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## IMPLEMENTATION OF INTERPRETATIVE STRUCTURAL MODELING IN THE NEW NORMAL ERA AT SMAN 1 MATUR

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**Abstract:** *Education during a pandemic needs to implement a learning system that can combine face-to-face learning, online learning, offline learning, and implementing health protocols. One of the approaches used in this study uses interpretive structural modeling with a group assessment process where structural models are generated to photograph complex matters of a system, through carefully planned patterns using graphs and sentences. The results obtained explain the findings related to learning constraints from the internet network, hardware, and application constraints causing students to be late in submitting assignments, as well as having difficulty finding reading resources around their homes. The implementation of geography learning in the new normal era requires guidance to students before understanding the use of applications in learning the new norm era.*

**Keywords—** *Interpretative structural modeling, Learning, Geography*

## I. INTRODUCTION

Education is one of the most important things in an effort to build human civilization since the first. Education is the most crucial thing in every country, both developed countries, developing countries, and underdeveloped countries (Haidir & Salim., 2012, Umar & Dewata., 2017 and Umar et al., 2019). Interpretative Structural Modeling (ISM) is a modeling technique developed for strategic policy planning (Hanafy, 2014, Umar., 2018). The basis of decision making in the ISM technique is the group. Structural models are generated to portray complex problems of a system, through carefully planned patterns using sentence graphics. Through the ITM technique, an unclear mental model is transformed into a visible system model.

ISM is a computer-assisted learning process that allows individuals or groups to develop a complex map of relationships between various elements involved in complex situations (Munir., 2009, Umar., 2018 and Umar et al. 2019). In this new normal era, learning takes place online. Quality learning is very dependent on the motivation of students and the innovation and creativity of educators. Learning that has high motivation supported by educators who are able to facilitate this motivation will lead to the successful achievement of learning targets.

Judging from the description above, learning geography in the new normal era using the Interpretative Structural Modeling (ISM) method in determining the constraints and solutions for learning geography in the new normal era at SMAN 1 MATUR can later be used as a solution in overcoming learning in the new normal era.

