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Post-Materialist Values of Smart City Societies: International Comparison of Public Values for Good Enough Governance

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Abstract: This study aims to analyze the application of good enough governance in considering the citizens' value propositions that shape smart city societies. This paper applied a quantitative method with cross-country comparisons. Survey data were derived from the World Values Survey. Malaysia was chosen as the main study area, and compared with Indonesia and other countries worldwide. The findings revealed that politics is the value of least concern across all samples. In terms of qualities for children to develop, respondents in both Malaysia and Indonesia were less concerned about imagination and unselfishness. As for materialist versus post-materialist, the ratios of Malaysia and Indonesia were slightly higher than the average; the post-materialist value of free speech was the lowest value chosen. In the long term, all countries are experiencing the trend of moving toward post-materialist societies. To be sustained under the Collective and Adaptive System of smart city societies, good enough governance in Malaysia and Indonesia should consider the cultural context of the Muslim majority, prioritize governance content that allows more space for political participation and free speech, and cultivate the imagination and unselfishness of children. The generated insights underline the critical role that smart societies play in establishing smart cities.

Keywords: smart city; smart society; good governance; good enough governance; post-materialism; post-materialist values; Malaysia; Indonesia



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1. Introduction and Background

At the beginning of the 21st century, a new mold of society is undergoing a silent revolution by promoting worldwide smart and sustainable city development [1]. This technology-method driven smart city trend depends on the pervasive application of Information and Communication Technology (ICT), Big Data, Artificial Intelligence, the Internet of Things (IoTs), algorithms, and automation to allow utopian solutions to urban problems and better urban governance [2–4]. This type of urban governance often results in panoptic surveillance, predictive profiling, and social sorting of technocratic governance [5,6].

Under this technocratic governance, 'smart' societies and citizens have the potential to engineer the Collective Adaptive System (CAS) [7]. This CAS operates on the social-technical combination of hybrid computing (i.e., how people and machines working together create new types of problem-solving capability), adaptivity (i.e., bringing the appropriate sub-collective to bear to solve a particular problem), and learning (i.e., accreting knowledge of how the system responds to different circumstances) [7]. Examples of these include simple cases like the Waze mobile application for traffic navigation, which utilizes the wisdom of the crowd and the everyday use of a mobile connection to data, algorithms, and social networks [8]. A more complex example is the sophisticated Rio de Janeiro city command center, which manages the daily data of more than 30 municipalities, state

agencies, and citizens interconnect to the control room and provide intelligent solutions to the city, such as crime reduction strategies [9,10].

The CAS undoubtedly solves issues in urban society by providing a resource pool to enable a collective to develop a range of responses to a situation. However, the CAS also collectively produces friction and contention, as well as significant social and ethical issues, including disputes over the ownership of the pooled data, the privacy of personal data contribution, and accountability for the effects of the CAS should things go wrong [7]. The problems it has solved are mostly materialists, such as the order of city traffic, property protection, cost reduction, and economic gains. On the other hand, the post-materialist values of building a smart city society have arguably become a secondary priority. Examples include the post-material process (enhancing citizen participation and free speech) and post-material ends (environmental sustainability) [11].

Meijer and Bolívar [11] observed that academic debates on the post-materialist values of a smart city society are focused on forming desirables for a ‘good society’ but less so on the issues of a political struggle. This political struggle is evident in the ‘good governance’ framework proposed by [12], with a long list of targets that includes 114 strategies and are often criticized as difficult for governments to decide on and implement [13]. Further to ‘good governance’, Ref. [13,14] extended the discussion to the principle of ‘good enough governance’, the main idea of which is to prioritize development strategies based on the specific cultural context of change and queries on intervention content. However, to the limited knowledge of the present authors, there is a lack of discussion linking good enough governance and smart city society. Premat [15] has attempted to analyze the Swedish smart city agenda and urged that urban governance should correlate with emerging post-materialist values. Otherwise, the authors identified a lack of research on good governance and on dissecting post-materialist values in the context of developing countries such as Malaysia.

Most literature on the smart city society in Malaysia focuses on applying ICT solutions in urban governance. Various discussions explore the role of ICT and IoT applications in Malaysia in solving materialist issues such as mobility, energy, and economic gains [16–18]. Several scholars have discussed non-materialist issues in Malaysia, such as citizen participation [19–23], freedom of speech and expression [24], and environmental sustainability and politics [25]. The availability of discussions on such post-materialist values are positive signs and can be viewed as a rising alternative trend in the human-driven method of smart city development [4]. However, these discussions were not fully linked to the political struggle from the governance perspective, nor did they outline the importance of post-materialist values governing the future of the smart city society.

Thus, from the above intertwining research problems, the following question arose: How can good enough governance promote the smart city society under the emerging post-materialist values? Based on this main research question, the authors attempted to identify the status of materialist and post-materialist values as possessed by societies. Furthermore, once such value propositions were understood, the authors projected the application of the framework of good enough governance that might potentially form the smart city society. In other words, this study aims to analyze the application of good enough governance in considering the citizens’ value propositions that shape smart city societies.

Hence, three operational research questions (RQ) were formulated:

RQ 1: What values are important in life?

RQ 2: What qualities are children encouraged to develop in shaping such values in life?

RQ 3: What are the materialist and post-materialist values of society?

2. Methodology

This study employed a quantitative method with cross-country comparisons. As Malaysia is undergoing the implementation stage of nationwide smart cities development, researching the governance directions for smart societies’ value propositions in a timely

manner. Thus, Malaysia was selected as the main case for this study and compared to Indonesia and another eight countries worldwide. The country comparisons were dissected according to the geographical location, majority religion, and economic status (Table 1).

