Interpretive structural modelling: Hierarchical relationship model of appreciating diversity competency for educational leaders

Noraini Abdul Latif, Muhammad Faizal A. Ghani

Department of Educational Management, Planning and Policy, Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

Article Info	ABSTRACT
	The dynamics of diversity and cultural competency are elements that run parallel with globalization. Appreciating diversity is part of global leadership competency. However, this assumption may not hold in a context in which multiculturalism diversity and competency are not an integral element for leadership competency for public sector educational leaders. Public organization should assimilate and practice appreciating diversity in the organizational leadership competency. Thus, the central aim of this study is to investigate and examine the appreciating diversity competency for educational leaders. The paper analyzed the appreciating competencies by using interpretive structural modelling (ISM) based on experts' consensus. The cross-impact matrix multiplication applied to classification (MICMAC) analysis ascertained and classified each competency based on their driving and dependent power. The hierarchical model developed through ISM yielded seven appreciating competencies divided into two dimensions for educational leaders. The model proposed could be adopted by stakeholders to upgrade the competency of educational leaders to practice and apply appreciating diversity. The ISM model could be adopted for the training and development of future educational leaders in preparation to administer and lead multicultural and multigenerational organizational communities.

Corresponding Author:

Noraini Abdul Latiff
Department of Educational Management, Planning and Policy, Faculty of Education, University of Malaya
50603 Kuala Lumpur, Federal Territory of Kuala Lumpur, Malaysia
Email: pva190018@siswa.um.edu.my

1. INTRODUCTION

Globalization is moving toward its unprecedented speed that demand organizational leaders to understand the dynamics of diversity. The dynamics of diversity through cultural, ethnicity, gender, religion, personal background and expertise require organizational leaders to have the competency in adapting and understanding how it affects organization environment and performance [1]. The advancement of technology and global trend do not dictate that the dynamics of diversity be left behind but runs parallel with global awareness for leaders in public and private organization. Appreciating diversity is part of global leadership competency and not limited to domestic leadership competency [2]. The success of a global leader is not about being comfortable or minimize tension but rather to use the dynamics of diversity as a synergistic tool to create change, foster teamwork for creativity, innovation and make good decision while surrounded by a complex environment of cultural, background, differences and similarities [3]. Thus, it is important for appreciating diversity competency to be incorporated as part of leadership competency for public and private organization.

Public organization such as the Malaysia Ministry of Education (MoE) cannot escape globalization. The education field evolve with global trend. The COVID-19 pandemic is part of globalization evolvement that affect educational leaders (ELs) at the MoE in making crucial decisions and challenge its practice of governance. Malaysia practices a centralize education system where all the important decisions, strategies and policy are made by the MoE [4] i.e., ELs administering and running the system. In furtherance, Malaysia is made up of multi-ethnic societies with multi-ethnic cultural values [5]. However, race relation regression, the dominance of majority group in leadership position especially in public sector and polarization between rural-urban divide do not reflect the inclusion of appreciating diversity competency amongst public sector leaders including EL [6], [7].

In the light of the previous explanation, the current competency model for ELs, i.e., the continuous professional development model (CPD) [8] is vague and too general that it only covers visionary, strategies, proficient, aspiration, knowledge, skills, professional values and competent. The model did not include appreciating diversity despite Malaysia being a multi-ethnic society [9]. Public organization such as the MoE should include appreciating diversity competency as part of educational leaders' competency. In order to attain sustainable high administrative performance, appreciating diversity based on trust relationship amongst leaders and organizational communities from multi-ethnic culture is essential [6], [10]. Polarization of majority ethnic group also lead to the issue of how ELs administering the education system were recruited and selected. Little is known on the selection process and whether it is competency based [9], [11].

The Organizational for Economic Co-Operation and Development (OECD) report [12] stressed that developing leaders is essential in a diversified society than in a homogenous society as the challenge is to bring about change, solve differences, assimilate new practices, create collaboration and preserve the uniqueness of multi-cultural values. The OECD further reported that Malaysia ministries and public institutions is in a critical state in terms of appreciating diversity where the focus was not in delivering public services with the competent leadership and resource management towards high performance, instead it was on the division of ethnicity. This was further supported in the recent report of Malaysia racial discrimination report by Pusat Komas Malaysia which revealed that racial and religious politics take up the largest percentage (28%), racial and religious provocation (23%), racial discrimination in the education sector (11%), racism in other sectors (11%) and racial discrimination in the business sector i.e., the private sector being the lowest (6%) [13]. There was also the *lacuna* on the issue of ethnic diversity in Malaysia due to the scarcity of research and the literature in the public sector as the issue of ethnicity is sensitive and might cause offense [7], [14]. Hence, the need to include appreciating diversity competency in the system. This study explains the context of the research, problem statement and the proposed solution. The following part will delve into the literature review on existing research. This is then followed with methodology, analysis of the results and discussion. Finally, the paper ends with conclusion that highlights the limitation of the study and future suggestions.