## II. IMPLEMENTATION METHOD

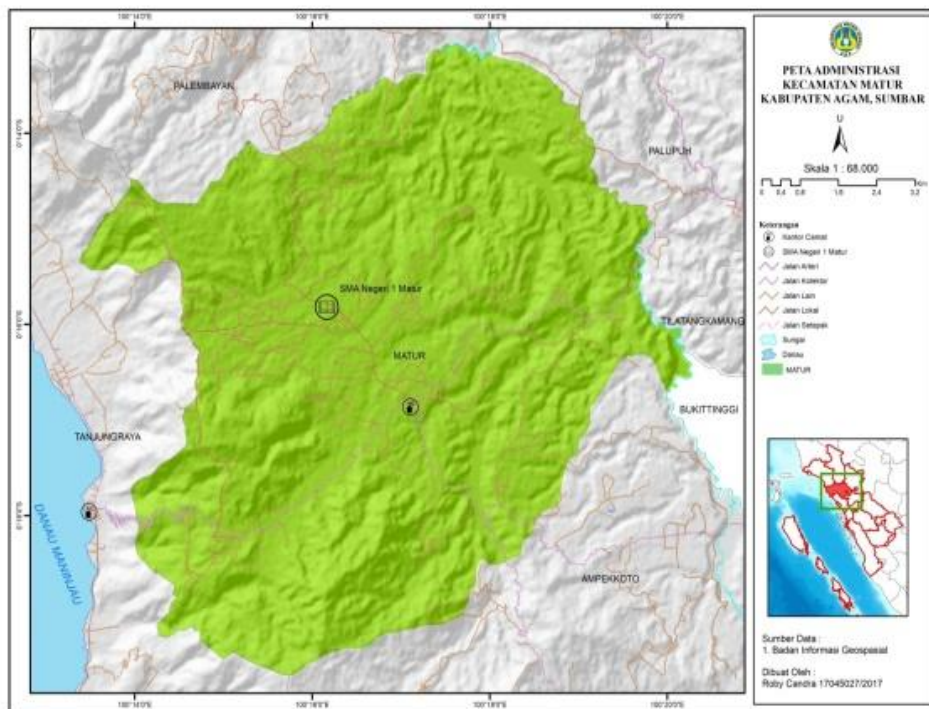


Figure 1. Research Location

In this study, the researcher used key informants. The main informant is the person who knows the most information about the object being studied or the data collected by the researcher directly from the first source (Basrowi., 2008, Umar & Dewata., 2017, and Dewata & Umar., 2018). To determine the constraints and learning solutions in the new normal era using the Interpretative Structural Modeling (ISM) method. Broadly speaking, the stages of the ISM method are as follows:

- 1) The decomposition of each element into several sub elements.
- 2) Determination of the contextual relationship between the sub-elements in each element that shows a pairwise comparison of whether/no contextual relationship is used expert opinion.
- 3) The preparation of the Structural Self Interaction Matrix (SSIM) uses symbols V, A, X and O.
- 4) Creating a Reachability Matrix (RM) table, replacing symbols V, A, X and O with numbers 1 or 0.
- 5) Perform calculations based on the transitivity rule where the SSIM matrix is corrected until a closed matrix occurs.
- 6) Perform sub-element level on each element according to vertical and horizontal levels.

7) Preparation of the Driver Power Dependence (DPD) matrix for each sub element.

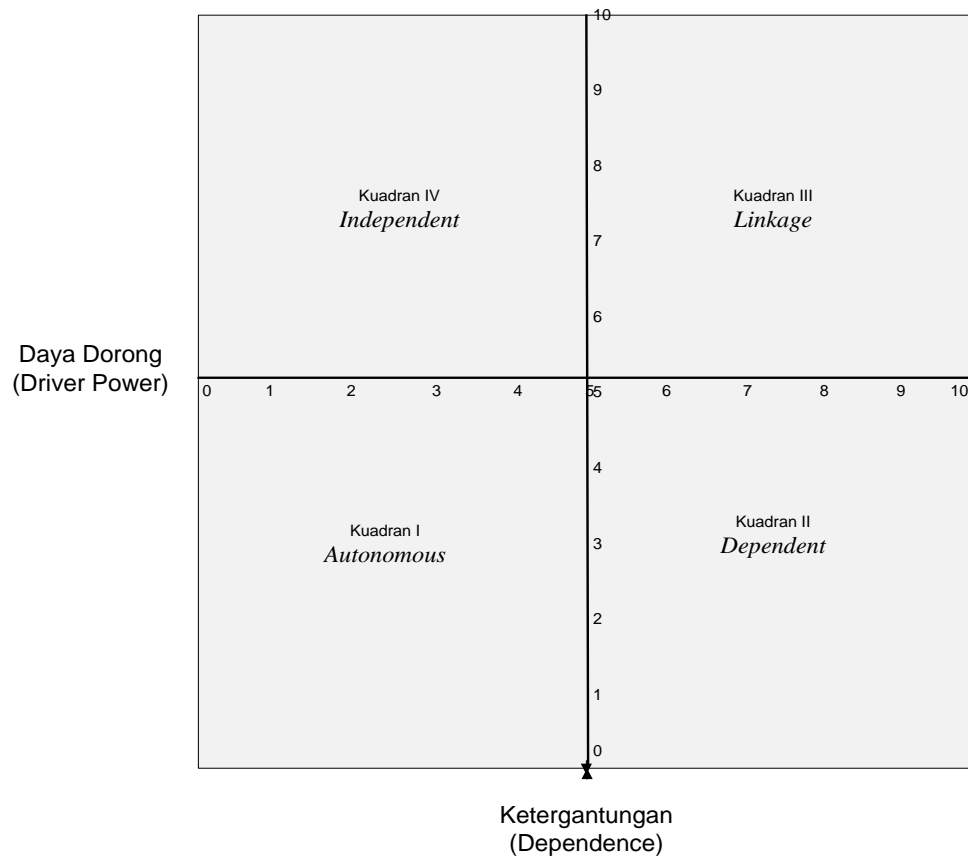


Figure 2. Matrix Arrangement

### III. RESULTS AND DISCUSSION

The results of the study were obtained about the implementation of the new normal era geography learning system using the Iterpretative Structural Modeling (ISM) method, about the implementation of the new normal era geography learning process in determining solutions and obstacles that often occur in the new normal era learning process by teachers and students of SMAN 1 Maturity.

