Discourse Network Analysis: Tourism Development as a Leading Sector in Malang Regency

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Abstract. This research aims to identify factors influencing tourism development in Malang Regency, East Java Province of Indonesia, to formulate policies to improve tourism quality as a leading sector. This research uses a qualitative approach using the Discourse Network Analysis (DNA) method. Data are contents in cyberspace in the form of articles or news released online. Based on the results of the analysis, it was found that nine actors provided views on the development of tourism as a leading sector in Malang Regency. These actors are the Special Economic Zone Council, the Malang Regency Government, lecturers, the public, the regional tourism department, the United Nations World Tourism Organization (UNWTO), the tourism minister, non-government organizations (NGOs), and the East Java Government. Analysis showed seven key problems or factors influencing tourism development in Malang Regency: human resources, infrastructure, services, cleanliness, information technology, policies, and comfort. The steps for developing tourism in Malang Regency are tourism potential mapping, strategic planning, infrastructure development, promotion, product diversification, environmental conservation, and monitoring and evaluation.

Keywords: tourism, the leading sector of Malang, discourse network analysis

1   Introduction

Tourism has become one of the fastest-growing industries in the world in the last 20 years. One billion international tourists (tourists traveling abroad) in 2012, with international export revenues of US$ 1.3 trillion [1]. This number increased to 1.08 billion in 2013, and more than six billion tourists traveled within their respective countries. International tourists are expected to increase to 1.4 billion in 2020 and 1.8 billion in 2030.

Indonesia, as one of the largest archipelagic countries in the world, has its attraction as a world tourist destination. Indonesia has the largest area, population, and richest natural resources in Southeast Asia. Consisting of thousands of large and small islands, Indonesia has beautiful seas and beaches for marine tourism activities such as diving, snorkeling, and surfing. Supported by a tropical climate, Indonesia gets sunshine all year round because it is located on the equator, so tourism activities are not influenced by changing seasons. The country also consists of more than 500 tribes (ethnicities) with diverse languages and cultures. This ethnic and cultural diversity makes Indonesia a world tourist destination because it has unique and diverse cultural and culinary tourist attractions.

Foreign exchange earnings from the tourism sector also increased by 10.99% from 9.1 billion US$ in 2012 to 10.1 billion US$ in 2013. The tourism sector absorbed almost seven million workers in 2009. This fact indicates that Indonesia has important tourism potential in the world. Indonesia still has to improve its ability to manage its existing tourism potential, spread across 33 provinces, including Malang Regency in East Java Province, to compete with other tourist destinations worldwide. Tourism in Malang Regency is not well known in the international tourism market. However, tourism development in Malang Regency continues to run rapidly.

Malang Regency, a district with a population of more than two million people and potential resources spread across strategic areas, has strong competitive and comparative advantages, especially in leading sectors such as tourism, agriculture, plantations, maritime affairs, and fisheries. Potential tourist destinations, such as abundant natural resources, make marine tourism a potential priority for Malang Regency. Tourism development in Malang Regency provides results that continue to increase every year. This can be seen from the increasing number of tourists arriving. Data from the Malang Regency Tourism Office are presented in Table 1.

Table 1: Tourist Visits to Malang Regency in the Last Five Years

Description	2015	2016	2017	2018	2019
Number of Tourist Visits	3,654,482	5,849,544	6,504,360	7,172,358	8,049,829
Foreign Tourists	99,873	129,663	108,485	100,234	70,184
Archipelago Tourists	3,554,609	5,719,881	6,395,875	7,072,124	7,979,645

Source: Malang Regency Tourism Office

Abundant natural resources, national parks, diverse views ranging from water areas to rainforests, and its unique culture give a particular identity to Malang Regency and become a precious competitive advantage. The attraction of natural tourism, various outdoor activities, and sports tourism are expected to increase the number of tourist visits, both domestic and foreign. Current growth and future estimates show positive figures and are expected to continue to increase.

However, the biggest challenge today is to balance the growing tourism business with preserving cultural heritage, protecting the environment, and improving the welfare of local communities. Tourism activities are cross-sectoral and have various economic, socio-cultural, and environmental impacts, especially on destinations where tourism activities occur. The Malang Regency Government recognizes the tourism sector's economic potential and social contribution and makes sustainable tourism development one of its medium and long-term strategic priorities.