Diversity in an organization as proffered by Kersten [15] and reaffirmed by Salleh and Sulaiman [16] encompass variety of differences that construe individuals such as ethnicity, race, religion, gender, culture, age, nationality, education, disability, opinion and beliefs, background, sexual orientation and experiences. Whereas Goldsmith *et al.* [3] defined diversity (appreciating diversity) as the ability of leaders to understand the surroundings and complex environment that could develop into a unique leadership and working culture, achievement and motivation, inclusivity in making decision, sharing of information and learning from one another. These definitions are very much related to global leadership competency. Global leaders are not anyone who leads in a multi-cultural and complex environment to achieve high performance, but anyone who operates within the context of domestic leadership to minimize tension or issues, develop multi-cultural effectiveness, and appreciating diversity of cultural differences in the form of individual uniqueness, abilities and skills [2], [17]. Therefore, appreciating diversity is cultural and competency based (ability, skills, expertise). Hence, the research is based on the transcultural leadership model (TLM) [18] as it comprises of intercultural constructs and competencies which run parallel with the environment of public organization in Malaysia such as the MoE which is made up of multi-cultural organizational communities.

The TLM model is compartmentalized into three main dimensions i.e., worldview, social and interpersonal style and situation approach. Worldview consist of behavior that leaders demonstrate by being open-minded to the diverse ways of organizational community and their beliefs [19]. Different people have different beliefs in thoughts, religion, opinions and cultures. Organizational leaders should be able to respect the dynamics of diversity which in turn will develop trust and intercultural relationship amongst organizational community [18]. Social and interpersonal style deal with leaders being able to connect well with different kinds of people inside and outside the organization [20]. Being able to adapt socially and with different social environment and understanding the people and the organization's culture will allow leaders to influence and lead organizational community effectively. Situational approach encompasses of leaders being able to apply various positive leadership style that works well in situations or scenarios with different cultural values or attitudes of people accordingly [21].

According to Hassanzadeh *et al.* [22], Malaysian leaders especially from public organizations should level up into becoming global leaders instead of being fossilize in domestic competency. In order to juxtaposed themselves into becoming a global leader, ELs who administer and lead the education system should start by appreciating diversity of their organization i.e., to be able to appreciate, understand, motivate organizational communities from multi-cultural background, different generations, religion, eras, skills, abilities and knowledge, different frames of mind and ideological perspective [23], [24]. Leadership recruitment and appointments should be based on competency and merit instead of ethnicity. It was affirmed by Tseung-Wong and Verkuyten [25] that majority ethnicity takes recognition of different cultural identities as threatening as it might disrupt their cultural dominance. Hence, to take a leap from with cultural dominance, appreciating diversity competency is crucial to be included as part of leadership competency for public organization leaders.

Discrimination or judgment based on ethnicity especially in a multicultural society hinders effective communication, expression of ideas, demotivation, friction and conflict. It is the leaders' responsibility to practice appreciating diversity as they are the role model that portrays acceptable behavior for organizational communities to follow and be influenced [26]. Leaders becoming a role model would be more sensitive to diversity and differences. Respecting each other's differences would foster effective communication and facilitate mutual understanding. Shakir and Lee [17] purport that the connection build by leaders with multicultural organizational community would manifold into three dimensions comprising of cognitive, emotive and behavioral. Cognitive delve with mutual understanding between individuals, emotive channel the positive feeling toward another individual and behavioral develop a platform for mutual understanding, agreement and collaboration. The recent research by Leroy *et al.* [27] on harvesting diversity recommended that organizational leaders should assemble organizational community that are diverse especially if the organization is made up of multi-cultural background in order to cultivate cross fertilization of ideas, creativity and innovation. Appreciating diversity practiced by leaders would encourage team members to feel that they are being valued. Baracskay [1] emphasized on the need to assimilate cultural competency, diversity and global awareness as part of curriculum for teaching public affairs education or for leadership training. Intercultural competencies assimilated in the leadership training and development would engender greater sense of awareness locally and at the global level. It will harvest openness and respect toward other cultures.

Diversity is not limited to multi-ethnic organizational community but it covers multigenerational organizational community with variety of expertise. Leaders in the public organization should be aware that each generation in their organization have different mindset, ideology, values, and expertise [28]. For example, millennials could be more team oriented since they are more exposed and well verse in technology as oppose to X generation who are independent knowledge workers. In terms of ideology or school of thought, a fact based or data-based person may have lower tolerance for emotive or feeling based person. Therefore, leaders should be effective in being aware, open-minded, and adaptive to handle and use the dynamics of diversity toward organizational performance.

Leadership competency for ELs in the public organization such as the Malaysia Ministry of Education should include ability and skills of embracing different cultures, diversity of various background and ability to adapt and change. Hence, there is a need to include appreciating diversity in the educational leaders' competency in order to administer and run the education system that is made up of multi-cultural societies with various expertise, skills and knowledge. Being part of globalization is to be inclusive and to have global awareness in the dynamics of diversity. The purpose of this study is to investigate and examine appreciating diversity competency from the perspective of educational leaders administering the MoE. This study addresses appreciating diversity competency in a hierarchical relationship model for ELs at the public sector based on experts' consensus by utilizing interpretive structural modelling (ISM). Hence, the objectives of this study are: i) To determine appreciating diversity competency for educational leaders at the Malaysia Ministry of Education through experts' consensus; and ii) To propose appreciating diversity model for educational leaders based on experts' consensus.