Table 1. Studied countries. Source: [26].

Country	Geographical Location	Majority Religion	Economic Status
Indonesia	South-East Asia	Islam	Upper-middle income
Malaysia	South-East Asia	Islam	Upper-middle income
Iran	Middle East	Islam	Upper-middle income
Pakistan	South Asia	Islam	Lower-middle income
Nigeria	Africa	Islam	Lower-middle income
Brazil	Latin America	Christians (Catholics and Protestants)	Upper-middle income
China	East Asia	Chinese Buddhism and Folk Religions	Upper-middle income
United States	North America	Christians (Protestants and Catholics)	High-income
Germany	Europe	Christians (Protestants and Catholics)	High-income
Australia	Asia Pacific	Christians (Catholic and others)	High-income

Both Malaysia and Indonesia have similar backgrounds, as they are located in South-East Asia, Islam is the official religion possessed by the majority, and the economic status is upper-middle-income. For Malaysia, the gross national income (GNI) per capita was USD 11,230 in 2019 and its aim is to achieve high-income status by 2030 [26]. Meanwhile, Indonesia just celebrated its milestone of moving into the group of upper-middle-income countries from its previous lower-middle-income status. Its GNI per capita reached USD 4050 in 2019, slightly above the USD 4046 threshold for the category [27]. The countries of Iran, Pakistan, and Nigeria represented samples from Islamic countries located outside South-East Asia. On the other hand, Brazil, the United States, Germany, and Australia represented Christian majority countries in different parts of the world. As for China, it has the world's greatest population, an irreligious population, and a 'world share' that influences the global economy [28,29]. Although China's society has deep religious traditions, decades of Communist rule have installed widespread atheistic materialism [30].

This study did not conduct an on-site survey. Instead, the country samples were derived from the raw data files from the World Values Survey 2017–2020 [31]. In order to address the research questions, the sample size of the World Values Survey for each country was large enough to represent a confidence level of 99% and a margin of error of 3.5% [32] (Table 2).

The method of data collection randomly covered the major areas, ethics, and religious groups of each country. Details were openly accessed through the World Values Survey website [31]. Since its inception in the year 1981 and conducted globally every five years, the World Values Survey has currently come to the seventh wave covering 120 countries representing 94.5% of the world population. To date, there are over 30,000 publications and researches to use World Values Survey—value orientations to explain important political phenomena [31,33]. Examples of these include [34–38]. Especially [39] selected 40 countries from the World Values Survey based on the criteria of those countries covering both established and new democracies. In contrast, this study has set 10 countries based on geographical, religious, and economic status for comparison purposes.

From the 290 questions asked in the World Values Survey, the authors selected suitable items to answer the research questions. Table 3 shows the selected items and scales.

Table 2. Population, sample size, and year of survey. Source: [26,29,31].

Country	Population 2020 (Mil.)	Density (ppl/km ²)	Urban Population (%)	Survey Sample Size	Year of Survey	Mode of Data Collection	Mode of Survey Length (Min.)	Urban Sampling (%)
Indonesia	274	151	56	3200	June–Aug 2018	CAPI	-	29.5
Malaysia	32	99	78	1313	Apr–May 2018	CAWI	-	63.0
Iran	84	52	76	1499	Mac–Apr 2020	PAPI	86 to 120	74.0
Pakistan	221	587	35	1995	Nov–Dec 2018	CAPI	46 to 65	33.3
Nigeria	206	226	52	1237	Dec–Jan 2017	CAPI	66 to 85	49.0
Brazil	212	25	88	1762	2018	CAPI	-	-
China	1439	153	61	3036	Jul–Oct 2018	PAPI	46 to 65	61.1
United States	331	36	83	2596	Apr–May 2017	CAWI	Up to 45	88.4
Germany	84	240	76	1528	Oct 2017–Mac 2018	CAPI	46 to 65	89.9
Australia	25	3	86	1813	Apr–Aug 2018	Mail/Post	Up to 45	78.5
Total	-	-	-	19,979	-	-	-	-

Note: CAPI—Computer-Assisted Personal Interviews; Computer-assisted web interviewing (CAWI); Pen-and-Paper Personal Interviews (PAPI)

Table 3. Selected items and scales from World Values Survey in matching the research questions. Source: Adopted and adapted from [31].

Research Question	Item	Scale
RQ 1	Q1–6 Important in Life: Family, Friend, Leisure Time, Politics, Work, and Religion	Question: For each of the following aspects, indicate how important it is in your life. Scale: Very Important, Rather Important, Not Very Important, Not at all
RQ 2	Q7–17 Qualities to develop: Good manners, Tolerance and respect for other people, Feeling of responsibility, Independence, Religious and faith, Hard work, Obedience, Determination, Unselfishness, Thrift saving money and things, and Imagination	Question: Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Please choose up to five. Scale: Important, Not mentioned.
RQ 3	Q154-Materialist vs. Post-Materialist values	Question: If you had to choose, which one of the things on this card would you say is most important? Scale: Maintaining order in the nation; Giving people more say in important government decisions; Fighting rising prices; and Protecting freedom of speech

3. Results

3.1. Important Values in Life

In the overall ten countries, the most important value was agreed to be Family (98.87%) which reached nearly 100 percent agreement in all cases, followed by Work (89.61%), and Friendship (89.49%). The least important value was agreed to be Politics (52.81%), which made up about half of the survey cases, followed by Religion (70.84%), and Leisure Time (84.42%) (Figure 1). Indonesia and Malaysia shared similar patterns whereby Religion (99.9% and 91.1%, respectively) was higher than the average of the countries surveyed. On the other hand, Politics (44.2%, 51.2%) in these countries had lower importance than the overall average.