The government directs that the economic and social benefits of the tourism sector be maintained while still trying to reduce undesirable impacts on the natural, historical, cultural, or social environment by balancing the needs of tourists to suit the surrounding environment, local communities, and tourism businesses in the destination. Tourist attractions in Malang Regency are popular tourist destinations in Indonesia and offer a variety of tourism. In general,

the tourism characteristics of Malang Regency are based on natural tourism, such as beaches, mountains, and waterfalls.

Each tourist attraction has different tourism potential, so that tourist satisfaction between objects is not the same. Therefore, in this research, tourist attractions in Malang Regency will be grouped based on tourist satisfaction levels, namely attraction, accessibility, lodging, shopping, dining, environment, and activity and events using cluster analysis. The cluster analysis results in this research are information regarding mapping the potential of tourist attractions in Malang Regency.

2 Literature Review

2.1 Tourism

Tourism is the temporary and short-term movement of people to destinations outside of where they usually live and work and their activities while staying at the destination [2]. [3] state that the classification of forms of tourism developed is based on the main form of attraction or attractiveness, which is then emphasized in marketing. These forms of tourism include ecotourism, nature tourism, adventure tourism, gateway and stay tourism, and cultural tourism.

2.2 Visitor Satisfaction

According to [4], customer satisfaction is a customer's assessment of a product or service in terms of whether the product or service has met the customer's needs and expectations. Based on the definition above, it can be concluded that customer satisfaction is an expression of customers that arises based on their assessment of the performance of a product or service compared to their expectations. Chi and Qu explain the attributes of visitor satisfaction regarding tourist destinations in [4] as follows:

    i. Lodging is a dimension of service for tourists that has a direct (physical) form or can be easily seen.

    ii. Attractions are various tourist attractions presented at tourist destinations.

    iii. Shopping is the availability of shopping and souvenir centers in tourist destinations.

    iv. Dining complements culinary centers, including restaurants, eateries, and roadside traders.

    v. Activities and events are activities or cultural events encountered at a tourist destination.

    vi. Accessibility is the ease and smoothness of tourist access to tourist objects in tourist destinations.

    vii. Environment includes safety, comfort, and cleanliness in tourist destinations.

3   Research Methods

This research uses a qualitative approach using the Discourse Network Analysis (DNA) method. The content can be articles or news released online. The data was then analyzed using DNA, a technique discovered by [5]. DNA is a technique that can be used to study certain actors or figures regarding a policy based on validated sources. It is stated that the source used in this research is digital newspapers. DNA is a methodological approach that combines discourse analysis and social network analysis to identify discourse in various documents to create a network. It states that DNA combines qualitative-based content analysis, namely discourse analysis with social network analysis, to determine actors' ideas relationally and systematically. This approach makes it possible to systematically identify discourse structures in various textual documents such as newspaper or print media articles or transcripts of debates in parliaments [5].

DNA tends to be used for research studies regarding government policies and conflicts related to a country. Philip Leifeld conducted one of the studies that previously developed political science using this method of Reconceptualizing Major Policy Changes in advocacy coalitions. Leifeld tries to identify the internal weaknesses of major policy reconceptualization using a case study of German pension politics. DNA combines qualitative content analysis with social network analysis, which can measure policy trust in the subsystem when the advocacy coalition process happens [5]. DNA tends to be used to dig up information related to government or state policies. The description above provides space and opportunity for the author to utilize and explore the discourse on network analysis on other topics related to government policy, namely food policy implementation.

For this reason, the author wants to use DNA analysis to study phenomena in implementing food policy. Some advantages of DNA are that it can obtain the following information:

    i.   Actors associated with discourse

    ii.   The relationship between actors and concepts in a discourse

    iii.   The relationship between one actor and other actors in a discourse

    iv.   The relationship of a concept with other concepts in a discourse

    v.   Conceptual sentiment in discourse

The first step of DNA is determining keywords related to the data for the DNA-based data collection stage. The keywords used are "food estate", "domestic food fulfillment", and "national program". After selecting relevant keywords, the next step is to search for data in the form of news on electronic media pages. The next step is to process the data in the Discourse Network Analyzer application. Then, the graphic image is visualized using the Visone application. After producing images from DNA, descriptive research was carried out regarding the data results.

