Original Research   **Open Access**

Discovering Important Criteria for National Culture towards Harmony in Malaysia Based on Rank Order Centroid Weighting Method

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Abstract
National culture varies across the country where the social norms of individual would shape the individuals behaviour as well as the whole society. This study adopts the Multi-Criteria Decision Making (MCDM) approach in determining the important criteria of national culture which contribute to the harmonious living in the context of Malaysian diverse population. One of the MCDM approach is Rank Order Centroid (ROC) methods. In particular, the ROC method was used to determine the weight of each ranked criteria. There are two phases involved. At first, to determine the weight of criteria that portray national culture and then, the weight of national culture criteria that contribute toward harmony in society. The finding reveal that the top priority criteria culture in society are respect, tolerance and collectivist. These criteria are the most desired in society in order to maintain the harmony in Malaysia.
Keywords: National culture; Multi-Criteria decision making; Rank Order centroid; Harmony.

1.Introduction
Each country in the world has unique national culture which encompass the shared elements which includes attitudes, beliefs, self-definition, norms, and values in individual's interactions (Triandis, 1993) and come along with the practices and behavioural patterns of a group also (Amir, 2009; Hofstede and Hofstede, 2004; Leung *et al.*, 2005). Other study state that culture is a mind programming that is install in people's mind that helps people distinguished a group of people from another group (Hofstede *et al.*, 2010). Thus, culture itself can be interpreted as a set of values, beliefs, norms and self-definition. This culture basically represents a group of community in particular region (Hasnan *et al.*, 2017). Since national culture is something that guide the attitude and behaviour of the citizens in a particular country, it can be regarded as the key ingredient in ensuring that each member of the society can live harmoniously and prevent disruptions.

In Malaysia, even though the multi-ethnic relationship seems to have stabilised during the past 60 years, it is still a subtle issue that creates sentiments among Malaysians. The existence of diverse cultures, beliefs and political stands had caused confusion on what being a Malaysian is all about. This has led to misunderstanding and prejudice among various ethnics in the country. Based on Global Peace Index 2012, ethnic conflict issues in Malaysia are still considered as moderate which is ranked twentieth position in the country and fourth in Asia (Institute for Economics and Peace, 2012). However, for the past five years there has been a dramatic decreasing, i.e., the thirtieth in country and fifth in Asia (Institute for Economics and Peace, 2016). In addition, under the Centre For A Better Tomorrow (CENBET) Racism Index score, more than half of Malaysians scored 59.1% where Malaysian citizens are categorized on selectively racist (Centre For A Better Tomorrow, 2016). The figure shows that the stability of the multi-ethnic relationships in Malaysia is somewhat fragile. The racial divide still exists through various education systems and political system, which remain racial based. Therefore, this paper aims to present the criteria for national culture and for determine the importance of each criteria in contributing towards harmonious society. In order to achieve the aims, the Rank Order Centroid (ROC) was used as the best technique to determine the weight of national culture.

Subsequently, the organization of the rest of the paper is as follows. The next section continues with the discussion and reviews on the Malaysian national culture. The following section discussed the weighting methods, where the ranking-based method is one of them. Results and discussion is described in the following section after weighting methods section. And last but not least the final section concludes this research works and some potential future works are suggested.

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2. Culture and Criteria

Many studies have found that Malaysians are high power distance (Abdullah, 1992; Amir, 2009; Ashkanasy, 2002; Bakar and Mustaffa, 2011; Hofstede, 2003; Hofstede and Hofstede, 2004; Idris, 2011; Kennedy, 2002; Sumaco et al., 2014; Ting and Ying, 2013). High power distance indicates that the society easily accepts autocratic and paternalistic power relations. Kirkman et al. (2009)affirmed that individuals with power are perceived as superior and elite and those with less power accept their places in the hierarchy (Kirkman et al., 2009).

Besides accepting differences in culture background, tolerance and showing respect is an essential humanity for every person. Tolerance among Malaysians has been fostered since independence. Malaysians are generally willing to accept others of different culture and social backgrounds (Fontaine et al., 2002; Ghani, 2015; Idris, 2011; Kennedy, 2002; Mun et al., 2015; Ramli M. A. and Jamaludin, 2011). A country may be rich in cultural diversity with various ethnicities but if the people cannot lives together as one nation and do not have cultural tolerance, the country will not be strong. Tolerance also could nurture a society which feels valued and respected by other groups. Respect is a kind of behaviour which is about paying careful attention to someone and having sympathetic consideration of the person's needs and wants (Dillon, 1992; Sung, 2001). Without respect, society cannot have a positive attitude towards the elderly, treat them with propriety, and integrate them into family and society (Damron-Rodriguez, 1998; Palmore and Maeda, 1985; Sung, 2001). Acceptance and respect could solve many problems. Communication bridges all the gaps and fixes the complexities in relationships, before things get worse.