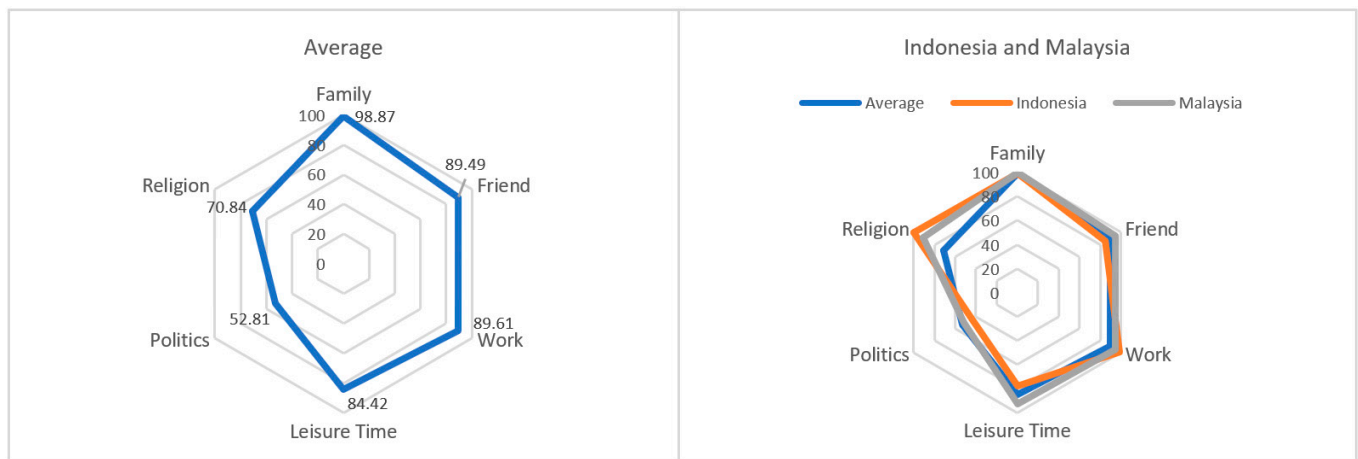


Figure 1. Important values in life by Indonesia and Malaysia. Note: The average value is counted from ten countries, i.e., Indonesia, Malaysia, Iran, Pakistan, Nigeria, Brazil, China, United States, Germany and Australia. All values are in percentage.

Further analysis of geographical location shows that respondents in the Asia and Oceania region countries agreed that Family and Friends are important, while Politics was the least important (Figure 2). Respondents in the non-Asian regions agreed that Family and Leisure Time were more important than other items. Leisure Time represents an aspect of the desire for freedom, and people in non-Asian countries, such as Nigeria, Brazil, the United States, and Germany, all place higher than average value on this aspect.

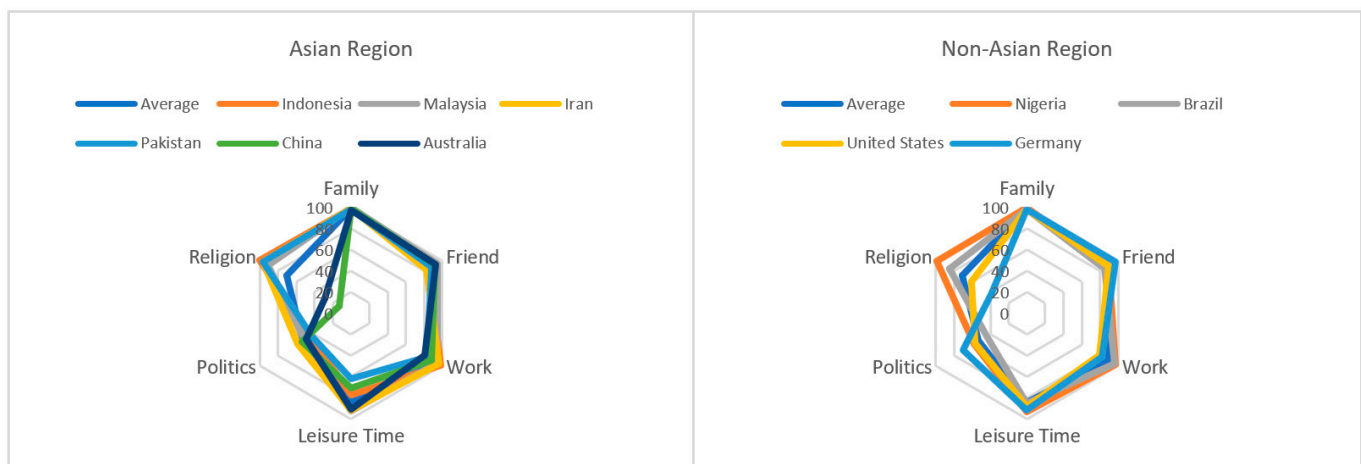


Figure 2. Important values in life by Asian and Non-Asian Regions.

For Islamic countries, a clear pattern showed that Islam is above average in value (Figure 3). On the other hand, no clear distinction can be found in non-Islamic countries.

In Middle-Income countries, most were found to value religion more highly, the exception being China (Figure 4). In all high-income countries, i.e., the United States, Germany, and Australia, people rank lower than average in the values of Religion and Work. In countries such as the United States and Germany, respondents have higher Politics values than average.

