Causal Loop Diagram (CLD) Model In Planning A Sustainable Smart Sharia Tourism

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Abstract. The development of sustainable tourism such as dynamic and complex smart sharia tourism consists of many interrelated and diverse components of stakeholders, which each has different management objectives, which can trigger unexpected conflicts among stakeholders. Regarding the dynamic and complex challenges in the field of developing sustainable tourism, the ability of identifying is really needed. For this reason, it is necessary to see further what are the factors that influence the plan for implementing sharia tourism intelligently and the strategies needed and analyze the relationship of dynamic causes of these factors using approachment methods which use the Causal Loop Diagram system (CLD). The purpose of this research is to get a solution to overcome conflicts among stakeholders through approachment system with the Causal Loop Diagram (CLD) model. The results of this CLD Model can identify the root causes of complex problems and the effects of a sustainable tourism development system so that it can be used to develop and test alternative management policies in making smart sharia tourism planning decisions.

1. Introduction

Sharia tourism is an activity that is supported by various facilities and services provided by the community, business people, central government and regional governments based on the provisions of sharia in accordance with Islamic rules [1]. Products and services tourism, attractions, and tourist destinations in sharia tourism are the same as products, services, tourist objects and destinations in general as long as they do not conflict with values and Islamic ethics [1].

Nowadays, sharia concept has become a trend in the global economy, starting with products food and beverage products, finance, to lifestyle, so there are many countries have begun introducing tourism products with the concept of halal and Islamic [2].

According to [3], [4] sustainable tourism development like sharia smart tourism is a very dynamic and complex system, consists of many components that are interdependent and involve a variety of stakeholders interests, each of which has different management objectives that can be resulting in unexpected conflicts among stakeholders [5]. The involvement of supporting factors, which directly or indirectly will get the impact of the sustainable sharia smart tourism development plan. Some supporting factors involved in the development of sharia smart tourism: Tourists, Bussinessmen, Local Communities, Government, investment, infrastructure and construction of facilities, budgets, taxes, transportation etc [6]. Therefore, some efforts
need to be made to look deeper what are the factors that influence the implementation plan of sharia and smart tourism and the strategies needed and analyze the dynamic causal relationships of among the factors using the system approach method called the Causal Loop model Diagram (CLD). The purpose of this research is to get a solution in overcoming conflicts between stakeholders through a system approach to the model Causal Loop Diagram (CLD). The results of this CLD Model can identify the root causes of complex problems and the effects of a sustainable tourism development system so that it can be used to develop and test alternative management policies in making Islamic tourism planning decisions.

2. Research Methods

2.1. Systems Approach with Causal Loop Diagrams (CLD)

The CLD model is a model that is widely used in problem solving with approach systems that consider the dynamic complexity of the system or to support the approach dynamic system. The CLD model emphasizes its attention to the causal relationships among components or influenced factors in a diagram which is a curved line that ends with an arrow connect among system components with one another. The end of the arrow is marked with letters "S" which indicates that if the components that affect or as a cause change or increase, the components affected will change or increase as well and the letter "O" indicates the effect is contrast when the components that influence increase then the component affected decreases. The approach through the CLD model has several advantages including:

1. to encourage to be able to see the problem as a whole, both in terms of scope and time so as to prevent narrow thinking.
2. to show the picture of the chain of causal effect relationships which makes it more explicit and the rationale will be better.
3. to allow the effectiveness of communication can run well and the realization of teamwork will be more better.
4. to help exploring alternative policies and decisions so that the consequences can be anticipated earlier.
5. to allows for a good position to make decisions.

In the preparation of CLD, several factors must be considered, including:

1. Knowing the limitations of the problem or scope.
2. Starting from an interesting component.
3. Questioning about the influence of a component and what things are influence it.
4. Determine the components involved.
5. The use of nouns against the components discussed.
6. Immediating "S" and "O" signs when diagramming.
7. Making diagrams must be realistic, easy to understand so that the diagram changes if needed can be done well.

2.2. Novelty

Novelty this research contributes to science which is expected to produce a dynamic model of CLD in making decisions about sustainable tourism development in the form of Islamic tourism.
2.3. Literature Review

Tourism is an activity related to recreational travel. While general understanding of tourism is a journey done by someone to while time is held from one place to another by leaving the origin place originally and with a plan but not the purpose of making a living in a place visited, but merely to enjoy the activities of the excursion or re-creation for fulfilling diverse desires [7].

Many countries have depended their income in the tourism sector because of the tax industry is a source of tax and income. Hereewith are tourist according to the international definition as following:

1. Visitor or a person who travels to a country that is not the country where they live, for a reason that is not their daily work.
2. Tourists are visitors who stay temporarily in the fewest places 24 hours in the country visited with motivational travel related to vacation, trade, family visits, missions and meetings.
3. Excursionists (travelers) are temporary visitors in a country without staying overnight.