In Malaysia, cultural appropriateness relates to *budi*. The concept of *budi* is how individuals respond to others and behave (Abdullah and Pederson, 2003; Bakar et al., 2014; Lim, 2003;2004; Ramli R., 2013). Language plays an important role in Malaysia, people are less direct when communicating with others and avoid direct communication (Abdullah and Pederson, 2003). If people try to speak in a direct way, it is considered as rude. Thus, Malaysian are well known for using polite language and being courteous. On the others hand, Malaysian cultures is relatively high in collectivism (Ashkanasy, 2002; Ghani, 2015; Hofstede, 2003; Hofstede and Hofstede, 2004; Kennedy, 2002; Sumaco et al., 2014; Ting and Ying, 2013), short term orientation (Dillon, 1992; Sumaco et al., 2014) and indulgence(Hofstede et al., 2010). Culture of collectivist emphasizes the importance of group identity over individual identity; people in this group tend to stress on belonging and loyalty(Triandis, 2001). Any opinion must be agreed to and predetermined by the group in order to prevent mistakes that could lead to shame.

3. Weighthing Methods

The main purpose of weighting methods is to assign an ordinal values to different attributes to indicate their relative importance in Multi-Criteria Decision Making (MCDM). There are certain weight allocation techniques used in MCDM methods being used in several studies, such as the Analytical Hierarchy Process (AHP) (Kasim et al., 2012; Ramli R. et al., 2014), Analytic Network Process (ANP) (Wang and Tzeng, 2012), Simple Additive Weighting (SAW) (Tzeng and Huang, 2011), Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) (Tzeng and Huang, 2011; Velasquez and Hester, 2013) and many more. In identifying importance national culture criteria, the ranking-based method was used. Additionally, there are three most commonly used weighting technique for ranking order which are Reciprocal of the Ranks (RR) (Barron and Barrett, 1996; Roszkowska, 2013), Rank Order Centroid (ROC) (Barron and Barrett, 1996; Kasim et al., 2011; Roberts and Goodwin, 2002; Roszkowska, 2013) and Rank Sum (RS) (Barron and Barrett, 1996; Roszkowska, 2013).

One advantage of using ranking weight methods is that data information rely only on ordinal (ranking) of criteria importance (Roszkowska, 2013). Furthermore, ranking methods are very reliable and user friendly to assign the weight (Eckenrode, 1965; Roszkowska, 2013). Among these rank-based technique, ROC is the most accurate than other rank-based formula (Roberts and Goodwin, 2002). The ROC steps was generalized in both forms of information of attribute weights and partial rank order information (Barron and Barrett, 1996). Moreover, the analysis of ROC is easy and simple to conduct due to the straightforward and efficacious as it provides an appropriate implement tool (Barron and Barrett, 1996; Roberts and Goodwin, 2002).Generally, ranking the items is much easier than giving weight to them. The idea is to convert ranks into values between 0.0 to 1.0 interval scale that give weights for each items. Furthermore, ROC method is simple to use and more accurate than the other approximation methods (Ahn and Park, 2008; Barron and Barrett, 1996; Noh and Lee, 2003) in solving multi-criteria problems.

4. Proposed Multi-Criteria Ranking Model

In this study, there are two phases involving relevancy, in determination of the criteria that portray national culture and determination of the criteria that contribute toward harmony in society. By using these nine criteria of national culture (see Figure 1), each experts ranked from 1st (most important) until 9th (least important). Representing the three main races in Malaysia which are Malay, Chinese and Indian and each of them have vast experience working in organizations that deal with the culture issues. The ranks given by the each experts were used to calculate the weights of each criteria by using Rank Order Centroid (ROC) method.