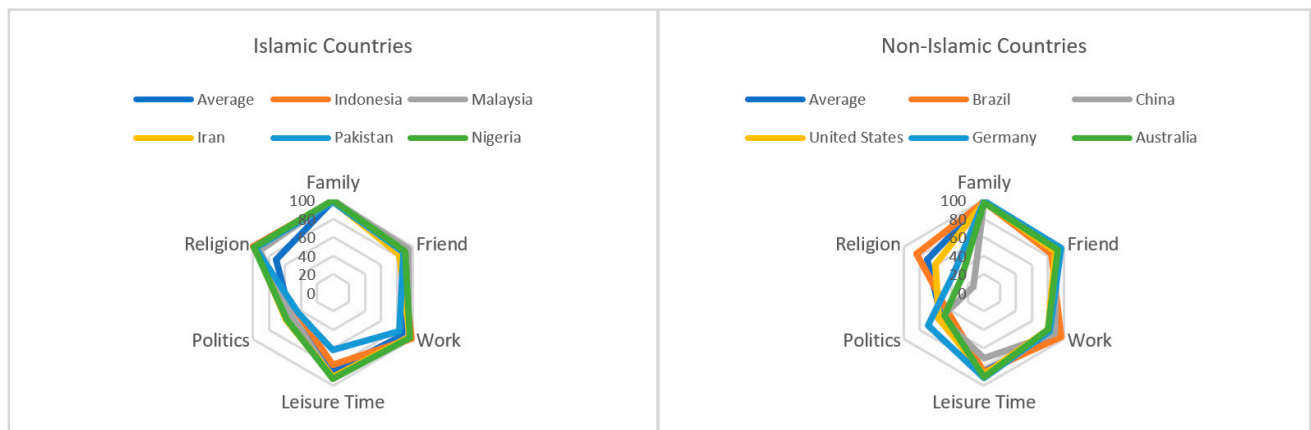


Figure 3. Important values in life by Islamic and non-Islamic countries.

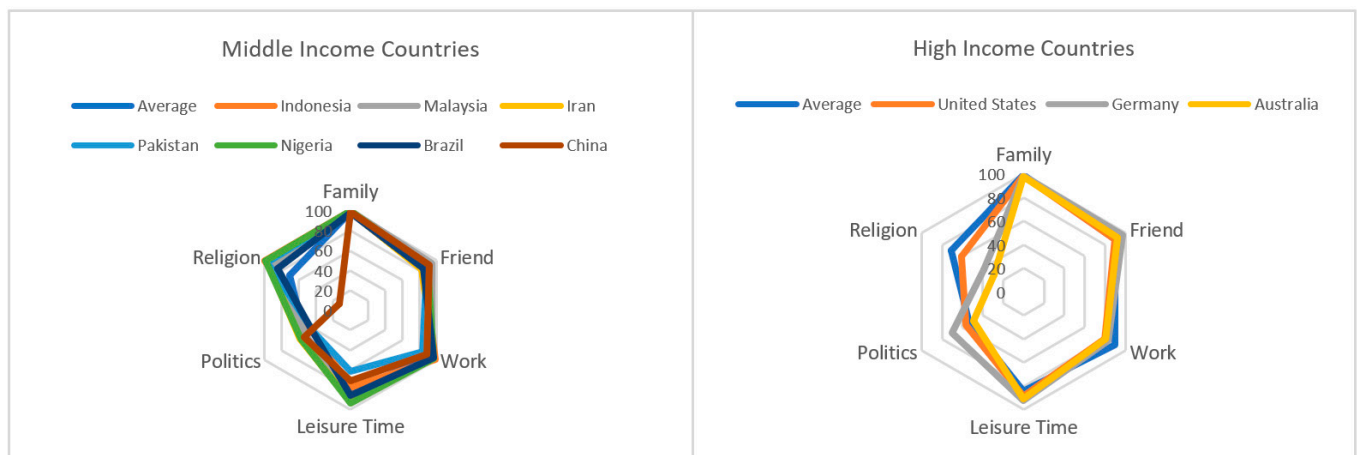


Figure 4. Important values in life by middle-income and high-income countries.

3.2. Qualities to Develop

From the analysis, the five most chosen qualities were Good Manners (74.81%), Responsibility (63.23%), Tolerance (61.52%), Hard Work (51.03%), and Independence (47.65%) (Figure 5). Both Indonesians and Malaysians place higher than average value on the qualities of Good Manners, Responsibility, Independence, and Faith. In terms of Islamic Faith, Indonesia (75.2%) and Malaysia (59.7%), and Nigeria (72.5%) are among the top three highest countries with high levels of Faith. On the other hand, Malaysia and Indonesia demonstrate lower than average value in qualities such as Imagination, Unselfishness, Determination, and Hard Work. Furthermore, both countries also show the lowest values placed on Imagination (7.3% and 9.3%, respectively), compared to the other eight countries.

Next, analyzing the Asian and non-Asian regions, no patterns of particular import were observed (Figure 6); hence, cultivating qualities for a future generation does not significantly depend on the geographical location.

A comparative analysis of Islamic and non-Islamic countries suggests that Islamic countries demonstrated that they placed a higher value on the qualities of teaching children to have religious faith (Figure 7). As for Imagination, all Islamic countries except Iran showed lower than average values. In non-Islamic countries, the quality of Tolerance ranked higher than or near to the average. Furthermore, all non-Islamic countries placed lower than average value in the quality of Faith. For Obedience, all non-Islamic countries except Brazil placed lower value. Conversely, Brazil was the only country to rank the

quality of Imagination of low value, compared to the other four, China, the United States, Germany, and Australia.

