

The role of quintuple helix on halal-tourism ecosystem in Indonesia

Sri Herliana¹, Syifaya Qorina²

¹Institut Teknologi Bandung, Indonesia

²Universitas Padjadjaran, Indonesia

sri.herliana@sbm-itb.ac.id & syifayaq@gmail.com

Abstract

Purposes: The Covid-19 pandemic gives a negative impact to muslim travel market as the trend drop dramatically for two period (2020 & 2021). After that, as GMTI reported, the trend not only increase gradually, but also projected to reach 230 million arrivals. And the majority of the muslim traveller come to Indonesia as their preferred destination, that make Indonesia lies in the first stage of the Destination Ranks. Therefore, it is crucial for all actors in Indonesia to maintain and improve continually this achievement. And this paper aims to promote an approach through Quintuple Helix in Halal-Tourism Ecosystem. This Ecosystem involves five variables, such as; education system, economic system, natural system, media system, and political system.

Methods: The method used in this analysis is qualitative descriptive

Findings: As the result, the interconnected between education system, economic system, natural system, media system, and political system is predicted to strengthen the halal-tourism ecosystem.

Practical Implication: This research will give some input to those variables in ecosystem, such as higher investment in education system and science, emphasis on halal-tourism business, protecting and maintaining its heritage to attract muslim market, creating brand image for halal tourism, and input recommendation for the government.

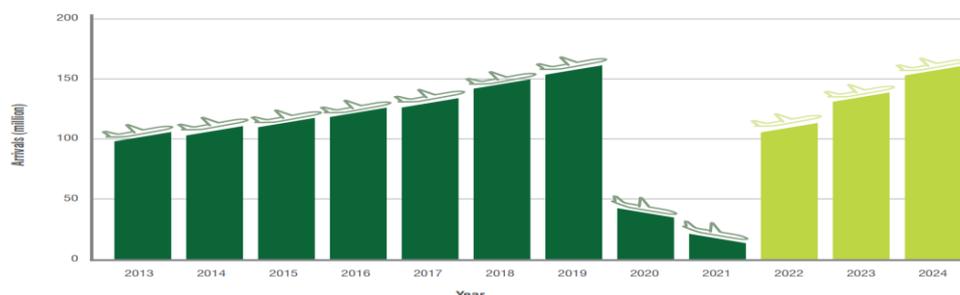
Originality/Novelty: This paper conducts research that give new perspective to halal-tourism through quintuple helix. Several researches have been done by using different perspective such as penta-helix method and in specific destinations.

Keywords: Halal Tourism, Quintuple Helix, Ecosystem

INTRODUCTION

After experiencing a significant downturn due to the covid-19 pandemic, muslim travel market trend gradually increases to the normal percentages. Before the pandemic, the muslim arrivals reached more than 150 million, then dropped dramatically to the point of 48 million. Surprisingly, after the condition being normal, there are almost 110 million Muslim international arrivals in 2022, that is equivalence with 68% of the 2019 pre-endemic levels. This turning point indicates a strong willingness and ability of Muslim travellers to resume international travel as condition permit. And as CresscentRating prediction, there will be 230 million Muslim arrivals in 2028, a number that is never been recorded in this field before, which is equivalent to the USD 225 billion of income. This prediction indicates that the growth of the Muslim travel market is not just a recovery but an expansion.

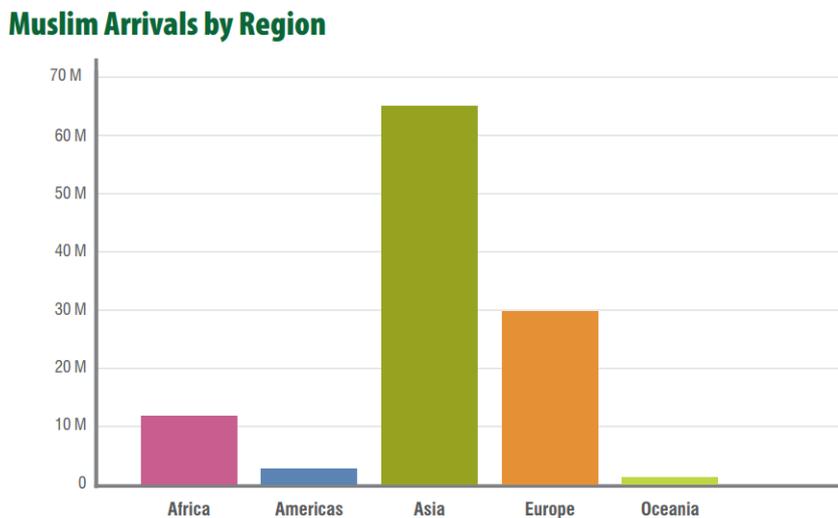
Figure 1. Muslim Travel Market Outlook



Source : CrescentRating, 2023

Moreover, most of Muslim travellers come to Asia rather than other regions. There are more than 60 million Muslim travellers come to Asia, while Europe visitors are only recorded around 30 million arrivals. The data shows that Asia has an interesting market for the halal tourism globally.

