616 studies (e.g., Kumar & Dhir, 2020). This suggests that tourists do not have long (duration) and  
617 wide (interaction with a large number of people) exposures to experience the effects of

618 uncertainty avoidance. Tour schedules and basic requirements are typically planned and arranged  
619 in advance (Camilleri, 2018; Nazarian et al., 2021; Simha et al., 2021). Furthermore, to avoid  
620 uncertainties, tourists may practice orderly record keeping and formality in policies and  
621 procedures but adopt an informal attitude for interactions with slight flexibility and an element of  
622 surprise.

623 All the models have positive and significant LGDPPC results, which is in line with extant  
624 literature (e.g., Gómez-Vega & Picazo-Tadeo, 2019). The GDP per capita will increase tourism  
625 competitiveness as the country creates improved infrastructure, along with the improved  
626 marketing of destination sites around the world.

627 In addition to the main effects, we examined the interaction effect of cultural dimensions  
628 with LGDPPC. The interaction variables can help us understand the distinction in the impact of  
629 cultural dimensions in different types of economies. For the interaction effect, we analyzed  
630 Models 3, 6, and 9 and found that in-group collectivism weakens the relationship of GDP with  
631 TTCI for the practices model. The results suggest that practiced higher in group collectivism  
632 slows down the development of TTCI in countries having similar economic development. The  
633 future orientation practiced positively moderates the relationship of economic development with  
634 TTCI. A country practicing higher future orientation is better at using its resources judiciously  
635 and developing significantly higher tourism competitiveness with increasing GDP per capita.  
636 Gender egalitarian values positively strengthens the relationship of GDP per capita with TTCI.  
637 An economy developing rapidly along with having high gender egalitarian values will become a  
638 favored destination than a country gaining in terms of GDP per capita but holding lower gender  
639 egalitarian values. The cultural practices and differences model demonstrates the strengthening  
640 impact of power distance on relationship between economic development and TTCI. A country  
641 with higher GDP per capita and higher power distance can implement top-down policies faster  
642 than a country with low power distance. The cultural practices and differences model  
643 demonstrates the weakening impact of uncertainty avoidance on the relationship between  
644 economic development and TTCI. Countries with greater ability to handle uncertainty, with  
645 workers comfortable with unstructured processes and are easy going are going to fare better with  
646 increasing GDP per capita. Countries with a higher pace of economic development are  
647 encouraged to adopt a future orientation, low uncertainty avoidance, and top-down policies to

648 achieve high tourism competitiveness. These findings are supported by the extant literature (e.g.,  
649 Gómez-Vega & Picazo-Tadeo, 2019; Webster & Ivanov, 2014). A rich nation will be  
650 empowered and have alternative sources of income; thus, decisions of future orientation will be  
651 highly intensive.

652 We found that some of the countries are mapped better by cultural practices, whereas the  
653 others have higher TE for the cultural values model. Figure 1 shows a comparison of the  
654 efficiency of the two models. Thailand has one of the highest efficiency scores for both models  
655 and exhibits the highest possible tourism competitiveness level mapped by culture. It is one of  
656 the most popular tourist destinations in the world. **Figures 2(a) and 2(b) illustrate that neither  
657 model is superior at the individual level. However, the mixed regression SFA model show that at  
658 an aggregate level, cultural practices can better explain the inefficiency left after the modelling  
659 of destination competitiveness by economic development.**

## 660 **6.1. Theoretical implications**

661 The study offers multiple novel contributions to the literature. First, although previous  
662 studies attempted to understand competitiveness of destination, they were largely limited  
663 business and human-related factors (Croes et al., 2020), sustainability factors (Rodríguez-Díaz &  
664 Pulido-Fernández, 2020), and government (Kubickova & Martin, 2020). Very limited studies  
665 attempted to understand tourism competitiveness from a cultural lens. In addition, previous  
666 studies were largely limited to a specific country or context, indicating the limitation on  
667 generalizability of their findings. Furthermore, no study attempted to perform longitudinal  
668 research to uncover the role of culture on tourism competitiveness. This study fills these research  
669 gaps by investigating the relationship between culture and tourism competitiveness by using the  
670 most comprehensive cultural model, i.e., the GLOBE model, for 39 countries. The findings  
671 suggest that cultural dimensions very well explain the tourism competitiveness of a country.  
672 Thus, our study advances the knowledge of travel and tourism competitiveness and contributes  
673 to the literature (e.g., Kumar & Dhir, 2020; Martín et al., 2017; Vasanicova et al., 2022).

674 Next, the study builds upon the GLOBE cultural model, which is an improved model of  
675 culture over Hofstede's (2011), in a way extending its applicability to the tourism discipline.  
676 Studies argued that culture significantly impact tourism competitiveness but provided limited  
677 empirical evidence. As the culture of a country shapes the belief, motivation, and behavior of its

678 society members (Kumar et al., 2019), our study extends cultural theory of GLOBE to  
679 competitiveness context and contributes to the existing understanding of culture (Egger et al.,  
680 2022; Nazarian et al., 2021; Pagda et al., 2021; Simha et al., 2021).