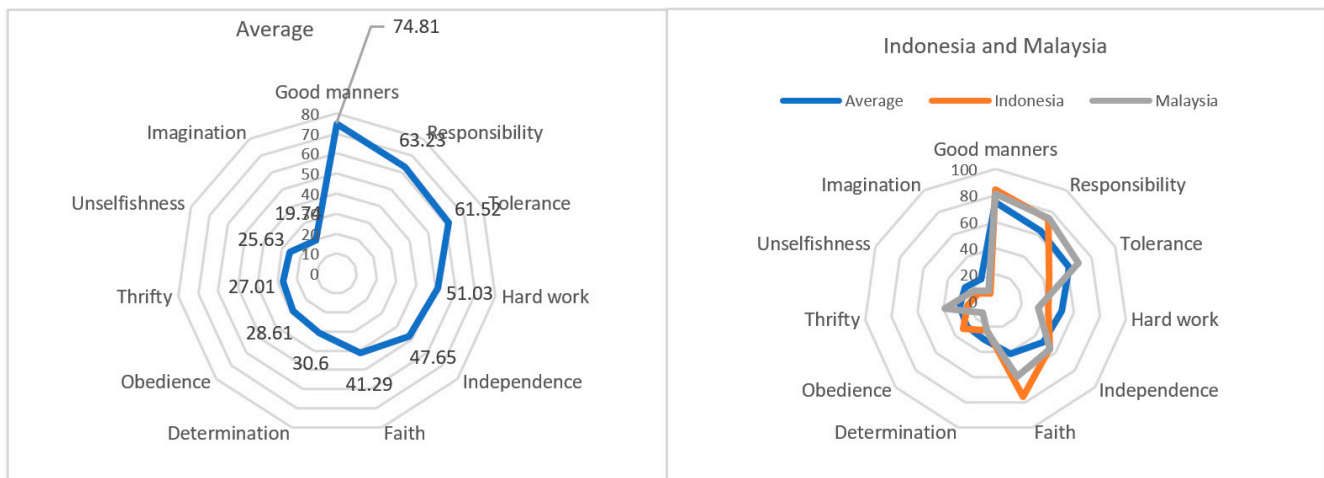


Figure 5. Qualities to develop for the future generation in Indonesia and Malaysia.

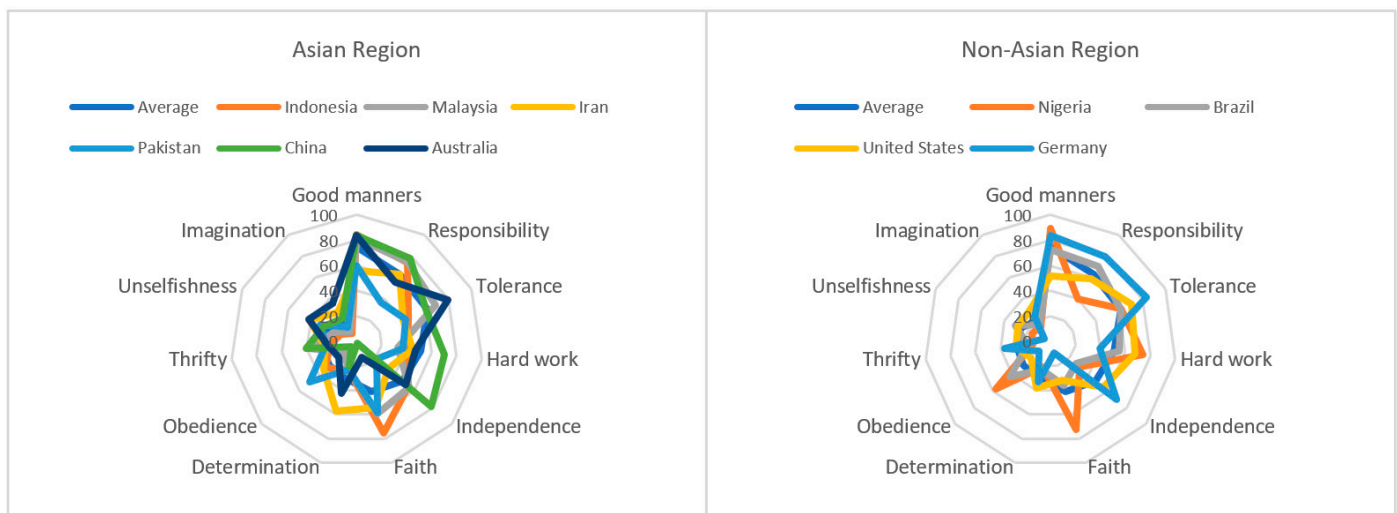


Figure 6. Qualities to develop for future generation by Asian and Non-Asian regions.

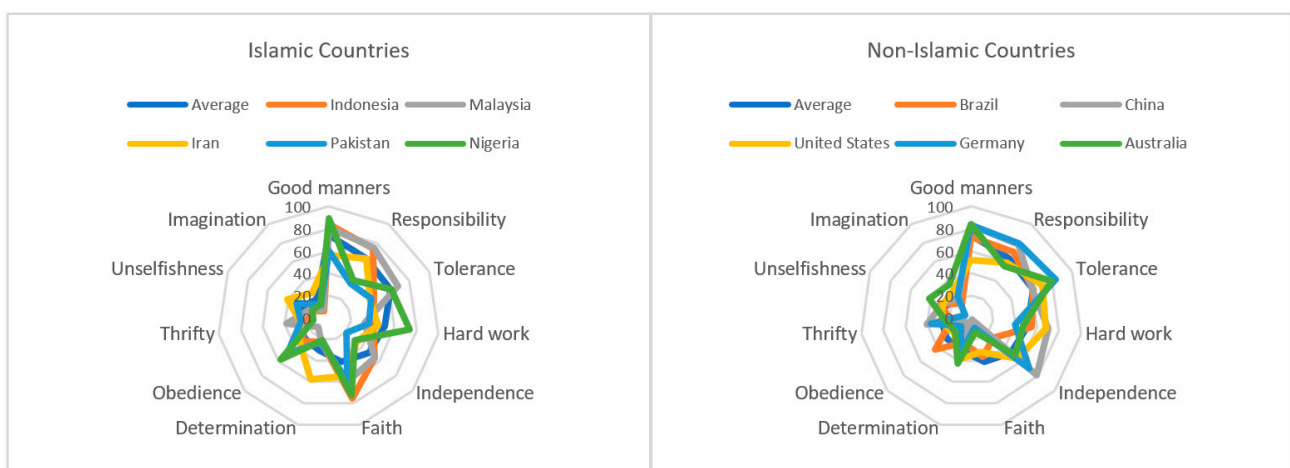


Figure 7. Qualities to develop for future generation by Islamic and Non-Islamic Countries.