Figure-1. Conceptual framework in obtaining relevant weights for the national culture
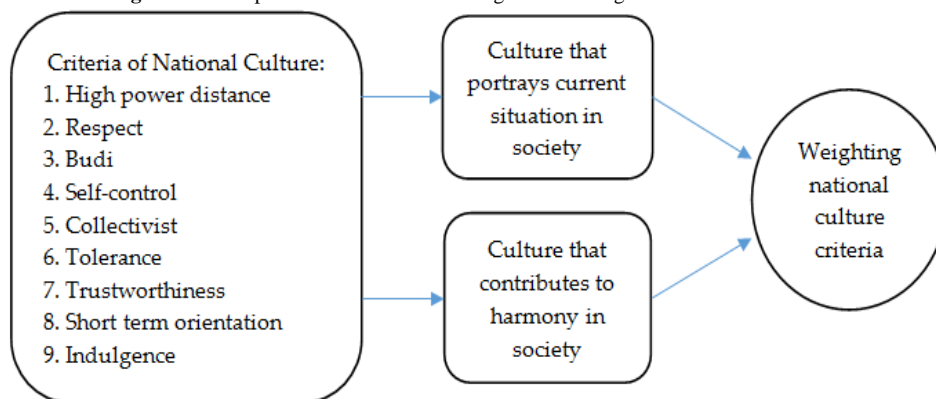
5. Methodology

There were seven experts involved in the study, where each of them was asked to rank the criteria that portray the national culture of Malaysia. However, since one overall value was expected to represent the final evaluation, some kind of aggregation has to be used to aggregate all seven evaluations. Based on ranking of each criterion given by the expert, the sum of the rankings of each criterion was calculated by using the average method. Then, the weights obtained were used to determine the final rank of critical success criteria by using the ROC method. In order to have the final rank of each criterion, the sum was divided by the number of experts as given in (1), and rounded up to guarantee the ranks were of integer values from 1 to n, where n is the number of criteria. The smaller the average rank value the higher the criteria in the ranking. The formula for the average rank is given as follows:

$$\bar{O}_{cj} = \frac{sc_j}{7} \qquad (1)$$

where,

$\bar{O}_{cj}$= the raw rank for national culture criteria, j

$SC_j = \sum_{i=1}^{n} o_{ij}$

Thus, the Rank Order Centroid (ROC) method was used to allocate the weights for selection criteria. The weight of the criteria were determined based on the rank made by the experts. Then, the final rankings of the criteria were used to find the weights of the criteria by using equation (2). The weight for ROC method were calculated using the formula (Barron and Barrett, 1996; Roszkowska, 2013) as below:

$$w_i \text{ (ROC)} = \frac{1}{n}\sum_{j=i}^{n} = \frac{1}{j} \qquad ; i= 1, 2, 3, \ldots, n \qquad (2)$$

where,

w_i = weight for jth criteria

n = total number of criteria

j = jth criteria

6. Results and Discussions

The final rank for each criterion was determined by dividing sum of weight with the number of experts. From the final rank results, conclusion could be made which are the lower the average rank value, the higher ranking of national culture criteria. Based on Table 1, the highest ranked for national culture criteria is respect with average rank value of 2.71 which are reflecting the most important criteria of national culture that portray in society. Meanwhile, the least important criteria is indulgence with average rank value of 8.00.

Table-1. Ranking criteria for national culture that portray in society

Expert	National culture criteria								
	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
E_1	9	1	3	4	5	2	6	7	8
E_2	8	3	4	5	1	2	6	9	7
E_3	9	2	3	4	5	1	6	8	7
E_4	8	1	4	3	5	6	2	9	7
E_5	7	8	4	3	1	2	5	6	9
E_6	9	2	3	4	5	1	6	7	9
E_7	1	2	3	6	7	5	4	8	9
Average rank	7.14	2.71	3.43	4.14	4.14	2.71	5.00	7.71	8.00
Final Rank	7	1	3	4	4	1	6	8	9

Note: C_1 = High power distance, C_2 = Respect, C_3 = Budi, C_4 = Self-control, C_5 = Collectivist, C_6 = Tolerance, C_7 = Trustworthiness, C_8 = Short term orientation, C_9 = Indulgence

Final rank in Table 1 could not be identify perfectly which are the criteria is the most important and least important because there are similar ranking which are, (1) respect and tolerance and (2) self-control and collectivist.

Thus, the weighting method is needed to find the final weight of the final rank. Result in Table 2 discloses that respect is the most important, followed by tolerance and collectivist.

