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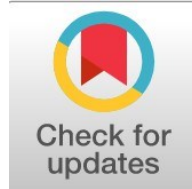
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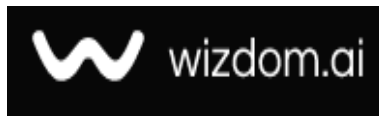How to submit to this journal (link)

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Human Resource Readiness for Big Data-Based Halal Tourism

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Abstract

General Background: Halal tourism has emerged as a rapidly growing global industry that integrates Islamic values with modern tourism practices. In the digital era, the use of big data technology has become essential to enhance competitiveness and optimize tourism management. **Specific Background:** Madura, known for its strong Islamic culture and diverse natural attractions, holds great potential for halal tourism development. However, effective implementation depends on the readiness of human resources (HR) to utilize big data strategically. **Knowledge Gap:** Despite increasing research on halal tourism, few studies have analyzed HR readiness in adopting big data for halal tourism management, particularly in socially and religiously distinctive regions like Madura. **Aims:** This study aims to analyze the readiness of Madura's HR in managing halal tourism through big data utilization using a qualitative descriptive method and SWOT analysis with IFAS–EFAS matrices. **Results:** Findings show that Madura's HR demonstrates strong conceptual and social readiness, supported by government policies and youth adaptability, yet faces challenges in digital literacy and infrastructure. **Novelty:** The integration of HR readiness assessment with big data indicators (5V) and SWOT analysis provides a unique framework for digital-based halal tourism evaluation. **Implications:** The study contributes to policy formulation and HR capacity-building strategies to strengthen Madura's competitiveness in global halal tourism.

Highlights:

- Highlights Madura's HR adaptability in managing halal tourism through big data.

- Identifies digital literacy and infrastructure gaps as key development challenges.

- Proposes strategic HR capacity-building for global halal tourism competitiveness.

Keywords: Human Resource Readiness, Halal Tourism, Big Data, Digital Literacy

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Introduction

Indonesia is known as an archipelagic country with more than 17,000 islands, each possessing diverse natural resources and potential. This abundance has made tourism one of the strategic driving forces of the national economy [1]. The majority of Indonesia's population is Muslim, which creates a significant opportunity for the development of halal tourism—tourism activities that implement Sharia principles without diminishing the universal values of travel [2]. According to the Global Muslim Travel Index (GMTI), Indonesia ranked second among the world's best halal tourism destinations in 2022, confirming the vast potential of the tourism sector at the global level [3]. Madura is one of the regions in Indonesia that offers rich tourism diversity [4], [5], [6], ranging from religious and cultural tourism to natural attractions [7], [8]. The strong religious character of the Madurese people makes the region highly relevant for the development and advancement of halal tourism [9]. Therefore, proper tourism management requires the involvement of qualified human resources (HR) as tourism managers [10]. Tourism actors and the supporting infrastructure must progress in harmony to ensure sustainable development.

In context development technology the emergence of industry 4.0 big data that provides opportunity strategic for manager tour For understand behavior traveler more accurate through sourced big data analysis from platform digital such as Google Maps, Instagram, and TikTok [11]. Technology this big data has five characteristics main namely; Volume, Variety, Velocity, Veracity, and Value which enable perpetrator tour identify trends, preferences, and levels satisfaction traveler in a way real-time [12]. Madura with the religious nature of the community expected this big data capable measure reviews, sentiment, user feedback so that manager can know which part is needed improved so that the destination halal tourism in Madura can fulfil expected standards traveler Muslim [13]. Utilization technology this big data is very dependent on readiness Source Power Humanity (SDI) as manager tourism [14], [15]. For guard focus study, research this limit scope problems in analysis SDI readiness in manage Madura halal tourism with implementation technology big data [16], [17]. Research location selected in two destination superior, namely tour Ratu Peak in Pamekasan and Matahari Beach in Sumenep, which have potential ecotourism and tourism suitable community For see SDI readiness in the region coast or island [18].

A number of study previously has discuss aspect management tourist from corner view digitalization that shows that transformation industry tourist need adaptation fast to technology, however the challenge appear on readiness power local [19], [20]. Meanwhile other research is more highlight importance readiness source Power man in manage destination after existence pandemic [21]. Other studies also found that implementation effective digital technology increase performance manager tourism, but Still limited consequence weakness digital literacy and lack thereof infrastructure [22]. Based on study previously the can identified existence gap research, namely lack of integrated study draft big data with management halal tourism, especially that based on analysis SDI readiness in the region with character social and religious as in Madura [6][5]. Besides that, not yet Lots research that examines how use big data can become a strategic instrument in increase quality management halal tourism through taking decision data- based.