681 Furthermore, the study is in response to the call for further research on tourism  
682 competitiveness (Crouch & Ritchie, 2012; Kumar & Dhir, 2020). The study addresses the need  
683 for extending the knowledge of culture and tourism competitiveness in long-term and contributes  
684 to the literature (e.g., Natalia et al., 2019; Webster & Ivanov, 2014).

685 Lastly, the study offers another novel contribution by highlighting the importance of  
686 considering cultural practices and values when examining the role of culture. Many studies are  
687 clueless regarding which cultural model (i.e., cultural practices or cultural values) to use to  
688 explore culture. Our findings suggest that cultural practices at an aggregate level, represent a  
689 superior measure for culture experienced in a country vis-à-vis ideal cultural values in tourism  
690 competitiveness context, thus contributing to the knowledge body of culture (House et al., 2002;  
691 Pagda et al., 2021). This will have implications for action researchers, as countries mainly use  
692 top-down approach. Thus, our findings enhance the knowledge body of culture and offers a clear  
693 distinction between cultural values and practices.

## 694 **6.2. Practical implications**

695 The study has several practical implications. First, although tourism is a short-term practical  
696 leisure experience, in which the scope of experiencing the values is narrow, we find that a large  
697 number of countries have a TTCI that can be effectively explained by cultural values. Thus,  
698 policymakers and managers are recommended to create campaigns of destination marketing  
699 embedded in cultural values and practices. When individuals consider superior tourism  
700 destinations, they will be influenced by perceptions of current cultural realities and desire the  
701 embedded values of their host. A mismatch between cultural values and practices shows that  
702 people perceive and desire something as good, and its absence will lead them to value it  
703 considerably (Grove, 2005). For example, a destination campaign should not only show that the  
704 government bodies are very hospitable and friendly but it should also be reflected in their  
705 practices.

706 Second, destinations having lower value are recommended to practice what is suitable to  
707 their country culture and not what is being followed by other destinations. For instance, the  
708 model with low efficiency reveals that a large part of tourism competitiveness remains unutilized  
709 and can be exploited by training individuals associated with the tourism industry. Of the 39  
710 countries, 14 have a high TE result for the practices model, whereas 25 have a high TE result for  
711 the values model. We also find that among the lower-middle-income countries, eight out of nine  
712 have a high TE result for the values model. Policymakers and managers can draw cues from the  
713 findings suggesting that tourists visit lower-middle-income countries for their values, whereas  
714 tourists' reasons for visiting upper-middle- and high-income countries vary. Accordingly, they  
715 can develop policies for boosting their tourism industry. For example, policymakers or managers  
716 of a lower-middle country are recommended to project their cultural values in the promotions.  
717 They are cautioned not to show the cultural practices as it may be discouraging to their  
718 competitiveness. In addition, managers of an upper-middle and high-income countries are  
719 recommended to use a combination of values and practices to improve their competitiveness.  
720 Furthermore, a future with high tourism competitiveness is possible for many countries if their  
721 cultural practices become highly aligned with their cultural values.

722 Third, the varying relationships between the dimensions of cultural values and practices and  
723 tourism competitiveness make institutional collectivism and humane orientation interesting  
724 dimensions. Institutional collectivism is not experienced directly in public interactions but rather  
725 in the tourism policies of the government. Such policies are recommended to be implemented by  
726 public representatives who create policies appealing to people's values. These policymaking  
727 approaches ascertain cultural values to be an important attribute for effective leadership (Grove,  
728 2005). Similarly, for improved tourism policies, institutional collectivism values are important.

729 Lastly, we found that the cultural values model is effective for increasing tourism  
730 competitiveness in a large number of countries. Countries with a large divergence in TE between  
731 the values and practices models can increase their competitiveness by converging their cultural  
732 practices and cultural values. Many countries can enhance their tourism competitiveness by  
733 exploring the shift in cultural practices to align with their cultural values. Culture does not  
734 change linearly; thus, policymakers must choose various tools, such as symbolism and  
735 decentralization, to foster cultural changes judiciously (Muers, 2018). Learning through cultural

736 exchanges with other countries is another viable option (World Tourism Organization, 2020).  
737 Countries such Kuwait, Qatar, Albania, Zambia, El-Salvador, and so on can become highly  
738 competitive if their cultural practices and cultural values converge.