Figure 2. Muslim Travel Arrivals by Region (CrescentRating, 2023)



Source : CrescentRating, 2023

Indonesia, as part of Asia region, has been named as the world’s best halal tourist destination, according to the GMTII, Global Muslim Travel Index in 2023. Starting from the 6th position in 2015, Indonesia swiftly ascended the ranks. After briefly dipping in the rankings, it has reclaimed its joint number-one position this year, showcasing its formidable appeal to Muslim travelers while challenging Malaysia’s hold on the top position, with the total score of 73 for both of them (GMTI:2023). Indonesia is superior than other countries not only in the case of communications and raising awareness among destination stakeholders, but also in the case of services in order to welcoming and retaining Muslim travelers in significant touchpoints, including restaurant, hotels, and airports. (GMTI:2023).

Figure 3. GMTI 2023 Rankings - Top 20 Destinations

GMTI 2023 Rank	Change VS 2022	Destination	GMTI 2023 Scores
1	1	Indonesia	73
1	0	Malaysia	73
3	-1	Saudi Arabia	72
4	1	United Arab Emirates (UAE)	71
5	-3	Türkiye	70
6	0	Qatar	69
7	0	Iran	66
7	0	Jordan	66
9	0	Bahrain	65
9	3	Egypt	65
11	1	Kuwait	64
11	-2	Singapore	64
13	-1	Oman	63
13	-4	Uzbekistan	63
15	-3	Brunei	62
15	2	Tunisia	62
17	-5	Morocco	60
17	0	Pakistan	60
19	0	Lebanon	59
20	2	Kazakhstan	58
20	2	Kyrgyzstan	58
20	8	United Kingdom (UK)	58

Source: CrescentRating, 2023

It is imperative that achievement should be maintained and developed by halal-tourist ecosystem in Indonesia. Using Quintuple Helix is one of the promising method in this study. Quintuple Helix comprises of government, education, media, economy and environment.

RESEARCH METHODS

This study discusses and analyzes more deeply the halal-tourism ecosystem in Indonesia through Quintuple Helix. The method of data collection was carried out qualitatively through various literatures. The analysis carried out in this study is to use the Quintuple Helix analysis method. Thus, it will formulate the connection and relations between five variables in order to make halal-tourism ecosystem in Indonesia.

HYPOTHESIS DEVELOPMENT

Ecosystem

(Tansley, 1935) explained the word ‘ecosystem’, which he defined as:

It is the systems so formed which, from the point of view of the ecologist, are the basic units of nature on the face of the earth. Our natural human prejudices force us to consider the organisms (in the sense of the biologist) as the most important parts of these systems, but certainly the inorganic ‘factors’ are also parts—there could be no systems without them, and there is constant interchange of the most various kinds within each system, not only between the organisms but between the organic and the inorganic. These ecosystems, as we may call them, are of the most various kinds and sizes. They form one category of the multitudinous physical systems of the universe, which range from the universe as a whole down to the atom (Tansley, 1935, p. 299).

Hence, ecosystems come in a diversity of scope and scales determined by both internal linkages and external boundaries, including the interactions between the organic biome and the inorganic habitat in which these organisms live in determining the scope of the ecosystem (Auerswald and Dani, 2017). In the other word, biological ecosystems can be as small as atoms, or as large as universe, and collections of ecosystems can be combined into higher order systems.

It can be understood from that explanation, that Halal-tourism ecosystem is analogous to the organism in a biological ecosystem. This ecosystem is characterized by interactions among densely interconnected firms or variables that has been listed in halal-tourism ecosystem; government, economy, education, media, and environment.

Halal Tourism

(El-gohary, 2015) described that halal tourism is a synonym of Islamic tourism. (Samori et al., 2016) explained several activities in Koran that has connection with the concept of tourism, for example al-fasih (travel) that is cited from Al Maaidah: , ibn sabil (a person that is doing the journey for goodness) that is cited from Taubah: 6, hijrah (migration) that is cited from An-Nisa: 100, or even as ‘al-rihlah’ (travel for educational or commercial purposes) that is cited from Quraysh: 2. (Rhama, 2022) states that halal-tourism includes the purpose of witnessing the true nature of God (al-fasih), performing goodness (ibn sabil), seeking peace and tranquillity (hijrah) and education and commerce (rihlah). While, (Bogan and Sarusik, 2019) propose that Islamic tourism as a tourism type which has emerged as a result of individuals’ preferences to travel with the purpose to gaining the consent of God.