#### a. The structure of the new normal era of geography learning constraints

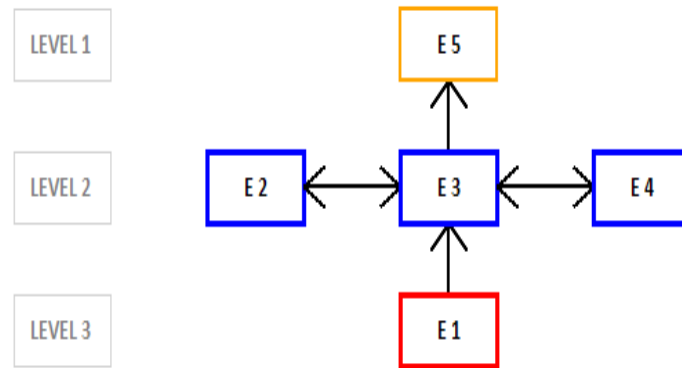


Figure 3. Structure of Learning Constraints

From the structure of the new normal era geography learning constraints, it shows that at level 1, namely the constraints of geography learning tools, at level 2 the constraints of new normal era geography learning innovation ideas, skills and abilities for learning geography in the new normal era, while at level 3 are the limitations of learning application limitations. So that the most important / urgent obstacle that must be resolved is at level 3, namely the limitation of mastery of learning applications.

**b. The structure of the new normal era geography learning solution**

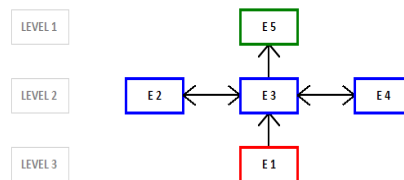


Figure 4. Structure of Geography Learning Constraints

The new normal era geography learning solution shows that at level 1, namely evaluating the use of learning applications, at level 2, namely adding an internet network, adding hardware in the form of computers, and providing data packages for teachers and students, then at level 3, holding IHT/learning application training. .