2.3.1. Definition of Sharia Tourism

The term sharia tourism is a new term in the world of tourism. Some other terms are similar meaning including Islamic Tourism, Halal Friendly Tourism Destination, Halal Travel, Muslim-Friendly Travel Destinations, or halal lifestyle. The concept of sharia tourism is broader than religious tourism, where religious tourism is defined as tourism within the framework of interests worship / religion, such as pilgrimage and pilgrimage to Makkah, or some Muslims make pilgrimages to the tombs of saints / aulia / religious leaders [8].

The sharia tourism contains a broader concept, namely overall tourism that all the aspects are not against sharia. In the tourism industry there are many aspects and actors involved, for example hotels and accommodations, food and beverages, transportation, facilities, worship, and of course the tourist attraction itself. All these aspects must not against sharia, simply halal and toyyib [9].

The object of Islamic tourism is not necessarily places or treasures of Islamic culture, but it can whatever is interesting as long as it does not violate the provisions of sharia. Beach, mountain, cave, toy, even local culture can be a tourist destination. Indonesia is very rich of interesting destinations and internationally known [10].

Hospitality and accommodation have become crucial problem indeed, because the hotel in general is not designed to be compatible with sharia. Therefore now the concept of sharia hotels also emerged, namely hotels that provide halal food and beverages, all supplies provided are also halal. In addition the hotel does not become a place for activities that are prohibited in sharia rules [11].

To support sharia tourism, of course halal food and drinks are not only available at Sharia hotels, but tourists easily get in various places. So it should be many halal restaurants available, even souvenirs and souvenirs should also be guaranteed halal. This halal guarantee must certainly be issued by parties who are trusted and trusted by the public (international), for example the LPPOM MUI halal label. In terms of business, Islamic tourism is very promising. Travelers from Muslim countries are quite large in number and the potential is also not inferior to tourists from non-Muslim country.

Indonesia as a country with diversity in religion and culture have historical heritage and traditions that are inseparable from aspects of religion and religious community religious practices. Cultural and religious heritage with a diversity of races, ethnicities, language, and customs are potential for tourism development. In particular, Muslims as the majority of people in Indonesia certainly have the uniqueness that characterizes the nation with tourism destinations, such as palaces, mosques, heirlooms, graves, to culinary included.
2.3.2. Definition of Smart Tourism

Smart tourism is now becoming a new magic spell “mantra” in the world of tourism. This term has started a lot adopted by global tourism industry players in hopes of boosting the number of visits traveler. As in other fields, the use of the term “smart” in front of “tourism” is inseparable from integration of information and communication technology (ICT). So that, supporting data will be available tourism in massive numbers and can be transformed into great planning. The word “smart”, the implementation of the transformation of tourism into smart tourism certainly rests on the use of technology sensors, big data, open data, Internet of Things (IoT), and so on. In addition, it must also be balanced with the predictive ability and reasoning of the user of IT itself. In the context of tourism, implementation smart tourism is more complex than other fields. Existing technology cannot just walk without any synergy with support between institutions (government), industry players, and the community. Especially for cases in the Asian continent, where exotic tourism campaigns are increasingly being used as the spearhead of State revenues [12].

2.3.3. System Approach Model

The model is an abstraction from the real world that is simplified so that only the important parameters and variables that are important that appear in their form. A model can reflect or abstract an object, process, situation or system. More widely a model can express and explain the relationships of various components, actions and reactions and causal relations. The model used is expected to be able to adapted to the problems faced in order to facilitate understanding and resolution problems encountered. The models used in solving problems can be illustrated in the form of diagrams, picture, matrix tables and models that are often used, among others is:

a. Venn diagram, very useful for the study of the position of a supra system and sub-system systems another system.

b. A tree diagram is very helpful in identifying what factors are related to the problem / situation being studied.

c. The black box model is commonly called the input-output model, which means process the transformation of the system whose contents and activities are unknown (deliberately not want to know).

d. An organizational element model that takes into account input, process and output elements input in the form of raw materials or resources; the process in the form of organizational subsystems transform input into products, products are the result of input transformation which is still in the form of initial output. Expenditures are the final result of the process and are contained elements in the form of outcomes that are interpreted dampal received by the system from its output or user response / reaction / environment to the output of the system.

e. The diagram of cause and effect repetition is a model that emphasizes consideration dynamic complexity of the system. This model illustrates the causal relationship between the related variables in the form of curved lines to connect mana which are cause variables and which are effect variables.