Despite those definitions, Sandiaga Salahuddin Uno as Minister of Tourism and Creative Economy explains that halal tourism is not specifically Islamic heritages, it could be every heritages that provide additional services related to facilities, tourist, attractions, and accessibility which meet the experience and needs of every Muslim tourists (Kemenparekraf, 2021). For example a hotel that provides worship facility, serve halal meals, separated swimming pool for women and men and etc.

Quintuple Helix

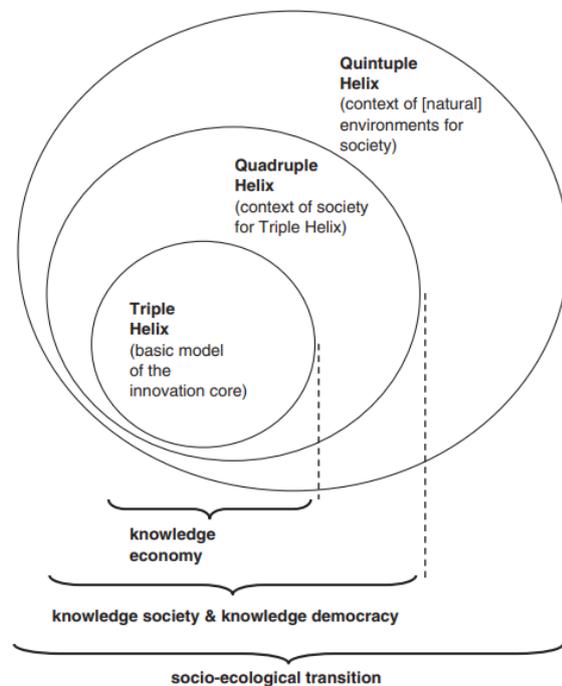
The definition of Quintuple Helix according to Carayannis and Campbell is:

‘The Quintuple Helix Model is interdisciplinary and transdisciplinary at the same time: the complexity of the five-helix structure implies that a full analytical understanding of all helices requires the continuous involvement of the whole disciplinary spectrum, ranging from the natural sciences (because of the natural environment) to the social sciences and humanities (because of society, democracy and the economy)’ (Carayannis and Campbell 2010, p. 62)

Thus, the goal of the Helix-Conception is accomplished through the resource of knowledge which produces additional value for society in order to lead in the field of sustainable development. The pivotal question of the Quintuple Helix defines itself in the following way (Carayannis et al, 2012): ‘How do knowledge, innovation and the environment (natural environment) relate to each other?’ (Carayannis and Campbell 2010, p. 42)

The Quintuple Helix model is based on the Triple Helix model and Quadruple Helix model, with the addition of a fifth helix, which is the natural environment. As we can see from the figure below.

Figure 4. Interdisciplinary and Transdisciplinary of Quintuple Helix



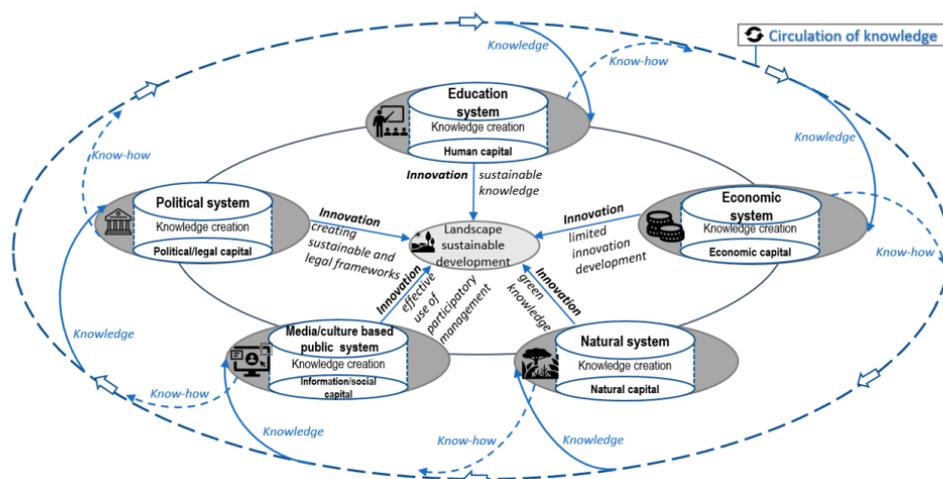
Source: Carayannis, Barth and Campbell, 2012