Table-2. The final result of average weight that portray national culture in society

Expert	National culture criteria								
	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
E_1	0.0123	0.3143	0.1477	0.1106	0.0828	0.2032	0.0606	0.0421	0.0262
E_2	0.0262	0.1477	0.1106	0.0828	0.3143	0.2032	0.0606	0.0123	0.0421
E_3	0.0123	0.2032	0.1477	0.1106	0.0828	0.3143	0.0606	0.0262	0.0421
E_4	0.0262	0.3143	0.1106	0.1477	0.0828	0.0606	0.2032	0.0123	0.0421
E_5	0.0421	0.0262	0.1106	0.1477	0.3143	0.2032	0.0828	0.0606	0.0123
E_6	0.0262	0.2032	0.1477	0.1106	0.0828	0.3143	0.0606	0.0421	0.0123
E_7	0.3143	0.2032	0.1477	0.0606	0.0421	0.0828	0.1106	0.0262	0.0123
Final weight	0.0657	0.2017	0.1318	0.1101	0.1431	0.1974	0.0913	0.0317	0.0271
Final rank	7	1	4	5	3	2	6	8	9

Note: C_1 = High power distance, C_2 = Respect, C_3= *Budi*, C_4= Self-control, C_5= Collectivist, C_6= Tolerance, C_7= Trustworthiness, C_8 = Short term orientation, C_9= Indulgence

Table 3 reveals that the highest ranked for national culture criteria is tolerance with average rank value of 2.29 which are reflecting the most important criteria of national culture that contribute harmony in society. Meanwhile, the least important criteria is similar with result before which is indulgence with average rank value of 8.00.

Table-3. Ranking criteria for national culture that contribute toward harmony in society

Expert	National culture criteria								
	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
E_1	9	1	4	5	6	3	2	7	8
E_2	8	3	5	4	1	2	6	9	7
E_3	9	2	3	4	5	1	6	8	7
E_4	9	5	6	3	1	2	4	8	7
E_5	7	8	4	3	1	2	5	6	9
E_6	8	1	3	4	5	2	6	7	9
E_7	1	2	3	5	7	4	6	8	9
Average rank	7.29	3.14	4.00	4.00	3.71	2.29	5.00	7.57	8.00
Final rank	7	2	4	4	3	1	6	8	9

Note: C_1 = High power distance, C_2 = Respect, C_3= *Budi*, C_4= Self-control, C_5= Collectivist, C_6= Tolerance, C_7= Trustworthiness, C_8 = Short term orientation, C_9= Indulgence

Table 4 show that after weighting criteria the final weight for criteria *budi* were more important than self-control. Meanwhile, the top three important criteria that contribute towards harmony in society are tolerance, respect and collectivist. The least important criteria is indulgence with final weight value of 0.0271.

Table-4. The final result of average weight of national culture that contribute toward harmony in society

Expert	National culture criteria								
	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
E_1	0.0123	0.3143	0.1106	0.0828	0.0606	0.1477	0.2032	0.0421	0.0262
E_2	0.0262	0.1477	0.0828	0.1106	0.3143	0.2032	0.0606	0.0123	0.0421
E_3	0.0123	0.2032	0.1477	0.1106	0.0828	0.3143	0.0606	0.0262	0.0421
E_4	0.0123	0.0828	0.0606	0.1477	0.3143	0.2032	0.1106	0.0262	0.0421
E_5	0.0421	0.0262	0.1106	0.1477	0.3143	0.2032	0.0828	0.0606	0.0123
E_6	0.0262	0.3143	0.1477	0.1106	0.0828	0.2032	0.0606	0.0421	0.0123
E_7	0.3143	0.2032	0.1477	0.0828	0.0421	0.1106	0.0606	0.0262	0.0123
Final weight	0.0637	0.1845	0.1154	0.1133	0.1731	0.1979	0.0913	0.0337	0.0271
Final rank	7	2	4	5	3	1	6	8	9

Note: C_1 = High power distance, C_2 = Respect, C_3= *Budi*, C_4= Self-control, C_5= Collectivist, C_6= Tolerance, C_7= Trustworthiness, C_8 = Short term orientation, C_9= Indulgence

7. Conclusions and Future Work

This study are seeking the ranking and weighting of the national culture criteria towards harmonious Malaysian society. Based on the result, the top three national culture in Malaysia were respect, tolerance, and collectivist for both most portray and contribute to harmony in society. From this results, there was clearly conclusion can be made on how situation in Malaysia nowadays. These means that Malaysia somehow persist culture of tolerate and respect

to each other's, despite, there are different races and they still can work together well without any problem. In order to achieve harmony nation, tolerate are more important than other criteria. Since this study only focus on the small scale of people group with is expect judgement, it could not be generalized to all society. Thus, the future works should be conducted in the large scale of peoples to seek the genuine culture practices in society nowadays. In addition, seeking the national culture currently and ideally are the most importance part, where the differences between this two aspects of culture could be represents the national culture criteria that most peoples should considered when dealing with different races without controversy.

Acknowledgments

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