2. RESEARCH METHOD

This study incorporated experts' opinion and consensus to identify and decipher appreciating diversity competency for educational leaders administering and leading the education system and utilize ISM to develop a hierarchical structural model. It was recommended that ISM begin with a group solving technique by engaging a number of experts as the process begin with the identification of the relevant elements to the problem. The various group solving technique include focus group technique (FGT), nominal group technique (NGT), nominal focus group (NFG) and brainstorming. This study began with NGT that use a structured debate (protocol) to solve the problem and they are: i) Introduction and explanation; ii) Silent generation of ideas; iii) Sharing ideas; iv) Group discussion and clarification; and v) Voting and ranking. The structured debate guide questions were validated by two leadership experts. In regard to NGT, its validity and effectiveness is reflected in the level of expertise of the participants [29]. Therefore, it is important to choose the experts based

on the criteria of field of expertise and experience. In respect of ISM, it adopts the paired comparison technique and is generally software aided (Concept Star). The technique is capable to receive and process group input [30], [31]. It helps to decipher the hierarchical relationship among the variables identified. ISM is capable to convert mental models of complex issue into a clearly well-defined hierarchical model. ISM technique has been used in many fields including manufacturing [32], environment [33], education [34], aircraft industry and engineering [35], and policy [30].

In this study, a total of 15 experts from various division of the MoE, academic and educational institutions in the public sector were sent a formal invitation to participate as experts for the NGT and ISM session. Out of 15 experts, a total of 11 experts agreed to participate in this study [32]. Table 1 shows the experts' profile based on their academic qualification, field of expertise and work experience. The ISM technique involved is presented in Figure 1.

Table 1. Experts' profile based on academic qualification, field of expertise and working experience

Experts	Academic qualification	Field of expertise	Working experience
E1	Doctor of Philosophy (PhD)	Education management Leadership Coaching and mentoring	16 years
E2	Doctor of Philosophy (PhD)	Leadership Education management	21 years
E3	Doctor of Philosophy (PhD)	Model development Education management Research and development	13 years
E4	Doctor of Philosophy (PhD)	Leadership Competency Assessment and evaluation	22 years
E5	Doctor of Philosophy (PhD)	ICT Curriculum development Education management	17 years
E6	Doctor of Philosophy (PhD)	Research and development Technical vocational	22 years
E7	Masters	Education management Coaching and mentoring	11 years
E8	Masters	Education management Curriculum development	22 years
E9	Doctor of Philosophy (PhD)	Leadership Education management Leadership training	24 years
E10	Masters	Policy development Education management	18 years
E11	Doctor of Philosophy (PhD)	Language and technology Education Management	23 years

The ISM technique as presented in Figure 1 are:
a. Identify appreciating diversity competency through structured review and discussion with a panel of experts through modified NGT. Classic NGT requires longer time and iterative. In its classic form, NGT ranking process is iterative in terms of discussion and re-ranking can occur several times for the experts to reach consensus and it takes about two and seventy-five hours to three hours of discussion [36]. The extension of time made the classic NGT to be impractical for many experts who hold various important positions and responsibilities. Therefore, modified NGT was used [37] and it took about 90 minutes. A pre-listed of appreciating diversity competency through literature review was presented to the panel of experts as a starting point. Based on the list, the experts further discuss and review the appreciating competencies needed for ELs. The experts are allowed to agree, disagree, make changes or present additional ideas. The final list obtained was presented to the experts to obtain consensus. The experts ranked the list of variables obtained based on a linguistic scale of one to seven to indicate the degree of preference of each variable.
b. Develop a structural self-interaction matrix (SSIM) through pair-wise comparison using the variables agreed and ranked by experts from the NGT session. The variables are represented by V, A, X and O. The symbols of V, A, X and O shows the direction of relationship represented by i and j as: i) In order to produce an appropriate appreciating diversity competency (ADC) model for educational leaders; ii) *V* for ADC i is more important than ADC j; iii) A for ADC j is more important than ADC i; iv) X for ADC i and j equally related and important; and v) O for ADC i and j are unrelated.

c. Final reachability matrix (RM) is constructed from SSIM. The relationship among the variables represented by V, A, X and O is replaced with 1 and 0 based on the binary matrix rule as: i) If the *(i, j)* entry in the SSIM is *V,* then the *(i, j)* entry in the reachability matrix becomes 1 and the *(j, i)* entry becomes 0; ii) If the *(i, j)* entry in the SSIM is A, then the *(i, j)* entry in the reachability matrix becomes 0 and the *(j, i)* entry becomes 1; iii) If the *(i, j)* entry in the SSIM is X, then the *(i, j)* entry in the reachability matrix becomes 1 and the *(j, i)* entry also becomes 1; and iv) If the *(i, j)* entry in the SSIM is O, then the *(i, j)* entry in the reachability matrix becomes 0 and the *(j, i)* entry also becomes 0.