The final analysis involved economic status. For the middle-income countries, no particular pattern was found (Figure 8). However, for high-income Countries, the qualities of Tolerance, Independence, Determination, and Imagination were ranked higher than average. This means that Malaysia and Indonesia can learn how parents in high-income countries teach their children about qualities such as Tolerance, Independence, Determination, and Imagination. On the other hand, the high-income societies showed lower Obedience qualities than average.

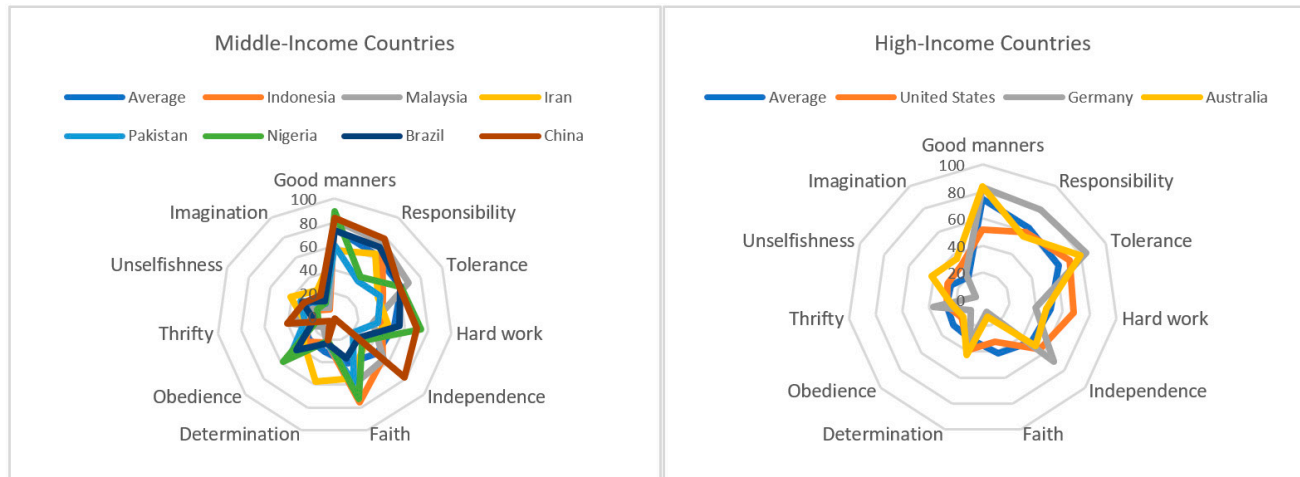


Figure 8. Qualities to develop for future generation by Economic status.

3.3. Materialist vs. Post-Materialist Values

Overall, all respondents indicated that materialist values (here, Order and Economic Security) (58.88%) were more important than post-materialist values (Political Participation and Free Speech) (39.64%), with a ratio of 1.5:1. Malaysia and Indonesia had slightly higher ratios than average, of 1.9:1 and 2.9:1, respectively. Free Speech was the least important value chosen by all respondents. In Figure 9, Indonesia and Malaysia are inclined to the materialist grouping, together with the other Islamic countries of Iran, Nigeria, and Pakistan. In this materialist grouping, China tops the chart, which is compatible with the Pew Research Center analysis that the Chinese top the list of the materialism poll [30].