With thus study this important Because big data identified as component important in management modern [23]. In order to provide understanding empirical about how far is the readiness source power human manage halal tourism in Madura is based technology big data [24], [25], research this is also expected can give contribution towards improvement strategies capacity of halal tourism SDI and become base for taker policy in develop destination empowered tourism global competitiveness [26], [27]. In explicit, purposeful study this is For analyze readiness Source Power Humanity (SDI) in manage Madura halal tourism with utilization technology big data, as well as formulate development strategies based SWOT analysis (IFAS and EFAS) for strengthen Power competition halal tourism in the era of digital transformation.

Method

Readiness Source Power Humanity (SDI) in management tourist become discussion that focuses on two destination that is Ratu Peak in Pamekasan and Matahari Beach in Sumenep. Both tourist the selected become location study Because including potential Halal tourism is currently a hit in the district Pamekasan and Sumenep [28]. Research this use study qualitative descriptive with objective For analyze level readiness source Power human manage Madura halal tourism with technology big data approach this chosen Because in accordance For understand phenomenon social, behavioral, and ability SDI adaptation to digitalization halal tourism in general contextual and in-depth [29].

Research data this sourced from primary and secondary data. Primary data is obtained direct from the source, well through interviews, observations to environment tourism, as well as report in form document No official then processed by researchers [30]. Secondary data obtained in a way No directly, meaning the data No collected in a way directly by researchers, but rather from sources that have been There is previously [31]. Secondary data that the researcher get that is from social media such as; Instagram and TikTok, as well as Google Maps. In Instagram and TikTok researchers can see viewers and the number of likes given by visitors tourism, even There is a number of tourists who upload halal tourism on their respective digital platforms. On Google Maps, researchers can see the ratings and reviews given by visitors tourists.

Data collection was carried out with three method, the first observation. Observation is technique involving data collection observation directly in the field, observation this done use notice all things that happen in analysis readiness source Power human in management halal [30]. Furthermore, semi-structured interviews involving

interaction direct with the Tourism Office, Management Tourism, and Associations Madura [32]. Lastly, the Study document which is complement from use method observation and interviews in study moment collect data as results about analysis SDI readiness in manage halal tourism with technology big data [21].

Analysis done in a way descriptive qualitative with emphasize interpretation findings based on results observation and interviews. Data are combined with using the SWOT model (strengths, weaknesses, opportunities, and threats) which is mapped in two matrix, namely IFAS (Internal Factor Analysis Summary) and EFAS (External Factor Analysis Summary) [33]. SWOT assessment was carried out with give weight and rating on each factor For count total IFAS and EFAS [34]. The validity of the data was tested use technique triangulation source, this process ensure that results study nature consistent, credible, and can accountable [35]. Research this give framework systematic in assess and develop SDI readiness in the sector Madura halal tourism, so that can become base for policy strategy formulation based technology big data.

Results and Discussion

Research result this show that Regency Pamekasan and Sumenep own potential big in development halal tourism based wisdom local. Through SWOT analysis with IFAS (Internal Factor Analysis Summary) and EFAS (External Factor Analysis Summary) research concepts this identify elements main influencing factors SDI readiness in integrate technology big data in activity managerial which is still limited.

1. Potential and Conditions Tourism in Pamekasan and Sumenep

Regency Pamekasan and Sumenep is two areas in Madura that have characteristics as well as potential mutually beneficial tourism support. From the side tourism, Pamekasan known with riches its religious society as well as tradition strong Islam. One of the for example in tourism Queen's Peak showing relatedness between potential nature and culture local. Puncak Ratu is one of the tour the best in Pamekasan, tourism this known with tour mountains that offer beautiful and cool panoramas typical rural Madura, even No few say that Queen Peak is almost the same with Paragliding in Malang City. Based on results observation, development tour Queen's Peak has adopt part principle halal tourism. Such as availability complete worship facilities with mukenah, sejadah, sarong, and Al-Qur'an, provision halal and clean food and drinks, camping facilities only intended for For traveler men and couples husband proven wife with KK (Card) Family) and marriage certificates, as well as governance based wisdom local public around.