Quintuple Helix itself consists of 5 main variables, which are

- The education system, as the first subsystem, defines itself in reference to ‘academia’, ‘universities’, ‘higher education systems’, and schools. In this helix, the necessary ‘human capital’ (for example: students, teachers, scientists/ researchers, academic entrepreneurs, etc.) of a state (nation-state) is being formed by diffusion and research of knowledge (Carayannis et al, 2012).
- The economic system, as the second subsystem, consists of ‘industry/industries’, ‘firms’, services and banks. This helix concentrates and focuses the ‘economic capital’ (for example: entrepreneurship, machines, products, technology, money, etc.) of a state (nation-state) (Carayannis et al, 2012)
- The natural environment, as third subsystem, is decisive for a sustainable development and provides people with a ‘natural capital’ (for example: resources, plants, variety of animals, etc.) (Carayannis et al, 2012).

- The media-based and culture-based public, the fourth subsystem, integrates and combines two forms of ‘capital’. On the one hand, this helix has, through the culture-based public (for example: tradition, values, etc.), a ‘social capital’. On the other hand, the helix of media-based public (for example: television, internet, newspapers, etc.) contains also ‘capital of information’ (for example: news, communication, social networks) (Carayanis et al, 2012).
- The political system, as a fifth subsystem, is also of crucial importance, because it formulates the ‘will’, where to the state (nation-state) is heading toward in the present and future, thereby also defining, organizing as well as administering the general conditions of the state (nation-state). Therefore, this helix has a ‘political and legal capital’ (for example: ideas, laws, plans, politicians, etc.) (Carayanis et al, 2012).

Figure 5. The Quintuple Helix model and its function



Source:

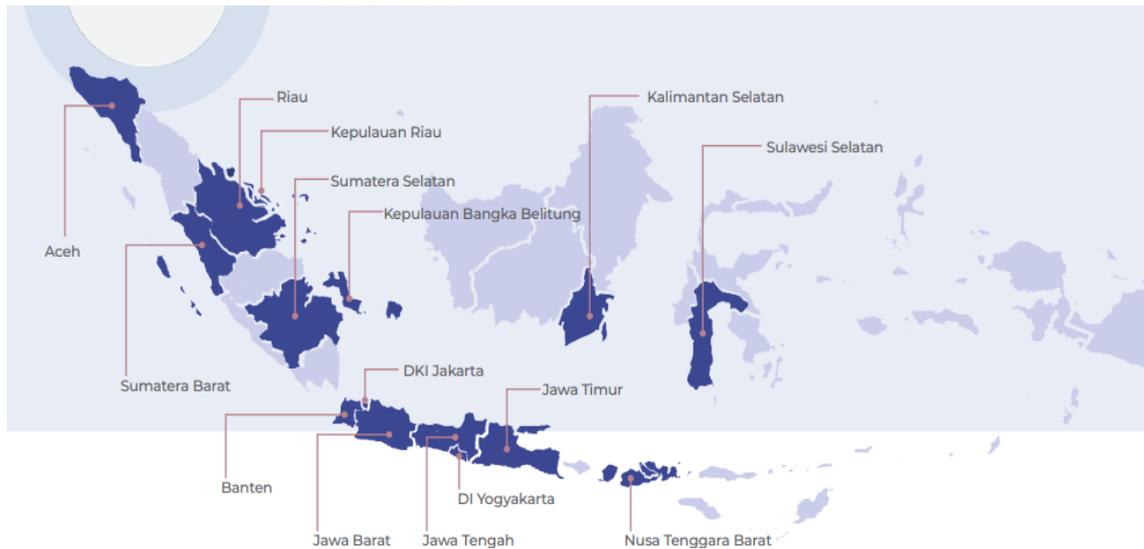
Carayanis et al, 2012.

RESULT AND DISCUSSION

Result

Under the lens of Indonesia Muslim Travel Index, a collaborative initiative undertaken by CrescentRating, Perkumpulan Pariwisata Halal Indonesia (PPHI), and Bank Indonesia, there are 15 provinces which were been categorized as Muslim-friendliness destinations in 2023. Compared to the 2019 report, these destinations are increasing, which only benchmarked ten provinces before. The 15 provinces are projected as a destination that ready to host tourist, specifically emphasizing the welcoming of Muslim tourists, that will pinpoint the Halal tourism market as a pivotal catalyst for the economic growth of Indonesia (CrescentRating, 2023)

Figure 6. Map of 15 halal destination in Indonesia



Source: (CrescentRating, 2023)

The 15 destinations are:

Figure 9. List of province destination in Indonesia

No	Province	No	Province
1	Nusa Tenggara Barat	9	Sulawesi Selatan
2	Aceh	10	Kalimantan Selatan
3	Sumatera Barat	11	Riau
4	DKI Jakarta	12	Kepualaan Riau
5	Jawa Tengah	13	Kepulauan Bangka Belitung
6	Jawa Barat	14	Banten
7	DI Yogyakarta	15	Sumatera Selatan
8	Jawa Timur		

Source: CrescentRating, 2023

Education System

When higher investments flow into the helix of the education system to support halal-tourism ecosystem research, the higher amount of high-skilled human capital which focus only on halal-tourism will be produced in the future. This human capital will help the system to work better, especially to other variables, like economic system, natural system, media system and political system. This variable consists of academics, which can be defined as conceiver, whose roles as assessing the progress, development, achievement, and giving critics and input to its province. Because, the academics are the source of knowledge, concepts, input, new and relevant approach in this sector. Some examples of the academics who are focus in this field are the GMTI (Global Muslim Travel Index), Indonesia Muslim Travel Index, a collaborative initiative undertaken by CrescentRating, Perkumpulan Pariwisata Halal Indonesia (PPHI), and Bank Indonesia, and several researches that have been done by academics.

The media-based and culture-based public

The function of media in Penta Helix model is as the expender (Umiyati and Tamrin, 2020. p.79), in which it plays a role in supporting publication in promotion and creating a brand image for halal tourism. In this halal-tourism ecosystem, media can be defined as a tools to promote their unique offerings and attractions. Across 15 destinations, from the IMTI 2023 report, there is still a big gap between each destinations. For example, Aceh’s first position in the communication category, with the score of 71, indicates its adeptness in multiple facets, from having knowledgeable tour guides and comprehensive educational programs for stakeholders to wide-ranging market outreach and effective Muslim visitor guides. The province’s ability to efficiently and effectively articulate its unique offerings, coupled with its adaptability to the evolving preferences of tourists (CrescentRating, 2023). On the other hand, Sumater Selatan lies in the last position with the score

of 17, which means that it does not have a proper communication strategies to ensure the availability of informed tour guides, and tailoring their outreach initiatives to the modern traveler's preferences (CrescentRating, 2023).

Environment

The environment roles in this quintuple helix is as a natural capital. From all 38 provinces in Indonesia, less than a half of it are nominated as a Muslim-friendly destination. This means that other provinces have not yet overcome their problems about exhibiting their heritage to attract Muslim market. This condition is proven by GMTI, that is not listed Indonesia in its Environment Rankings. The Environment category assesses the level of comfort, safety, and convenience for Muslim travelers to practice their faith while on the go (CrescentRating, 2023).

Economics System

Economics system on Quintuple Helix model acts as the enablers, an entity that does business processes in creating additional value and maintaining sustainable growth, it could be 'industry/industries', 'firms', services and banks (Umiyati and Tamrin, 2020. p.79). IMTI 2023 reports that several industries in Indonesia halal-tourism industry consist of halal restaurants, airports facilities, hotels, tourist attractions, cultural heritage sites, and tourist information center But the problem in this sector is quite similar with other sectors, which is a big gap between the leads and the last. According to IMTI 2023 Service Rankings, Sumatera Barat emerges as the front-runner, registering the score of 66. Closely following are Nusa Tenggara Barat and Jawa Tengah, both scoring an impressive 65. These provinces have displayed commitment to ensuring their destinations are well-equipped to cater to the faith-based requirements of Muslim tourists, particularly in terms of Halal dining options and prayer facilities (CrescentRating, 2023, p.36)

Offering access to sites resonating with Islamic history, culture, and heritage, Nusa Tenggara Barat will not only attract Muslim travelers but also ensure their prolonged stay, fostering a sense of cultural connection and enhancing their overall travel experience (CrescentRating, 2023, p.36). While on the other side, Banten which only gain score of 36 is left behind. Therefore, to have a holistic approach where the seamless integration of faith-based facilities with unique experience sets the stage for memorable travel journey is paramount.

Government

The role of government in Quintuple Helix model is as the regulator as well as a facilitator who has regulations and responsibilities in developing halal tourism. In this case, it involves all types of activities such as planning, implementation, monitoring, control, promotion, financial allocation, licensing, programs, legislation, development and knowledge (Umiyati and Tamrin, 2020. p.79). Making a guide line in extensional service is an example of Government controlling.