d. Level of partitioning matrix is developed from RM.

e. Development of hierarchical relationship diagraph based on the final RM into ISM model.

f. The Model was presented to the panel of experts for review for any necessary modification.

g. Cross-impact matrix multiplication applied to classification (MICMAC) analysis is constructed based on the cluster classification of driving and dependent power of each variable.
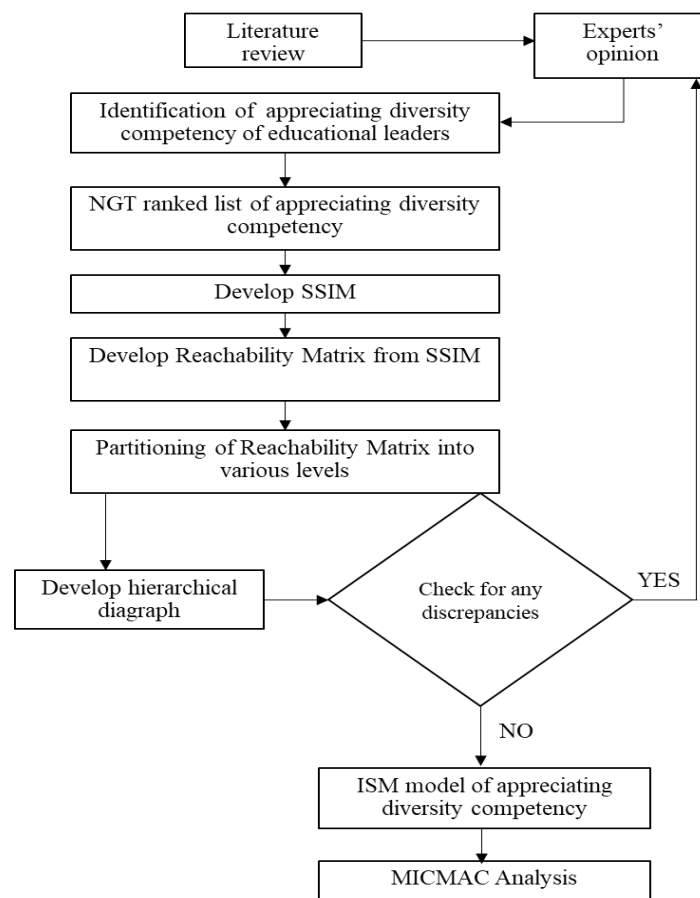

Figure 1. Interpretive structuring modelling process

3. RESULTS AND DISCUSSION

3.1. Step 1: Nominal group technique

The experts consensually agreed and identified seven appreciating competencies for ELs. The experts further suggested and agreed that the seven competencies should be categorized into two dimensions comprising of appreciating cultural diversity and appreciating diversity of competencies. This run coherent with previous researchers [18], [19] where appreciating diversity competency is not limited to cultural and ethnicity alone instead it covers abilities, skills and knowledge. The experts agreed that public organization such as the MoE should step up to include appreciating diversity competency for educational leaders' recruitment, selection, training and appointment. To be a global leader, EL should be aware and practice appreciating diversity. The ranking of each appreciating diversity competency by experts in the NGT session is presented in Table 2. The list of each competency is inserted in the ISM software based on its ranking prioritization.

Table 2. Ranking and prioritization of appreciating diversity competency for educational leaders

No	Appreciating diversity	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	Total	Percentage	Ranking
Appreciating cultural diversity															
1	ELs understand others' culture for effective communication	7	6	7	7	7	7	7	5	6	6	7	72	93.5	2
2	ELs respect organizational communities who came from various background, race and religion	7	6	7	7	7	7	7	3	6	6	7	70	90.9	4
3	ELs is inclusive and flexible to adapt in an organization with diverse cultural of organizational communities	7	6	7	7	7	6	7	6	6	7	7	73	94.8	1
4	ELs strive to learn the culture of a new place	7	6	7	7	6	7	7	7	6	5	7	72	93.5	2
Appreciating diversity of competencies															
1	ELs delegate autonomy and task to organizational communities based on their merit of achievement instead of ethnicity	7	6	7	6	7	7	7	2	4	6	7	66	85.7	3
2	ELs identify and retain co-workers who can perform and deliver high-impact performance based on their competencies and abilities	7	6	7	7	7	7	7	5	6	6	7	72	93.5	2
3	ELs equip him/herself with variety of knowledge to lead in an organization made up of diverse generation (Example: Generation Z is achievement-oriented compared to Generation Y focus in work processes)	7	6	7	7	7	6	7	7	6	7	7	74	96.1	1