Temporary Regency Sumenep offer character more tourism varies with emphasis tour culture and maritime, for example Matahari Beach tourism in Bluto, Sumenep. This beach offer beauty the beach and the sunset. Most of traveler visiting Matahari Beach For see dusk in the afternoon. The facilities offered also experience development from First beach the established, existence addition of toilets, prayer rooms, and MSME actors in the surrounding area beach.

2. Big Data Integration (5V) in Halal Tourism SDI Context

Research results also show that implementation technology big data in management halal tourism in Madura can analyzed through 5V (Volume, Variety, Velocity, Veracity, and Value).

Volume (Quantity of data): Madura halal tourism data is sourced from from various digital channels such as Google Maps, Instagram, and TikTok which contain thousands reviews, photos, and comment tourists. Large volumes of data potential For understand level satisfaction visitors, trends the most visited destinations, as well as need service halal tourism. However, most of the SDI have not capable manage in a way systematic Because limitations tools and skills analytics, management only can utilizing social media only, including Instagram and TikTok. With Name Instagram accounts (puncak_ratu_official and pantai.matahari) for account TikTok its (natural peak and beach.sun). With second social media accounts said, the manager tour can monitor comment tourists, understand level satisfaction visitors, and analysis trend.

Variety (Data diversity): Available data No only shaped text but There is photos, videos, and digital reviews. The variety of data formats demands SDI's capabilities in do management. When this, the manager tourist focus on quantity visits and reviews only, thing the can seen on social media Queen's Peak and Sun Beach are many post Photo or video later accompanied by comments or review from the audience or tourists.

Velocity (Speed) data stream): Data stream from social media nature real-time, so that can used For monitor interest tourists and activities promotion in a way fast. However, the system monitoring the Not yet implemented in a way routinely by the manager halal tourism. Even though fast data utilization can help in determine time promotion best, digital content strategy, and capture decision operational based on the latest data.

Veracity (Data accuracy): Aspect this related with validity of digital data, management tourist Still face challenge in ensure that the data collected from social media completely valid or no. For implement aspect this veracity need existence system verification or data cleaning so that the information obtained more accurate For taking decision. When this, implementation veracity yet implemented full of Madura tourism.

Value (Data benefit value): Main value from big data is ability change information become decision strategic. In context management Madura halal tourism, digital data can used For determine priority development destinatio, measuring

effectiveness promotion, and assessment level satisfaction tourists. However moment this benefit the Not yet optimally carried out Because limitations SDI capacity in do data- based analysis technology.

3. Analysis Internal and External Factors Management Halal Tourism

After obtaining understanding about potential, condition halal tourism with its integration to big data, for understand in a way comprehensive strengths and challenges in development halal tourism based technology big data used approach combined SWOT analysis with IFAS and EFAS matrices. Approach this allows study identify internal factors (strengths and weaknesses) that come from condition in the area, as well as factor external (opportunities and challenges) sourced from the outside environment manager tour.

Analysis this is also supported by the results interview deep together with the Tourism Office, the manager tourism, and the Association Madura Tourism. The data Then interpreted in framework theory management strategic tourism and literature about implementation big data in destination halal tourism.

4. Strengths and Weaknesses in Management Tourism in Madura

Table 1. Analysis Internal Factors (Strengths and Weaknesses) in management Madura halal tourism.

STRENGTHS	
No	Information
1	Potential utilization technology big data with see analysis thousands comments on Google Maps are able to help management more halal tourism appropriate target.
2	Halal tourism is one of the segment trend global that continues grow.
3	Source Power human Madura specifically generation young own enthusiastic and adaptive in follow digital trends in help management and development halal tourism with big data technology.
4	Potential halal tourism in Madura Enough big Because majority its people religious Islam.
5	Budget from government can allocated for training big data technology for strengthen digital infrastructure at the destination halal tourism.

WEAKNESSES	
No	Information
1	Infrastructure technology in several areas of Madura Still Not yet evenly
2	Limitations digital literacy and big data among SDI in manage tourist
3	Lack of synergy between stakeholders such as; government, actors tourism and management tour so that its implementation Still hampered.
4	SDI still Not yet best seller professionally in management halal tourism and big data technology
5	Budget often limited so that no all aspect financed optimally.

Factor strengths and weaknesses give description real about internal capacity owned by a area. Strength is potential positive that can utilized for support success management tourism, such as SDI capabilities, support government area, values religious society, as well as potential unique nature and culture. Temporary weakness reflect limitations that hinder effectiveness management tourism, such as lack of SDI digital literacy, facilities lack of technology adequate. Limitations the signify that although potential owned something tourist That big, if no balanced with optimization management with sufficient capacity strong.