Minister of Tourism and Creative Economy/Head of the Tourism and Creative Economy Agency, Sandiaga Salahuddin Uno, said that the Ministry of Tourism and Creative Economy/Baparekraf has developed a policy related to halal tourism which emphasizes additional services (extensional services) provided by tourism businesses and the creative economy in response to the large potential for halal (friendly) tourism (Kemenparekraf, 2022). This policy has been arranged in the form of a guideline, so destination managers and creative economy centers in the regions can follow in providing additional Muslim-friendly services (halal tourism). Because Halal tourism does not mean the Islamization of attraction tourism, but rather provides additional services related to facilities, tourists, attractions, and accessibility to meet the experience and needs of Muslim tourists.

Figure 7. Ranks of province destination in Indonesia

Province	IMTI		Access			Communication				Environment					Service				
	IMTI 2023 Rank	IMTI 2023 Score	Air Connectivity	Road Infrastructure	Rail & Sea	Tour Guides	Stakeholder Education	Market Outreach	Muslim Visitor Guide	Domestic tourist Arrivals	International Tourist Arrivals	Commitment to Halal Tourism	Regional Tourism Organization	Sustainable Tourism Initiatives	Halal Restaurants	Airport Facilities	Hotels	Cultural Heritage Sites	Tourist Information Center
Nusa Tenggara Barat	1	67	54	86	35	100	44	42	22	9	15	100	90	63	49	100	67	63	62
Aceh	2	63	40	59	42	71	83	67	52	15	1	76	81	84	28	81	67	60	96
Sumatera Barat	3	62	46	59	21	54	34	24	47	26	7	100	96	67	53	88	67	55	92
DKI Jakarta	4	60	93	90	51	91	50	40	48	100	67	48	48	18	100	100	31	55	0
Jawa Tengah	5	59	48	85	44	67	9	10	52	100	28	64	79	55	74	80	46	67	69
Jawa Barat	6	56	55	86	37	92	42	16	47	100	67	64	90	35	100	60	9	41	0
DI Yogyakarta	7	53	80	100	20	82	13	52	50	54	31	100	27	58	43	67	20	53	22
Jawa Timur	8	52	88	75	72	60	17	22	23	100	59	60	43	48	66	100	11	56	41
Sulawesi Selatan	9	51	77	69	7	50	17	49	22	60	11	48	82	61	62	47	36	55	72
Kalimantan Selatan	10	49	46	49	28	27	23	44	20	11	5	84	31	74	38	69	54	55	75
Riau	11	48	65	32	49	50	19	15	20	18	7	52	49	43	70	75	55	45	65
Kepulauan Riau	12	43	60	98	70	50	19	7	20	3	67	52	24	67	48	37	46	33	0
Kepulauan Bangka Belitung	13	42	33	63	35	38	70	3	42	3	2	40	46	80	35	75	4	49	98
Banten	14	41	47	97	7	50	13	10	22	82	67	52	46	30	80	25	6	45	0
Sumatera Selatan	15	34	47	30	17	36	0	7	37	18	4	40	13	52	57	47	18	37	82

Source: CrescentRating, 2023

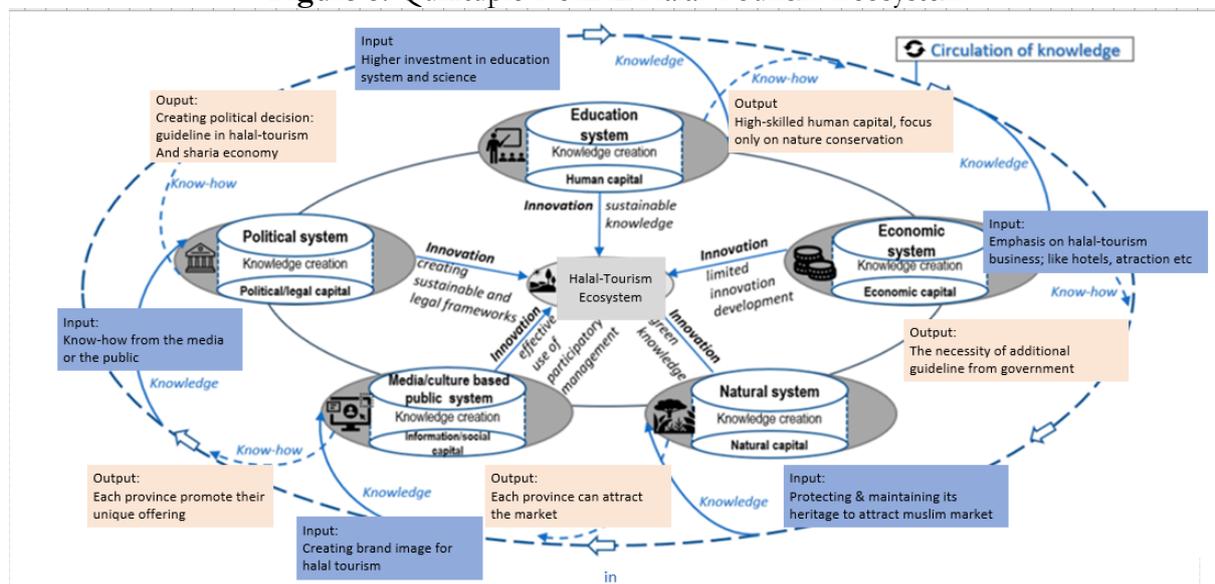
In the sector of financial allocation, Indonesian Government encourage the active role of the National Committee for Sharia Economy and Finance (KNEKS) in developing a Muslim-friendly tourism and creative economy (parekraf) sector as part of Islamic economic growth (Kemenparekraf, 2022). According to Global Islamic Economy Report, Indonesia lies in the 4th position in the development of Sharia Economy. And if the Sharia Economy has a good collaboration with halal-tourism sector, it leads to the condition in which Indonesia has a better Islamic financial dan economy. (Kemenparekraf, 2022).