4   Results and Discussion

Based on news search results in cyberspace, 40 relevant news stories on tourism development were found, especially as a leading sector in Malang Regency. The results of this search are presented as a network image shown in Figure 1. The round icon shows the actor stating the statement, while the square icon expresses the statement. Then, the green line means the statement is positive, while the red line means negative. The news was then analyzed for DNA using DNA software. After processing and summarizing, nine actors who were considered to have the capability to convey statements were found. The nine actors are:

    i.   Special Economic Zones Council

   ii.   Malang Regency Government

  iii.   Lecturers at universities

  iv.   The Public

   v.   Regional Tourism Department

  vi.   UNWTO (United Nations World Tourism Organization)

 vii.   Indonesian Tourism Minister

viii.   NGO (Non-Governmental Organizations)

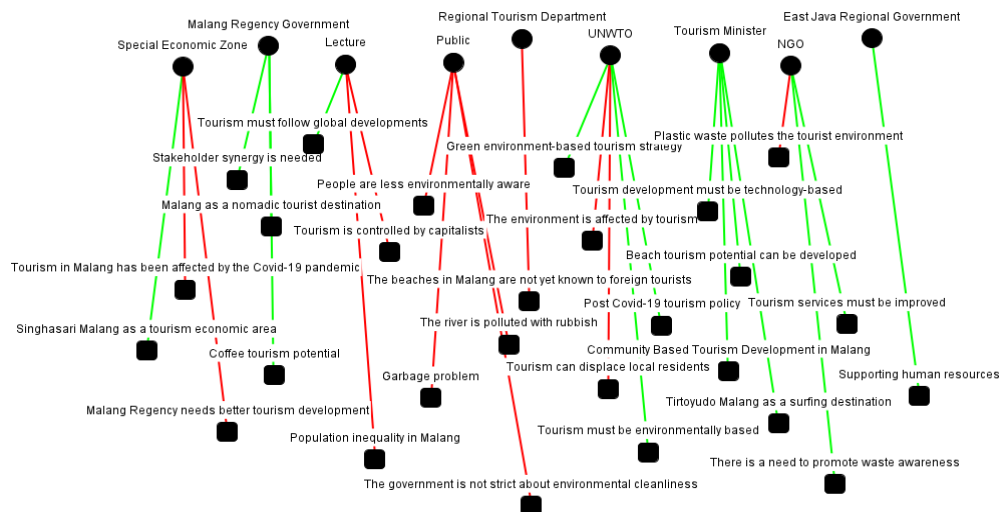 ix.   East Java Regional Government

Figure 1: Discourse Network Analysis Output

The roles and issues discussed by each actor are summarized in Table 2.

Table 2. Mapping of Discourse Network Analysis Results

No.	Actor	Problem	Key Issues	Sentiment
i.	Special Economic Zone	Singhasari is a tourism economic area. The geoeconomic advantage rests on Singhasari's location in Malang Regency. Apart from that, Malang Raya's large population and superior HDI (Human Development Index) above the East Java Province average will be capital for potential human resource development, especially developing the digital ecosystem and creative economy—the regional geostrategic advantage of Singosari with its tourism sector under the theme of heritage and historical tourism.	Policy	Positive
		Tourism in Malang has been affected by the Covid-19 pandemic. As a result of the Covid-19 pandemic, business activities in the tourism sector were greatly affected. However, apart from that, other problems need attention, namely the coordination factor.	Policy	Negative
		Malang Regency needs better tourism development. Masterplans tend to change according to the wishes of each Malang Regent in office, so Malang district tourism development is inconsistent and not integrated with the development of tourism-supporting infrastructure.	Human Resources	Negative
ii.	Malang Regency Government	Stakeholder harmony is needed. Tourism destination stakeholders are parties who are related and have an interest in the tourism destination, both from the supply and demand sides. Tourism destination stakeholders are individuals or groups with a stake or interest in the tourism industry, which is why they are usually called stakeholders.	Policy	Positive
		Malang Regency has coffee tourism potential. Malang Regency is one of the districts in East Java that contributes the	Service	Positive