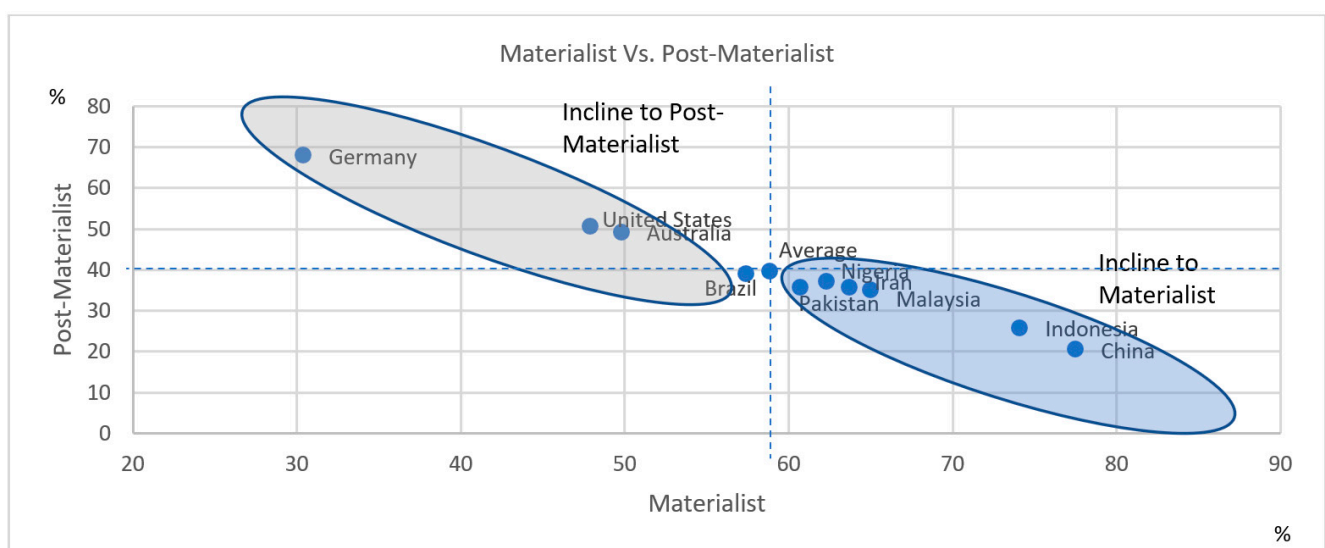


Figure 9. Materialist vs. Post-Materialist for the selected countries. Note: Following the analysis by [40,41], the Order and Economic Security are paired to represent the value of Materialist, while the Political Participation and Free Speech are paired to represent the value of Post-Materialist.

To support the above findings, data from other sources were included in the research. High-income countries, such as Germany, the United States, and Australia, are inclined toward the post-materialist grouping. This result is compatible with the analyses of [40,41]. First, all countries were previously dominated by citizens with materialist values who desired basic physical and survival needs and economic security in the post-World War II era. Moreover, Western countries, through the achievements of the industrial revolution, have gained faster prosperity and better lifestyles than most Eastern countries. Thus, when their basic needs and security have been fulfilled, people tend to look for freedom in life, such as free speech and greater participation in political decision-making. Through Inglehart's analyses, the younger cohort has a higher rate of support for post-materialist values than the older cohort, thus gradually building a contemporary society that largely subscribes to the post-materialist values of Western countries such as the United States and Germany. Figure 10 shows how post-materialist values changed in nine Western countries between 1970 and 2000.

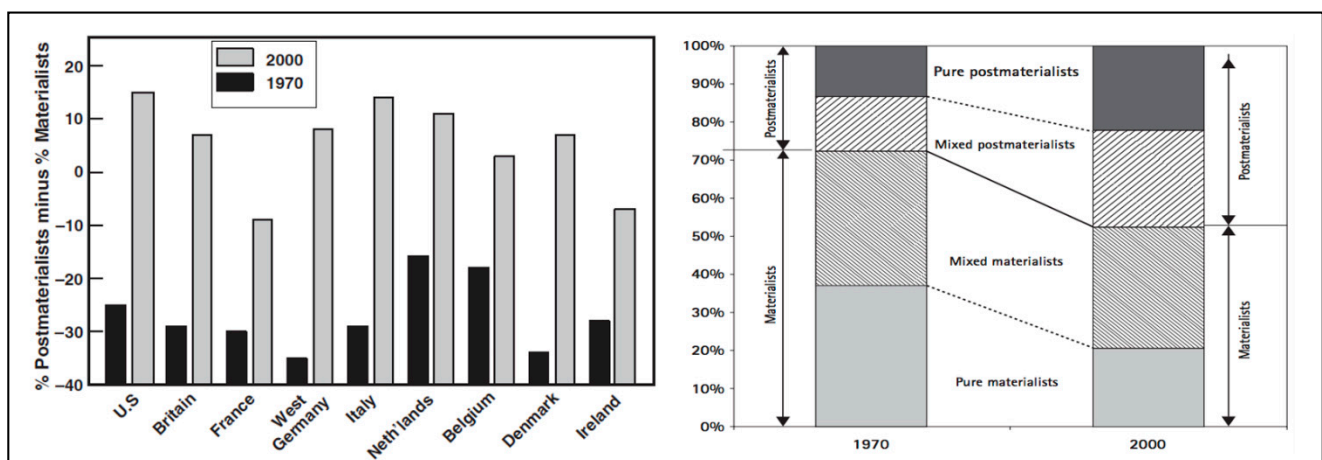


Figure 10. A shift toward post-materialist values among the publics of nine Western societies, 1970 and 2000. Source: [42].

Further evidence given by [41] shows that, regardless of geographical location (Europe or Latin America) and religious background (Muslim-majority countries), the younger cohort of citizens subscribes to higher post-materialist values than the older generations. Another finding is that the younger cohort in high-income countries tends to subscribe to higher post-materialist values (self-expression) than those in developing countries. Besides, the gap of the younger cohort is more significant than the older age cohort in comparing the high-income countries and those in developing countries [41].

In terms of the analysis from a cultural perspective, again, Protestant Europe (i.e., Germany) and the English-speaking groupings (i.e., the United States and Australia) showed a higher level of subscription to post-materialist values, while the African-Islamic grouping (i.e., Malaysia, Indonesia, Nigeria, and Pakistan) showed the lowest level of post-materialist values [41].

4. Discussion

From the above findings, three aspects are worthy of discussion: (1) Political participation values through good enough governance, (2) Dichotomous challenges in building citizen qualities, and (3) Possibilities for building a post-materialist society.

4.1. Political Participation Values to Prioritize under the Principle of Long-Term Good Enough Governance to Realize the Smart City Society

From the findings, political participation is the most necessary improvement to make when considering all the important values in life. The political participation value is an important means of creating a smarter society with a higher degree of citizen involvement

in smart city initiatives [19,43,44]. Although Big Data and ICT are centered on smart city development, they should always be identified as part of the means and not the ultimate end of sustainable development [45]. In other words, smart city solutions should be attainable with the help of technology but not reducible to technology [46]. Thus, to apply the good enough governance concept and use technology to promote democracy and equity, the city governments of Malaysia and Indonesia should reassess their local contexts and contents in order to match their actions to their citizens' needs and allow more political participation in decision-making. It is predicted that, considering the post-materialist values analysis, this participation value will increase in the future [41].