Discussion

Quintuple Helix in Halal-Tourism Ecosystem

The application of those variables; education system, economic system, natural system, media system, and political system on Quintuple Helix can be seen as figure 11 below. Each of variables will accept input from others variables, subsequently give an output for all variables. This flow will make a sustainability system, where halal-tourism works and develops.

Figure 8. Quintuple Helix in Halal-Tourism Ecosystem



Source: Carayanis et al, 2012 (modified)

Step 1: When more investments flow into the helix of the education system to promote sustainable development under the aspect of nature conservation on halal-tourism ecosystem in Indonesia, the Quintuple Helix Model shows and demonstrates that, as an input, investments create new impulses and suggestions for knowledge creation in the education system (Carayanis et al, 2012). For example, targeted investments produce new equipment, new places for scientists and teachers, and a higher research opportunity. Therefore, a larger output of innovations from science and research can be obtained. At the same time, teaching and training can improve their effectiveness. Particularly, the investment in education should have a positive impact on human capital as a manifestation of output of the education system; because of more resources, teaching and training should be more effective, allowing the human capital to realize chances and to target uses more directly (Carayanis et al, 2012). The output that arises from human capital for halal-tourism ecosystem is, in turn, also an input in the helix of the economic system.

Step 2: By means of input of new knowledge through human capital in the helix of the economic system, the value (values) of the knowledge economy or of an advanced knowledge economy consequently increases. Through the enhancement of knowledge, important further production facilities and development opportunities for a sustainable, future-oriented green economy, based on knowledge creation, can be stimulated and achieved (Carayanis et al, 2012). That knowledge creation impulses for business actors in Indonesia to focus their economy activities based on Government's guideline. This government's guideline has adjusted with the know-how that the market and natural environment need.

"The economic capital of know-how is in this context sustainability. Here, the output of economic know-how will be a high-quality and sustainable economy, but in fact, the special know-how which the economic system implies now, is probably a new harmony of human beings with nature" (Barth 2011a, p. 8)

Step 3: This new sustainability as an output of the economic system will be a new input of knowledge in the helix of natural environment. This new knowledge 'communicates' to nature that it will be increasingly protected, as lesser exploitation, destruction, contamination, and wastefulness (extravagance) is taking place. The natural environment can, thus, regenerate itself and strengthen its natural capital, and humanity can also learn again and further more from nature. (i.e., knowledge creation) (Carayanis et al, 2012). The goal of this helix should be to live in balance with nature, to develop regenerative technologies and to use the available, finite resources sustainably and in a sensitive approach. Here, particularly natural science disciplines come into play, to form new green know-how for humans. This know-how as output of the subsystem of the natural environment can provide more environmental protection and a superior quality of life to people (Carayanis et al, 2012). Therefore, each market can protect and develop its heritage, then attract the Muslim travel market.

Step 4: The output of the natural environment is followed by an input of new knowledge about nature and a green (greener) lifestyle for the subsystem of media-based and culture-based public. In this helix it is of a crucial importance to communicate and to live a green lifestyle. Here, the media-based public receives a new and crucial function (i.e., information capital), which is spreading through the media the information about a new green consciousness and the new human lifestyle (Carayanis et al, 2012). In this variable, media works as a promotion tool to share and attract the beauty of nature that 15 provinces have in Indonesia, that includes information about wishes, needs, problems, or satisfaction of citizens in halal-tourism ecosystem. This information can an input for the helix of the political system.