No.	Actor	Problem	Key Issues	Sentiment
		highest coffee production in Indonesia, producing 29,728 tons of coffee [6].		
iii.	Lectures at universities	Tourism must follow global developments. Anticipating global trends in the tourism sector is crucial in developing national tourism. Stakeholders must be able to encourage tourism potential in each region to answer these challenges.	Policy	Positive
		There is population inequality in Malang. Development areas in Malang Regency still show relatively high disparities due to the concentration of economic activities, inconsistent relations between urban and rural areas, and hampered infrastructure development in each development area.	Policy	Negative
		Tourism is controlled by capitalists. Reliable business people with large capital have bulldozed local business people in areas around tourism.	Policy	Negative
iv.	Public	People are less environmentally aware. The public must have a high awareness of environmental cleanliness.	Cleanliness	Negative
		There is a problem with waste management. Environmental cleanliness problems due to rubbish are often found in tourist attractions. Apart from that, the lack of trash cans is also a problem.	Service	Negative
		The government is not strict about environmental cleanliness. The government often does not issue strict regulations regarding people who throw rubbish carelessly.	Policy	Negative
		The river is polluted with rubbish. Rivers in Malang and most areas in Indonesia are polluted by plastic and landfill waste.	Cleanliness	Negative
v.	Regional Tourism Department	The beaches in Malang are not yet known to foreign tourists. Tourism in Malang has not been promoted well, so many tourists, especially foreign tourists, do not know about it.	Information Technology	Negative

No.	Actor	Problem	Key Issues	Sentiment
vi.	UNWTO	A green environment-based tourism strategy must be implemented. Tourism development must be carried out by paying attention to the sustainability of the green environment.	Policy	Positive
		The environment is affected by tourism. Tourism development will influence the behavior of the surrounding community, including community culture.	Policy	Negative
		Tourism can displace local residents. Many tourism development cases ultimately displace local communities with the arrival of investors.	Policy	Negative
		Tourism must be environmentally based. Various efforts to increase the country's foreign exchange from the tourism aspect, especially tourism that explores nature, are increasingly being intensified, including marine tourism, mountain tourism, forest tourism, nature reserves, and wildlife reserves without paying attention to the decline in environmental quality which threatens the sustainability of the environment itself.	Policy	Positive
		Post Covid-19 tourism policy. After COVID-19, policies are needed to increase tourist visits.	Policy	Positive
vii.	Tourism Minister	Tourism development must be technology-based. Tourism development must utilize technology, especially for promotion and service.	Information Technology	Positive
		Community-based tourism development in Malang. Tourism in Malang is primarily based on community-based development.	Human Resources	Positive
		Tirtoyudo is a surfing destination. The beach at Tirtoyudo has good surfing potential but needs intensive development and promotion.	Service	Positive
viii.	NGOs	Plastic waste pollutes the tourist environment. Tourist destinations in	Comfort	Negative

No.	Actor	Problem	Key Issues	Sentiment
		Malang and most countries in Indonesia have problems with plastic waste and a lack of awareness among visitors about disposing of waste in their place.		
		There is a need to promote waste awareness. More intensive anticipation and outreach must be done to care for the environment.	Comfort	Positive
		Tourism services must be improved. Tourism services in Malang must continue to be improved, mainly to provide comfort for visitors.	Service	Positive
ix.	East Java Regional Government	The provincial government must support human resources. Tourism development will not be optimal if it is not balanced with human resource capacity development.	Service	Positive

Based on DNA results, a framework that discusses the development of tourism as a leading sector in Malang Regency can be presented. Nine actors who provided opinions on tourism development in Malang Regency were filtered and obtained. The first actor to make a statement was the Special Economic Zone Council member, stating that Malang was one of the areas to be implemented as a special economic zone called Singhasari. Malang's location is strategic, and it has capable human resources. Apart from that, this actor stated that after the COVID-19 pandemic, a strategy would be needed to increase tourism in Malang Regency through coordination between all respected parties. Another factor expressed by this actor, which was negative, was that Malang Regency had no master plan for tourism development and often changed strategies when the leader changed.

The second actor was the Malang Regency Government, with two positive statements. The first statement was that to develop tourism in Malang Regency, stakeholder harmony was needed to increase supply and demand. The second statement was that Malang Regency had tourism potential in the coffee plantation area, which was also a leading sector.