Analysis results the show that tourism in Madura has sufficient potential big However experiencing limitations in aspect management and infrastructure the technology is still not enough evenly distributed, especially in the Regency Sumenep, the area Lots own islands small. Power the supported by its religious community so it is very supportive implementation Sharia principles in halal tourism, enthusiasm generation young people who want to Keep going Study about technology and also support government through allocation budget and training to SDI as manager halal tourism in Madura. However, the weakness Still there is obstacle in the form of inequality infrastructure technology, low digital literacy, SDI in the field Not yet trained in a way professional, and limitations budget cause effort development digitalization not optimal.

5. Opportunities and Threats in Management Tourism in Madura

Besides internal factors, management Halal tourism in Madura is also influenced by factors external which includes opportunities and threats from environment around. Analysis to second aspect this important for determine strategic direction that is responsive to dynamics of the tourism sector. Madura has strategic position in the center increasing global trend of halal tourism. Support policy government to development halal destinations as well progress digital technology opens up opportunity for implementation technology big data. However, the existence of threat need For We anticipation like gap digitalization interregional Still become obstacle especially in the area Archipelago Sumenep which has infrastructure limited. Madura also faces competition strict with destination other halal tourism in East Java such as Malang and Banyuwangi which are more Formerly apply draft tourist with digital technology.

Table 2. Analysis Factor External (Opportunities and threats) in management Madura halal tourism).

OPPORTUNITIES

No	Information
1	Global halal tourism is growing develop, so that Madura potential enter in network destination world halal tourism.
2	Partnership with party academics / digital startups can become a partner for SDI to Study or practice in a way direct.
3	Big data can used SDI in management tour such as; prediction trend tourists, personalization services, and others.
4	Support government through digital programs can increase SDI competency and readiness in manage tourist with big data.
5	The right budget Can open opportunity development big data- based halal tourism.

THREATS

No	Information
1	Risk tourist data security in use of big data if no there is a good protection system.
2	The development preference fast traveler, if the SDI No balanced with innovation and creativity so halal tourism in Madura Can left behind.
3	SDI competition between other possible areas more Ready in digital -based halal tourism
4	SDI which has competent and trained in management big data- based halal tourism can move to other areas with opportunity more work promising.
5	SDI which has competent and trained in management big data- based halal tourism can move to other areas with opportunity more work promising.

Analysis results factor external show that Madura has the opportunities that Enough strategic in strengthen management halal tourism in Madura with technology big data. Globally, the trend halal tourism continues experience development so that can open opportunity for network destination global halal tourism. Collaboration between stackholder can make means improvement SDI competencies through training and practice in a way directly. Support government and allocation of funds from government or investors can create digital transformation in the sector tourism. Opportunities the what we can be certain of is always balanced with threats that must be anticipated. Risk main in use technology is, risk security of tourist data that can cause problem If No managed with system good protection. Preferences fast traveler changed demanding SDI as manager tourist For Keep going innovate, and competition interregional.

6. Synthesis Connectedness Internal and External Factors

Analysis results internal and external factors show that readiness management halal tourism in Madura is in a position strategic with influenced by balance between internal and external forces, as well as ability overcome weaknesses and threats. Strengths main present from religious community, support government, and spirit generation young, on the other hand opportunities appear Because existence global trends in halal tourism and progress technology big data that makes it easier traveler for access. However, the threat like digital divide, resistance against existence technology new, and competition between destination tour.

Based on synthesis between internal and external factors show that SDI readiness is in the phase transition from management conventional going to management data -based and digitalized management halal tourism. The success of this process depends heavily on the extent to which SDI is able to utilise strength digital opportunities for cover existing structural weaknesses.

Table 3. Synthesis of IFAS and EFAS management halal tourism in Madura.

Internal Factors	Factor External	Implications
Streight: Religious values community, support government area and spirit generation young in adopt digital technology becomes foundation strong for implementation halal tourism based big data.	Opportunity: Global trends in halal tourism in progress technology big data opens room wide for innovation and collaboration with various sector or stackholder.	Can utilized for speed up digital transformation for expand network halal destinations and strengthen branding so that they can empowered high competition.