The governments must prepare for, and move toward, a greater participatory form of governance that would effectively assist cities to innovate faster and allow cooperation in solving urban problems. This opinion is compatible with [11], whose study pointed out that it is possible to regard smart cities as outcomes of a wider move toward more effective governance, and one that emphasizes a twin focus. The first focus is on different values, the most important factor being the inclusion of wealth and sustainability. The second focus is on a more democratic form of government, the most important feature being the inclusion of both representation and direct citizen participation.

4.2. Dichotomous Challenges in Building Qualities of Future Smart Citizen and Society

From the findings, the qualities of responsibility and independence can potentially be developed among future generations throughout the world, as well as in Indonesia and Malaysia. However, the qualities of creativity (imagination) and volunteering (unselfishness) are challenging qualities on which to focus. This showed the dichotomous state in terms of nurturing the future generation. Giffinger et al. [47] mentioned that smart city needs independent and aware citizens; while [19] mentioned responsible citizens and those who volunteer are the pillars of smart cities.

Thus, how can the government build a smart society if the qualities of the future generation are not nurtured to develop their creativity and unselfishness? Urban problems are becoming complex, and the co-creation of solutions with citizen involvement directed at, for example, the energy sector, is seen as an important strategy, rather than the sole reliance on limited government resources [48,49]. The authors believe that molding such creative and unselfish citizens is a long-term process, but there must be a strong sense of priority and political will. From the short-term economic gains angle, this undoubtedly represents a huge challenge to the Malaysian and Indonesian governments.

4.3. Possibilities for Building the Post-Materialist Smart City Society

The analysis of trends in this study shows post-materialist values are receiving greater attention from the younger generation in all countries. In the future smart city society, these younger generations will become the main support pillar for achieving smart sustainable cities. Currently, however, citizens in middle-income and Muslim-majority countries, such as Malaysia and Indonesia, should rethink the traditional conservative values that appear to confront openness values, such as obedience set against creativity and faith set against unselfishness. These countries should see how important it is to dare and be free to express ideas, be inclusive regardless of race and religion, and see the country and even the world as one entity. This would allow more openness and the chance for capable people to lead the country. These are some areas in which the culture and identity of the Malaysian and Indonesian majority might be contested.

In short, in building the emerging post-materialist society, options, like advancing rapidly and upholding the values of openness and inclusiveness or moving slowly and steadily with a limited range of people able to share the benefits of development, should be taken into account as possibilities or barriers in the minds of current and future leaders.

In search of the political struggle, good-enough governance promotes the smart city society in Malaysia. This study has identified society's important values in life, qualities for children to develop, and the overall subscriptions to materialist and post-materialist values.

The good enough governance framework focuses on two elements: (a) the cultural context of change and (b) queries on intervention content. First, the context of Malaysia is a country approaching high-income status [13,14]. Citizens of Malaysia and other Muslim-majority countries like Indonesia possess family and religion as preferable important values and view politics less favorably. They tend to teach their children to have good faith but place less emphasis on cultivating imagination and unselfishness. The overall ratio of materialists to post-materialists is two to one, but post-materialist values are emerging in the younger generation. Second, based on the above cultural contexts, the query on intervention content should repeatedly ask a series of questions such as what needs to be done, when it needs to be done, and how it needs to be done [13].

Therefore, given the trend toward an affluent and emerging post-materialist society, it is the right time now for the government of Malaysia to suggest this prioritization of post-materialist values. This would include: (a) adopting participatory governance that allows more space for citizens to become involved in political decision-making, as well as freedom of speech and self-expression; and (b) ensuring that the design and implementation of technology promote democratic values and achieves social equity goals. Today's post-industrial society is no longer one that tends to obey orders, nor one of perseverance; the smart generation relies on collective human and machine intelligence in everyday life [7]. The government should prioritize cultivating in future smart citizens certain qualities like having a good imagination, creativity, unselfishness, and volunteerism. These smart citizen qualities have been identified by scholars [19,47] as supporting the co-creation of better urban solutions with creative grass-roots input from citizens and the involvement of large groups of volunteers, rather than solely relying on the government or private-sector resources.

5. Conclusions

This study has attempted to analyze and explain the application of good enough governance with the aim being to consider the citizens' value propositions that shape the smart city society. In addressing the main research question, these post-materialist value propositions for the governors to consider are such as the cultural content of the religious majority, allow more space for political participation and free speech, and cultivate children in terms of imagination and unselfishness.

The advantage of this paper is it can become a policy reference for Muslim-majority countries such as Malaysia and Indonesia in building future smart citizens and societies, and in arriving at a balanced state of economic, social, and environmental sustainability. On the other hand, this study is limited as it provides a macro overview linking the political struggle, the smart city concept, and the CAS of smart society development and citizens' value propositions. Good enough governance queries involving content such as 'when' and 'how' needs to be conducted in detail on the specific cultural contexts of cities and societies: this is one suggestion for further study. Future micro studies can delve into case studies of a particular city or society with a qualitative, quantitative, or mixed-methodology, and results can be compared to the global perspective of geographical location, the majority religion, and economic status. Overall, the study contributes an empirical assessment on resolving doubts over the role of the political struggle in applying the concept of good enough governance to govern the emerging smart city societies from the perspective of changes in citizens' value propositions. The generated insights underline the critical role that smart societies play in establishing smart cities [50,51].

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Data Availability Statement: Data use in this study is available from <https://www.worldvaluessurvey.org/wvs.jsp> (accessed on 30 April 2021).

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