3.2. Step 2: Structural self-interaction matrix (SSIM)

The Structural self-interaction matrix (SSIM) yielded a pair-wise list of contextual relationship among the variable. In simple term, pair-wise list is the voting system by experts aided by software. The process is repeated until all the variables were paired. The following example represent the pair-wise list process based on Table 3 of SSIM for appreciating cultural diversity dimension. For competency 1, 'EL is inclusive and flexible to adapt in an organization with diverse cultural of organizational communities' is more important and should be achieved first before achieving competency 3, 'ELs strive to learn the culture of a new place'. Therefore, the relationship is represented by 'V'. In other words, competency 1 affects competency 3 but competency 3 does not affect competency 1. Competency 4, 'EL respect organizational communities who came from various background, race and religion' is more important and should be achieved first by EL before competency 1. Hence, it is represented by 'A'. In this study there is no relationship among the variables that is represented by 'O' i.e., unrelated. Competency 1 influence itself to be achievable and thus, represented by 'X'.

Table 3. Structural self-interaction matrix for appreciating cultural diversity

	No.	Appreciating cultural diversity			j	
			4	3	2	1
i	1	EL is inclusive and flexible to adapt in an organization with diverse cultural of organizational communities	A	V	V	X
	2	ELs understand others' culture for effective communication	A	V	X	
	3	ELs strive to learn the culture of a new place	A	X		
	4	ELs respect organizational communities who came from various background, race and religion	X			

The same logic holds for Table 4 for the dimension of appreciating diversity of competencies. For Competency 2 'ELs identify and retain co-workers who can perform and deliver high-impact performance based on their competencies and abilities' is more important and should be implemented before Competency 3 'ELs delegate autonomy and task to organizational communities based on their merit of achievement instead of ethnicity'. Hence the relationship is represented by 'V'. In regards to Competency 1 'EL equips himself/herself with variety of knowledge to lead in an organization made of diverse generation (Example: Generation Z is achievement-oriented compared to Generation Y focus in work processes)' is less important and only achievable after Competency 2 and Competency 3 being implemented and therefore represented by 'A'. Based on Table 4, there is no relationship among the variables that is represented by 'O'. Hence, all the variable is related. Each competency influence itself to be achievable and thus, represented by 'X'.

Table 4. Structural self-interaction matrix of appreciating diversity of competencies

	No.	Appreciating diversity of competencies	3	*j* 2	1
i	1	EL equips him/herself with variety of knowledge to lead in an organization made up of diverse generation (Example: Generation Z is achievement-oriented compared to Generation Y focus in work processes)	A	A	X
	2	ELs identify and retain co-workers who can perform and deliver high-impact performance based on their competencies and abilities	V	X	
	3	ELs delegate autonomy and task to organizational communities based on their merit of achievement instead of ethnicity	X		

3.3. Step 3: Reachability matrix

The symbols of V, A, X, and O relationship was changed into binary matrix. Transitivity is checked on the direct and indirect relationships among the variables. The RM revealed the driving power and dependent of each variable. The driving power of a variable is the total number of variable (including itself) which it may help to achieve. This means the variable that has the most driving power affect other variables and need to be achieved, mastered or implemented first. The dependence power of a variable is the total number of variable (including itself), which may help to achieve it. This means the variable depends on itself and other variables in order to be achieved, mastered or implemented. For example, based on Table 5, under the dimension of appreciating cultural diversity, competency 4 (ELs respect organizational communities who came from various background, race and religion) carry the most driving power i.e., 4 and the least dependent power i.e., 1. Thus, competency 4 is the main competency and should be implemented first or achieved first before competency 1, 2 and 3. Whereas, competency 3 (ELs strive to learn the culture of a new place) carry the least driving power of 1 and the highest dependent power i.e., 4. Therefore, competency 3 needs competency 4, 1, and 2 in order to be achievable. As for the dimension of appreciating diversity of competencies, competency 2 (ELs identify and retain co-workers who can perform and deliver high-impact performance based on their competencies and abilities) has the highest driving power i.e., 3. Whereas competency 1 (EL equips him/herself with variety of knowledge to lead in an organization made up of diverse generation (Example: Generation Z is achievement-oriented compared to Generation Y focus in work processes) carry the highest dependent power of 3.

Table 5. Reachability matrix of appreciating diversity competency

Appreciating diversity	1	2	3	4	Driving power (DP)	Ranking of DP
Appreciating cultural diversity						
1	1	1	1	0	3	II
2	0	1	1	0	2	III
3	0	0	1	0	1	IV
4	1	1	1	1	4	1
Dependent power (DEP)	2	3	4	1		
Ranking of DEP	III	II	1	IV		
Appreciating diversity of competencies	1	2	3		Driving power (DP)	Ranking of (DP)
1	1	0	0		1	III
2	1	1	1		3	I
3	1	0	1		2	II
Dependent power (DEP)	3	1	2			
Ranking of DEP	I	III	II			