## 739 **7. Conclusion and Future Research Directions**

740 Tourism competitiveness is a vital area of focus for governments around the world. Host  
741 country culture is an important attribute that contributes to the tourism experience. This study  
742 builds upon the GLOBE cultural model, which represents an enhanced and refined approach to  
743 understanding culture compared with Hofstede's model (Hofstede , 2011). By incorporating the  
744 GLOBE model into the tourism discipline, this study expands the applicability of cultural models  
745 in analyzing tourism competitiveness and extends the application of the GLOBE cultural theory  
746 to the context of tourism competitiveness, contributing to the existing knowledge of culture  
747 (Egger et al., 2022). Cultural perspective is not a prevalent element that has been used in the  
748 previous literature (Croes et al., 2020; Rodríguez-Díaz & Pulido-Fernández, 2020; Kubickova &  
749 Martin, 2020); moreover, previous studies were predominantly confined to specific countries or  
750 contexts. This certainly limits the generalizability of their findings, let alone considering that  
751 cross-sectional analyses were the norm. The findings of our study suggest that cultural  
752 dimensions play a significant role in explaining a country's tourism competitiveness.  
753 Consequently, our study contributes to the literature by enhancing understanding of travel and  
754 tourism competitiveness (e.g., Kumar & Dhir, 2020; Martín et al., 2017; Vasanicova et al.,  
755 2022). This study sheds light on the dichotomy between the use of cultural practices and cultural  
756 values. Our findings indicate that cultural practices serve as a more effective measure for  
757 understanding culture as experienced in a country, particularly in the context of tourism  
758 competitiveness, compared with ideal cultural values. In addition, we examine the role of wealth  
759 (GDP per capita) in shaping the relationship between culture and competitiveness. The analysis  
760 includes random effects regression, followed by SFA. We achieve our objectives by addressing  
761 the following three RQs whose results are briefly summarized next:

762 To answer **RQ 1**, we examine the panel effects of culture on travel and tourism  
763 competitiveness through nine hypotheses. The random effects analysis suggests that cultural  
764 values, namely, future orientation and gender egalitarianism, are positively associated, whereas  
765 humane orientation and power distance are negatively associated with the TTCI. Furthermore,

766 cultural practices, namely, future orientation, performance orientation, and power distance, are  
767 positively associated, whereas assertiveness and institutional collectivism are negatively  
768 associated with the TTCI.

769 **RQ 2** investigates the moderating effects of the cultural attributes on the relationship  
770 between GDP and the TTCI. The findings suggest that the economic prosperity of a country  
771 positively impacts the growth of its TTCI. The cultural value of gender egalitarianism impacts  
772 the relationship between GDP per capita and TTCI. For the cultural practices, the GDP per  
773 capita's relation with TTCI is positively moderated by future orientation and power distance.  
774 The GDP per capita's relation with TTCI is negatively moderated by between in-group  
775 collectivism and uncertainty avoidance cultural practices.

776 Lastly, **RQ 3** examines the differences across the cultural values and cultural practices to  
777 determine which model can effectively explain the TTCI. By analyzing the cultural differences  
778 model, we confirm that assertiveness is positively associated, whereas performance orientation  
779 and power distance are negatively associated with the TTCI. By performing SFA, we confirm  
780 that cultural practices and cultural values are important. In rich countries, cultural practices  
781 matter considerably, whereas in lower-middle-income countries, values play a major role.  
782 Moreover, the large divergence in the prediction of competitiveness potential between the values  
783 and practices models shows the improvement scope of tourism competitiveness by making  
784 policies to merge the values and practices.

785 Despite its novel contribution to the literature, our study has two major limitations. First, we  
786 restricted our work to examining anomalies owing to the differences in cultural practices and  
787 values in tourism competitiveness. Second, we did not delve into the intricacies of the reasons  
788 behind the differences between the practices and values and mechanism through which they  
789 affect tourism competitiveness. Future studies may examine different groups of countries with  
790 positive, neutral, and negative ATERs qualitatively to further understand the reasons behind the  
791 divergence in cultural values and practices and how they affect tourism. Country-specific  
792 research can also be conducted to understand the nuanced and contextual factors that can affect  
793 the tourism competitiveness of a country.

794

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1034 **Appendix A. Country Classification**

High Income		Upper-middle Income		Lower-middle Income	
Australia	V	Albania	P	Bolivia	V
Canada	V	Argentina	P	Egypt	V
Germany	V	Brazil	V	El Salvador	V
Greece	V	Colombia	V	India	V
Israel	P	Costa Rica	V	Indonesia	V
Japan	P	Ecuador	V	Nigeria	V
Kuwait	P	Georgia	P	Philippines	V
Netherlands	P	Guatemala	V	Zambia	P
New Zealand	V	Kazakhstan	P	Zimbabwe	V
Qatar	P	Malaysia	V		
Singapore	V	Mexico	P		
Slovenia	P	Namibia	P		
Sweden	V	South Africa	V		
Switzerland	V	Thailand	V		
United States	P	Turkey	V		

1035 *Note: Thirty-nine countries are included in the analysis; P represents a high TE for the “cultural*  
 1036 *practices” model, and V represents a high TE for the “cultural values” model; the upper-*  
 1037 *middle-, high-, and lower-middle-income country classification is from the World Bank (2022).*