3. Result and Discussion

3.1. Diagram of Economic and natural resource

In the development of sustainable tourism, of course, an increase in the number of tourists usually coupled with the expansion of infrastructure such as (roads, waterways, electricity, clean water, schools, homes) sickness, sewage treatment, and solid waste disposal) as well as tourism facilities (hotels, restaurants, recreational facilities, transportation systems), which leads to an increase in land transformation for development, and competing for Natural Resources. In the
The development of sustainable smart tourism, land needed influences the region in conservation area, then influence the allure to go through regional hospitality. On the other hand, development of tourism infrastructure and facilities bring an impressive image of an interesting region traveler.

The development of sustainable sharia smart tourism which is a special tourism can increase the number of tourist visits specifically the tourists from the middle east this is certainly in its development followed by the addition and development of facilities and infrastructure tourist accommodations such as transportation, ICT infrastructure, lodging, restaurants, villas etc. the addition of facilities and infrastructure will require land. If it does not carry out good control land cover growth will result in exceeding the carrying capacity environment so that in the end will reduce the quality of the environment. In addition, the increase the number of tourist visits will be accompanied by an increase in the number of vehicles, eventually will cause traffic jam. This condition will reduce the comfort of tourists inside tour which in the end can negatively affect the development of sustainable sharia smart tourism. Likewise, changes in social and cultural conditions will be influenced by the presence of foreign tourists with all the cultures they have. If it is not good handled, it is possible that social conflict or social insecurity is feared culture that will disrupt security stability in the region. This condition will reduce comfort and ultimately have a negative effect on tourism development. On the other hand the development of tourism has a positive impact on increasing income of community, which will ultimately contribute positive impact to increase regional income and regional development, including funding to improve environmental quality.

The following is in draw in the form of a Causal Loop Diagram.

**Figure 1.** Causal Loop Diagram Development of Sharia Smart Tourism sustainable tourism
3.2. Causality
From Figure 1 described again in the table bent to explain the cause and effect of the factors involved in developing sustainable tourism Smart Syariah Tourism.

Table 1. Table of Cause and Effect

| No | Factors                                      | Cause and effect                                                                 |
|----|----------------------------------------------|----------------------------------------------------------------------------------|
| 1  | Development of Sharia Tourism                | Negative Influential on Conventional tourists/Non Muslim                         |
| 2  | Development of Sharia Tourism                | Positive Influential to the increase in the number of Traveler                    |
| 3  | Development of Sharia Tourism                | Positive Influential to the application of ICT facilities                        |
| 4  | Foreign tourists/non-Muslims/Non Specific    | Negative Influence on tourists Comfort                                           |
| 5  | Muslim/Eastern tourists the middle           | Positive influence on tourists comfort                                           |
| 6  | ICT facilities                               | Positive influence on the increasing number of tourist                          |
| 7  | Number of tourist                            | Positive influence on infrastructure, accommodation, transportation, hotel, restaurant etc. |
| 8  | Number of tourist                            | Positive influence on increasing of vehicles number                               |
| 9  | Number of tourists                           | Positive influence on Social and Culture change                                   |
| 10 | The increasing the number of vehicle         | Negative influence on congestion                                                 |
| 11 | Traffic jam/ congestion                      | Negative influence on tourists comfort                                           |
| 12 | Social-culture change                        | Positive Influence Against Socio-Cultural Vulnerability                          |
| 13 | Socio-cultural Vulnerability                 | Negative influence on security stability                                         |
| 14 | Security stability                           | Positive influence on comfort                                                    |
| 15 | Comfort                                     | Positive influence on society income                                            |
| 16 | Community Income                             | Positive influence on Regional Revenue                                          |
| 17 | Regional Revenue                             | Positive influence on Regional Development                                      |
| 18 | Regional Development                         | Positive influence on Environmental Quality                                      |
| 19 | Environmental Quality                        | Positive influence on the Development of Smart Tourism Sharia                    |
| 20 | Means accommodation and transportation       | Positive influence on land cover                                                 |
| 21 | Land Closing                                 | Negative influence on Environmental Quality                                      |

4. Conclusion
The development of sustainable sharia smart tourism is a complex system and dynamic. There are many components that interact influence with each other. There are many factors that bring different interests in the development of sustainable sharia smart tourism such as economic, environmental and social influences, and involving various stakeholders who have different interests. Development of sustainable tourism for sharia smart tourism using the Casual model Loop Diagram to help government institutions and some related stakeholders in understanding complex relationships. This CLD model is used to identify the root cause of complex problems.
and the influence of the development system sustainable tourism. This model is used as a basis for building a model simulations that can be used to develop and test management policies alternative. For deployment research making application program in the Islamic tourism planning decision system.

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