Step 5: The input of knowledge into the political system is the know-how from the media-based and culture-based public and represents of investments in education for sustainability. The goal of this knowledge creation is a 'political and legal capital', which makes the Quintuple Helix more effective, more high-quality, and more sustainable. Consequently, the newly obtained know-how is an output of suggestions, sustainable investments, and objectives (Carayanis et al, 2012). In this case, the government should decide a legal guideline both in economy and public policy in halal-

tourism in Indonesia, which is paramount for all quintuple variables. Finally, the output of knowledge and know-how of the political system pass through the circulation of knowledge back again into the education system, economic system, natural environment, and media-based and culture-based public

CONCLUSION AND RECOMMENDATION

The development of halal tourism is an opportunity for Indonesia to gain some advantages such as the increase of visitor numbers to several provinces in Indonesia. Despite the fact that Indonesia is the number one destination compared to other countries, lacking of maintenance and development in that field will drop Indonesia's position again like several years before. Hence, some proven approaches should be implemented to this sector, one of them can be done through quintuple helix to create halal-tourism ecosystem in Indonesia. Five variables (education system, economic system, natural system, media system, and political system), which are interconnected each of them, will build an ecosystem of halal-tourism in Indonesia, that in the end will strengthen Indonesia's position in this sector.

REFERENCES

Journal

- Barth, T.D. (2011). The Idea of a Green New Deal in a Quintuple Helix Model of Knowledge, Know-How and Innovation. *Int. J. Soc. Ecol. Sustain. Dev.*, 2, 1–14
- Bogan, E. and Sarıysık, M. (2019), “Halal tourism: conceptual and practical challenges”, *Journal of Islamic Marketing*, Vol. 10 No. 1, doi: 10.1108/JIMA-06-2017-0066.
- Carayannis, E.G.; Campbell, D.F.J. (2010). Triple Helix, Quadruple Helix and Quintuple Helix and How Do Knowledge, Innovation and the Environment Relate to Each Other?: A Proposed Framework for a Trans-Disciplinary Analysis of Sustainable Development and Social Ecology. *Int. J. Soc. Ecol. Sustain. Dev.* 2010, 1, 41–69.
- Carayannis, E.G.; Barth, T.D.; Campbell, D.F.J., (2012). The Quintuple Helix Innovation Model: Global Warming as a Challenge and Driver for Innovation. *J. Innov. Entrep.* 2012, 1, 2.
- El-Gohary, H. (2015), “Halal tourism, is it really halal?”, *TMP*, doi: 10.1016/j.tmp.2015.12.013.
- Rhama, Bhayu. (2021). “The halal tourism – alternative or mass tourism? Indications of traditional mass tourism on crescent rating guidelines on halal tourism” <https://www.emerald.com/insight/1759-0833.htm>
- Samori, Z., Salleh, N.Z.M. and Khalid, M.M. (2016), “Current trends on halal tourism: cases on selected Asian countries”, *Tourism Management Perspectives*, Vol". 19, pp. 131-136, doi: 10.1016/j.tmp.2015.12.011.
- Sloup, Roman. Riedl, Marcel. and Machon, Miloslav.(2023). “Comprehensive Evaluation of the Design of a New National Park Using the Quintuple Helix Model”.
- Tansley, A.G. (1935). ‘The use and abuse of vegetational concepts and terms’. *Ecology* 16: 284–307.
- Umiyati, Sri. Tamrin, M.H., 2020. Penta Helix Synergy in Halal Tourism Development. *dvances in Social Science, Education and Humanities Research*, volume 518 Proceedings of the 4th International Conference on Sustainable Innovation 2020–Social, Humanity, and Education (ICoSIHESS 2020)

Buku

- Auerswald, Philip E. and Dani, Lokesh. (2017). ‘Economic Ecosystem’. Newgen:245.
- CrescentRating. (2023). *Global Muslim Travel Index 2023*.
- CrescentRating. (2023). *Indonesia Muslim Travel Index 2023*.

Internet

- Kemendparekraf. (2022). Siaran Pers: Kemendparekraf Siapkan Panduan Penyiapan Destinasi Wisata Ramah Muslim dan Layanan Wisata Halal. [Siaran Pers: Kemendparekraf Siapkan Panduan Penyiapan Destinasi Wisata Ramah Muslim dan Layanan Wisata Halal](#)

Kemenparekraf. (2021). “Ekonomi Syariah Pendukung Sektor Parekraf dan Halal Tourism”.
[Ekonomi Syariah Pendukung Sektor Parekraf dan Halal Tourism \(kemenparekraf.go.id\)](http://kemenparekraf.go.id)