3.4. Step 4: Level of partitioning of reachability matrix

Partitioning of reachability matrix helps to understand the hierarchical relationships of each competency and it shows at which position (level) each competency is. This process assists in the construction of ISM model. The reachability set, antecedent set and intersection set are derived from the RM as depicted in Table 6. Reachability set comprise of the competency itself and other competencies it may affect. The antecedent set is made up of the competency itself together with other competencies which may help in achieving it. The intersection is calculated from reachability and antecedent set. The competency for which the reachability set and the intersection set are similar, will yield the top position in the hierarchy. The top position competency is removed from consideration and the process is repeated until all competencies were positioned accordingly to its level. Table 6 shows that under dimension 1 (appreciating cultural diversity), competency a4 (ELs respect organizational communities who came from various background, race and religion) is positioned at level IV which is the highest level (top level) and competency a3 (ELs strive to learn the culture of a new place) is positioned at level I which is the lowest level in the hierarchy. Whereas, under the dimension 2 (appreciating diversity of competencies), competency b2 (ELs identify and retain co-workers who can perform and deliver high-impact performance based on their competencies and abilities) is at the top level i.e., level III.

On the other hand, competency b1 (EL equips him/herself with variety of knowledge to lead in an organization made up of diverse generation) is at the lowest level i.e., level I.

Table 6. Partitioning of reachability matrix of appreciating diversity competencies

Appreciating Diversity	Reachability Set	Antecedent Set	Intersection Set	Level
a1	1, 2, 3	1, 4	1	III
a2	2, 3	1, 2, 4	2	II
a3	3	1, 2, 3, 4	3	I
a4	1, 2, 3, 4	4	4	IV
b1	1	1, 2, 3	1	I
b2	1, 2, 3	2	2	III
b3	1, 3	2, 3	3	II

3.5. Step 5 and 6: Hierarchical relationship diagraph (ISM model) and model presentation to experts

The structural hierarchical model is generated from the final RM and level partitioning of RM. The model in the Figure 2 depicts two dimensions of appreciating diversity i.e., appreciating cultural diversity and appreciating diversity of competencies. The model reveals that appreciating cultural diversity comes first before appreciating diversity of competencies. Within dimension 1, educational leaders should master or achieve competency 4 followed by competency 1, 2 and 3. Without practicing and applying competency 4, competency 1, 2 and 3 could not be achievable. The ISM model revealed competency 4 (ELs respect organizational communities who came from various background, race and religion) was considered the most crucial by experts. This runs coherent with [18], [19] whereby respect for belief is considered the most important under worldview dimension where educational leaders who are administering the system should be open minded to the diverse background of organizational communities. In furtherance, respect will lead to organizational communities to trust and be influenced by their leaders. This finding affirms Cheong's study [7] whereby Malaysian do want changes with greater ethnic diversity in public organizations.
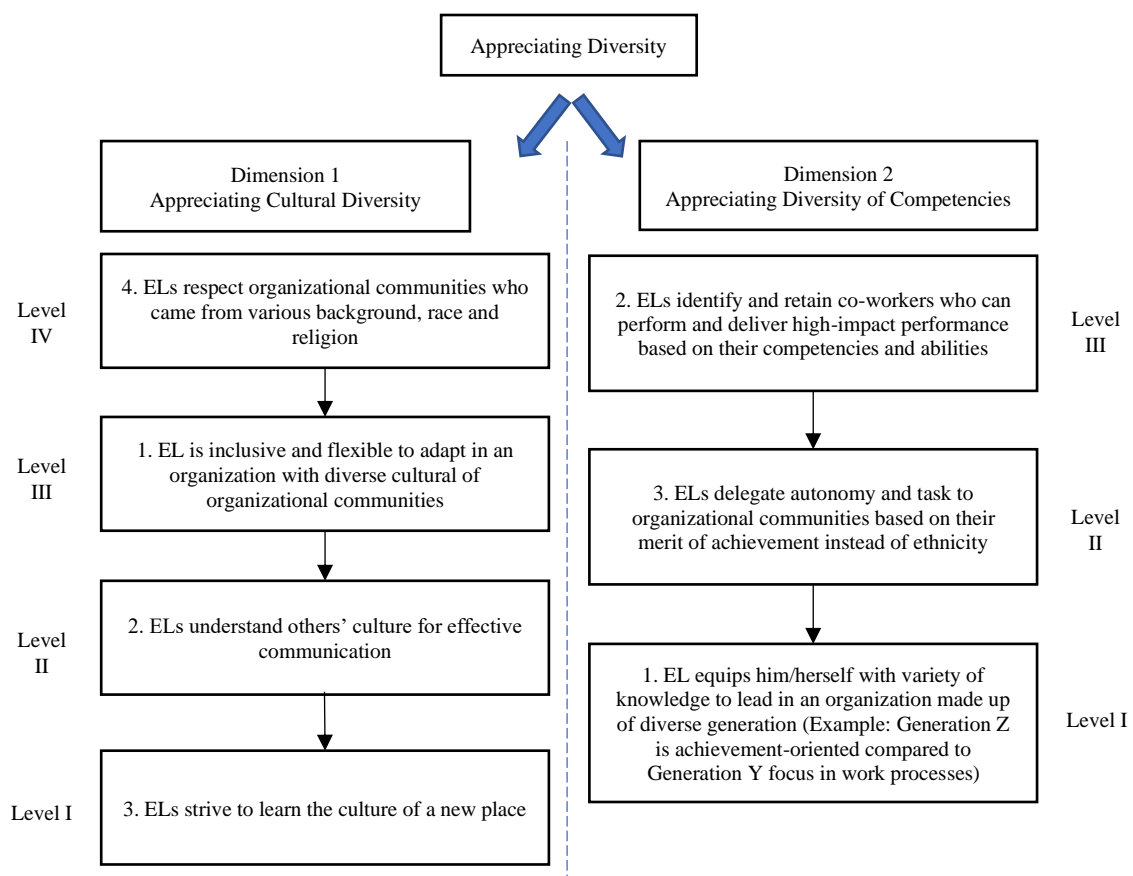