### c. Graph of new normal era geography learning constraints

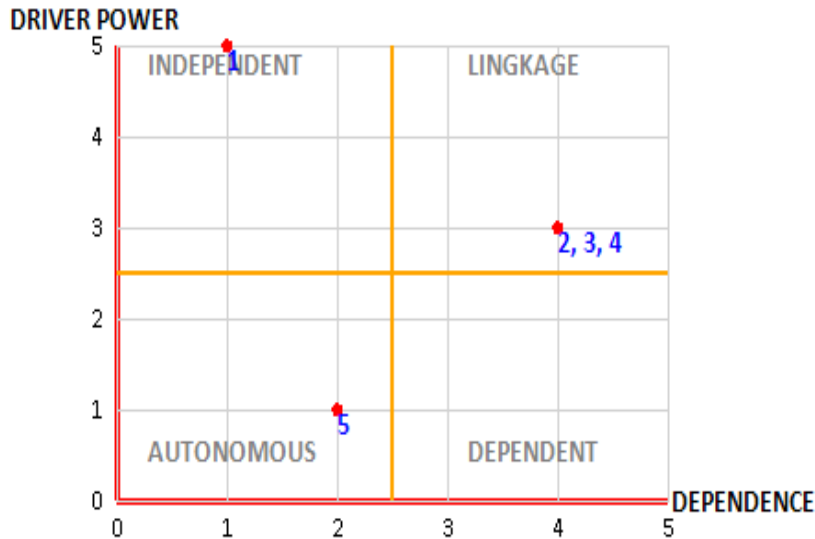


Figure 5. Graph of Geographical Learning Constraints

In the graph of the new normal era of geography learning constraints, it can be seen that constraint element 5 is in quadrant I, namely Autonomous (not related to other constraint elements, while element 1 constraints are in quadrant IV, namely Independent (driver) which means this constraint appears or triggers obstacles. others, while the constraint elements 2,3 and 4 are different in quadrant III, namely Linkage (Hatch) where elements 2,3 and 4 will affect elements 1 and 5, while for quadrant II Dependent (Not Free) there is not a single constraint element , which means that the existing constraint elements arise because they are caused by the influence between the constraint elements, so it can be concluded in the graph above that the condition of the constraint elements is in a good position because they are in quadrant III, namely the linkage (hook) that is mutually influential/related.

#### d. New normal era geography learning solution graph

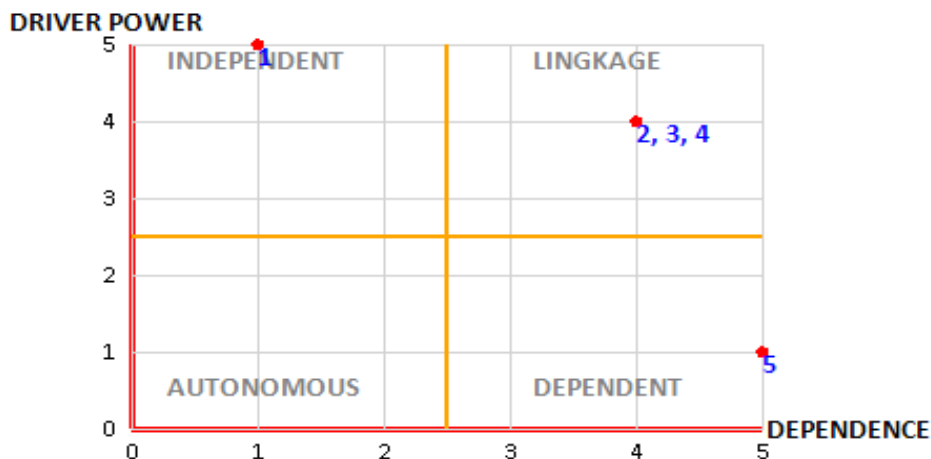


Figure 6. Graphics of Geography Learning Solutions

In the graph of the new normal era geography learning solution, it can be seen that solution element 5 is in quadrant I, namely Independent (Movement) which means this solution appears or triggers other solution elements, while quadrant III Linkage (Hatch) is in solution element 2,3 and 4 this will have an effect between solution elements 1 and 5, while for Dependent quadrant II (Not Free) there is element 5 which means that the existing solution elements arise because of the influence between elements, while in quadrant I Autonomous (Unrelated) cannot none of the solution elements in the Autonomous quadrant. So it can be concluded that the learning solution graph above is good because on average each solution element is in quadrant III, namely the linkage (hook) is interrelated.

The most common obstacle found is on the internet network for various reasons, ranging from bad, fairly smooth to smooth, there are other obstacles such as the hardware used such as a laptop that suddenly crashes/hangs, smartphone storage is full and problems with applications used during learning takes place like a smart sicadiak who has limited time and also the WhatsApp application which often experiences errors so that it cannot be accessed which causes students to be often late in collecting assignments.

Constraints in preparing reading materials from which it is difficult to find reading sources and there is no library around the place of residence, there is also difficulty in finding materials or articles that are sometimes not found on the internet or books, and when there is interference with the internet network, many students go out to find a place with a network. the internet is like looking for wifi, going to higher altitudes, going to the internet cafe, some ask for a friend's hotspot, some also confirm directly to the teacher.

#### IV. CONCLUSION

The implementation of the new normal era of learning in geography normally provides hardware in the form of laptops and smartphones with available school wifi network connections and data packages, uses the Smart Siciadiak application, WhatsApp and Google Drive and provides reading materials and books and learning plans, some of the students some do not understand the use of applications in the new normal era learning, the location of teachers to provide online/offline learning (new normal era) is carried out at home and at school and students also carry out online/offline learning at school and at home respectively.

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