The third actor was academics or university lecturers. This actor stated three statements, one of which was positive and two were negative. The first statement was that stakeholders had to encourage tourism development that aligned with global developments. The second statement was negative, namely the relatively high inequality in Malang Regency, especially regarding economic activities. This was negative because it did not support tourism development in Malang Regency. The third statement was that business people with strategic abilities and large capital tended to win in the competition and could displace local business people, and this was negative because of the power of certain parties.

The fourth actor was the public; the media captured their opinions regarding tourism in Malang Regency. In general, the public made four statements, all of which were negative. The first statement mentioned two groups: those aware of environmental cleanliness and those who were not. The second statement was related to the lack of cleanliness in tourist sites, including the low number of available public bins. The third statement was that the government often issued strict regulations to take action against people who littered at tourist attractions. The fourth statement was that Malang's rivers were polluted with plastic waste.

The sixth actor was UNWTO, which makes two positive and two negative statements. The first statement is that tourism development must be done by considering environmental sustainability because many tourist attractions are developed without considering environmental aspects, thereby affecting the quality of the environment. The second statement is that tourism development will influence the behavior of the surrounding community, including culture, and this can have a negative impact if it is not balanced with stakeholders' supervision. Furthermore, investors with significant capital can displace local communities. Another negative opinion is that tourism development often does not care about the environment, as evidenced by the opening of tourism that exploits mountains, forests, and other natural areas. UNWTO also expresses a positive opinion: the need for policies to overcome post-COVID-19 problems.

The seventh actor was the tourism minister, who made three positive statements. First, tourism development must be supported by information technology, and then tourism must be based on community-based development so that the community also feels the benefits. Apart from that, Malang Regency also has beach potential, one of which is Tirtoyudo, which has sound waves for surfing.

The eighth actor was an NGO with one negative and two positive statements. The first was negative, stating that most tourist attractions in Malang had environmental problems, namely a lack of public awareness about not littering. Next, there needs to be more intensive outreach to increase environmental awareness and tourism services in Malang Regency to ensure visitors' comfort, which was a negative comment.

The East Java Regional Government expressed the final opinion, which stated that tourism development had to be balanced with human resource capacity development, which was a positive sentiment.

Based on the DNA, we found factors affecting tourism in Malang Regency based on key problems: human resources, infrastructure, service, cleanliness, information technology, policy, and comfort.

5 Conclusions and Recommendations

5.1 Conclusions

Based on the description presented in the results and discussion, it can be concluded that nine actors provide views on developing tourism as a leading sector in Malang Regency. The actors are the Special Economic Zone Council member, Malang Regency Government, lecturer, Public, regional tourism department, UNWTO, tourism minister, NGO, and East Java Regional Government. Based on the statements expressed by these actors, five critical problems were

found in developing tourism in Malang Regency, namely human resources, infrastructure, services, policies, and comfort. Based on these five factors, attention must be paid to achieving sustainable development and increasing tourist visits to Malang Regency.

5.2 Recommendations

Developing tourism as a leading sector in Malang Regency is a strategic step to increase economic growth, create jobs, and improve the welfare of local communities. Based on the results of DNA analysis, the following are several steps that can be taken to develop tourism in Malang Regency:

i. Tourism potential mapping: Identifying and analyzing the tourism potential of Malang Regency, including natural, cultural, and historical potential.

ii. Strategic planning: Develop a clear and sustainable tourism strategic plan. This must involve the government, community, private sector, and tourism organizations.

iii. Infrastructure development: Investment is needed to develop basic infrastructure such as roads, electricity, clean water, and sanitation to support tourism growth.

iv. Promotion: it is necessary to strive for a strong marketing campaign in various media, both in person and online.

v. Diversify tourism products: Offer various tourism experiences, including nature tourism, cultural tourism, adventure tourism, etc.

vi. Environmental conservation: Protect and preserve the natural and cultural environment. Implement sustainable practices in managing tourism destinations, including waste management, use of green energy, and preservation of historical sites.

vii. Monitoring and Evaluation: Monitor the development of the tourism industry regularly. Use data to assess economic, social, and environmental impacts, and use the results of these evaluations for continuous improvement.

Tourism development in Malang Regency requires long-term commitment and collaboration between the government, local communities, and the private sector. With careful planning and exemplary implementation, Malang Regency has the potential to become an attractive and sustainable tourism destination.

6   Acknowledgments, Funding, And Ethics Policies

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