Figure 2. Appreciating diversity model for educational leaders

The model further revealed in Dimension 1 that competency 1 (EL is inclusive and flexible to adapt in an organization with diverse cultural of organizational communities) should be achieved after respecting one's background. The panels of experts agreed that after respect, inclusivity and flexibility should be practiced by educational leaders [27]. This shows adaptability of a leader in order to foster team work, creativity, innovation. This is followed by the competency 2 (ELs understand others' culture for effective communication). Public organization that is represented by various cultural ethnicity requires effective communication. ELs were recommended by experts to understand one's culture to ease the communication process that could bloom into a harmony environment without offending one's cultural background [23]. Finally, for dimension 1, competency 3 (ELs strive to learn the culture of a new place) can only be achieved after an EL respects, be inclusive and flexible as well understands one's culture for effective communication. Educational leaders will not be positioned in the same division or department throughout their career life and therefore they have to learn the culture of a new place. Learning process happens continuously for them to be able to adapt and lead a new organization [6].

As for Dimension 2 i.e., appreciating diversity of competencies, competency 2 (ELs identify and retain co-workers who can perform and deliver high-impact performance based on their competencies and abilities) is positioned at the highest level (level III). The experts decided that educational leaders should have the ability to identify and retain workers with high impact performance based on competencies to be most crucial. Appreciating diversity of competencies for public organization such as the MoE should be juxtaposed with globalization. Globalization demands workforce mobility with variety of expertise, skills and knowledge to collaborate toward greater contribution [25], [38]. Competency 2 affects competency 3 under this dimension where educational leaders should delegate autonomy and task to organizational communities based on merit of achievement instead of ethnicity [9], [10]. Expertise, knowledge and abilities if properly channeled would accrue into high organizational performance instead of ethnicity criteria as proffered by Tucker *et al.* [18]. ELs should take the leap and change toward improving public services for the community. This should be reflected in the usage of organizational community's knowledge, ability and skills.

Finally, the model further revealed that competency 1 (EL equips him/herself with variety of knowledge to lead in an organization made up of diverse generation) is at the lowest level i.e., level I. This clearly shows that competency 1 needs competency 3 and 2 in order to be achievable. Besides identifying, retaining and delegating work based on competencies and merit of achievement, future ELs should adapt themselves not only in a multi-ethnic organizational society but in a multigenerational leadership. Multigenerational leadership is not only focused on leading people made up of different ages but it also delves with leading people of different ideologies, different frames of references or school of thought [3], [39], [40]. The complete ISM model was presented to the panel of experts for final approval and to check for any discrepancies. The model consensually was reviewed and approved by the experts. The results of the study reinforce TLM's model [18] based on three main dimensions: worldview, social and interpersonal style and situation approach. The appreciating diversity model from this study is not limited to public organization in the scope of domestic leadership but applicable at the global level. Appreciating diversity competency is part of global leadership competency [41].

3.5. Step 7: MICMAC analysis

Cross-impact matrix multiplication applied to classification (MICMAC) analysis is used to examine and analyze the driving and dependence power of each variable. The variables are plotted based on four cluster classification: i) Autonomous: competencies that hold weak driving and dependent power. They are isolated from the system and may have few but strong links; ii) Linkage: competencies that hold strong driving and dependent power. They can be unstable and affected by their own actions and hence affect other competencies; iii) Dependent: competencies that hold weak driving power but strong dependence power. They depended on competencies with high driving power to be addressed; and iv) Independent: competencies that hold strong driving power with weak dependence power. They are the key competencies and should be addressed early.

Figure 3 and Figure 4 represent the MICMAC analysis of two dimensions of appreciating diversity hierarchical model. The cluster classification for the dimension of appreciating cultural diversity based on Figure 3 reveals that competency 4 and 1 are within the independent cluster and therefore they are key competencies with high driving power and should be mastered or achieved by ELs. Whereas, competency 2 and 3 are within the dependent cluster and they hold weak driving power with high dependency on competency 4 and 1. Without competency 4 and 1 being implemented first, competency 2 and 3 would not be achievable. Hence, respecting organizational communities from various cultural background, race and religion as well as being inclusive and flexible is crucial for ELs' competency to lead the system.
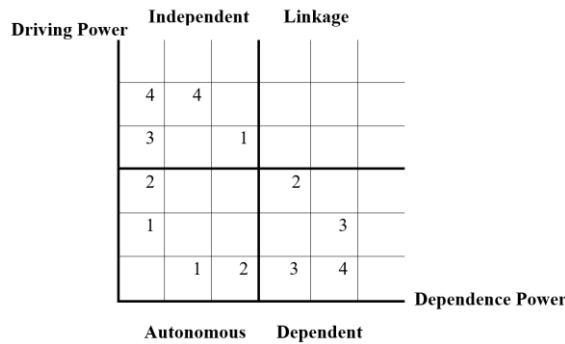
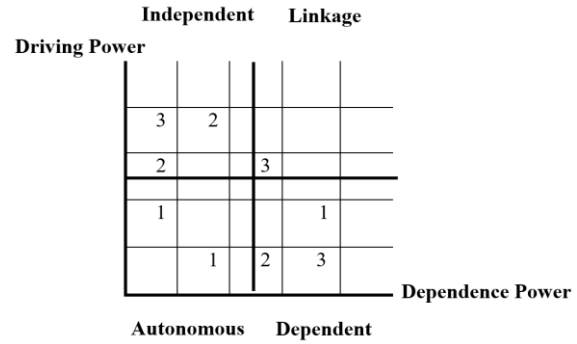Figure 3. MICMAC analysis of appreciating cultural diversity

Figure 4. MICMAC analysis of appreciating diversity of competencies

Figure 4 depicts the appreciating diversity of competencies cluster classification. Competency 3 is within the linkage cluster which that holds strong driving and dependent power. This means ELs delegating autonomy and task to organizational communities based on merit of achievement instead of ethnicity could unsterilized other competencies in the system i.e., if not achieved could affect competency 2 and 1. Therefore, it is crucial for ELs and stakeholders to consider how competency 3 could affect the system. Figure 4 further reveals that competency 2 is stable and it is the key competency because it holds high driving power and should be achievable first. Finally, competency 1 holds the highest dependent power and depended on competency 2 and 3 in order to be achievable.

Based on Figures 3 and 4, each appreciating competency has its role and importance in terms of its implementation in accordance to its priority. The classification analysis will help illuminate those who handle a system and, in this case, the Ministry of Education and its stakeholders. It helps them to manage the competencies identified i.e., to change the system, upgrade the educational leaders' competency and assimilate in the leadership training and development [42].

4. CONCLUSION

This study has attempted to identify the appreciating diversity competencies for educational leaders administering and leading the education system and propose the hierarchical interpretive structural modelling model. Educational leaders should level up their competencies into becoming global leaders. Public organizations are affected by globalization waves. The responsibilities of global leaders require them to be open-minded, consciously aware and adapt to the dynamics of diversity. Being open to multicultural and multigenerational organizational community with different background, expertise and perspective provide leaders the opportunity to foster greater collaboration beyond conventional or domestic functions. The appreciating diversity model is recommended to be adopted by public organization such as the MoE to be part of organizational leadership competency. It could be included in the formal and informal leadership training and development. Coaching diversity in various scenarios including cultural, communication, instruction, emotional intelligence would help leaders to identify, adapt and manage emotions when leading multicultural and multigenerational organization. Appreciating diversity is an important process of global leadership competency development. Stakeholders that are involved in the selection, appointment, recruitment and training of educational leaders is recommended to include appreciating diversity as part of the criteria competency in decision making.

The uniqueness of interpretive structural modelling technique is the preservation of qualitative factors that is an integral part of the model. ISM is able to explain and analyzed the relationship between the variables and its effect on each other. However, the model was generated based on the judgment of experts from various education public sectors. If a different set of experts from various other background such as the private sectors, the results would have yielded differently. The ISM technique procures a hierarchical and structural relationship model. The model could be statistically validated. Hence, it is highly recommended that future research could be initiated by integrating structural equation modelling (SEM-AMOS) with ISM toward equation structural modelling.

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BIOGRAPHIES OF AUTHORS

Noraini Abdul Latiff is a doctoral student at the Department of Educational Management, Planning and Policy, Faculty of Education, University of Malaya. Possessing approximately a decade of work experience, Noraini was an Assistant Director attached with the International Unit, Teacher Professionalism Division, Malaysia Ministry of Education. She has been handling international policy and exchange programs. She can be contacted at email: pva190018@siswa.um.edu.my; noraini.abdlatif@moe.gov.my.

Muhammad Faizal A. Ghani is an associate professor at the Faculty of Education, University of Malaya in Kuala Lumpur. He is the Head of Department of Educational Management, Planning and Policy. Previously he was the Deputy Dean of Institute of Postgraduate Studies. His current research focuses on school leadership and management, family planning services, and development design. He can be contacted at email: mdfaizal@um.edu.my.