Weaknesses: Limitations digital literacy, infrastructure that is not yet evenly distributed, synergy between stakeholders interests that still exist weak hinder optimization technology	Threats: Risks data security, changes trend tourists, and potential trained SDI migration become challenge in maintain stability management tourist.	Improvement strategies are needed SDI capabilities and development digital infrastructure in general sustainable, and necessary existence system security, innovation sustainability and adaptive management.

With the above synthesis, it is hoped, the development tourism in Madura is not only strengthen sector economy area, but also become example success combination between digital technology, value religious, and wisdom local in management tourism in Indonesia.

7. The Results of the IFAS and EFAS Calculations in Analyze Readiness Source Power Human as Manager Halal Tourism in Madura

After identify internal and external factors to be continued with calculation functional weights and ratings as runway determination SDI readiness in manage halal tourism in Madura. This need known as base tourist for operate strategies for management tourism more ready. Determination weight based on 0.0 − 1.0, namely accumulation from strength with weakness and accumulation from opportunities and threats. The value of weight determined from results interview between researchers with manager tourism. Rating from 1-4 based on situation in the field. Most influential has a rating of 4, while a rating of 1 is the least influential. The determination of the rating based on discussion with manager tourism. Weight and score every element added up. Strength added up with weakness temporary opportunity added up with threat.

Score = Rating x Weight

8. IFAS (Internal Factor Analysis Summary) Calculation Results

Table 4. IFAS management calculations halal tourism in Madura.

STRENGTHS				
No	Information	Rating	Weight	Score
1	Potential utilization technology big data with see analysis thousand comments on Google Maps are able to help management more halal tourism appropriate target.	4	0.21	0.86
2	Halal tourism is one of the segment tren global that continues grow.	4	0.21	0.86
3	Source Power human Madura specifically generation young own enthusiastic and adaptive in follow digital trends in help management and development halal tourism with big data technology.	3	0.21	0.64
4	Potential halal tourism in Madura Enough big Because majority its people religious Islam	3.5	0.14	0.50
5	Budget from government can allocated for training big data technology for strengthen digital infrastructure at the destination halal tourism.	3	0.21	0.64
Total		17.5	1.00	3.50
WEAKNESSES				
No	Information	Rating	Weight	Score
1	Infrastructure technology in several areas of Madura Still Not yet evenly	2	0.25	0.50
2	Limitations digital literacy and big data among SDI in manage tourist	2	0.25	0.50
3	Lack of synergy between stakeholders such as; government, actor tourism and management tour so that its implementation Still hampered.	2	0.08	0.17
4	SDI still Not yet best seller professionally in management halal tourism and big data technology	2	0.17	0.33
5	Budget often limited so that no all aspect financed optimally.	2	0.25	0.50
Total		12	1.00	2.00
Sub-Total				5.50

The results of the calculations above show that factor power (3.50) far more tall compared to with factor weakness which is worth (2.00). This means that the influence factor strength more dominant compared to weakness, so that can concludeds that SDI in Madura has readiness internally sufficient strong in manage and develop halal tourism with support technology big data. With a total score of (5.50) Madura's SDI position can categorized Enough moderately ready in internal aspects for manage halal tourism with technology big data. Source Power Human Already own foundation good social and support, but need existence improvement digital skills, training, and coordination so that potential the can implemented optimally.

9. EFAS (External Factor Analysis Summary) Calculation Results

Table 5. EFAS management calculation halal tourism in Madura.

No	Information	Rating	Weight	Score
OPPORTUNITIES				
1	Global halal tourism is growing develop, so that Madura potential enter in network destination world halal tourism.	4	0.21	0.86
2	Partnership with party academics / digital startups can become a partner for SDI to Study or practice in a way direct.	3	0.21	0.64
3	Big data can used SDI in management tour such as; prediction trend tourists, personalization services, and others.	3	0.21	0.64
4	Support government through digital programs can increase SDI competency and readiness in manage tourist with big data.	3	0.21	0.64
5	The right budget Can open opportunity development big data- based halal tourism.	2	0.14	0.29
Total		15	1.00	3.07
THREATS				
No	Information	Rating	Weight	Score
1	Risk tourist data security in use of big data if no there is a good protection system.	2	0.23	0.46
2	The development preference fast traveler, if the SDI No balanced with innovation and creativity so halal tourism in Madura can be left behind.	2	0.23	0.46
3	SDI competition between other possible areas more Ready in digital - based halal tourism	3	0.23	0.69
4	SDI which has competent and trained in management big data- based halal tourism can move to other areas with opportunity more work promising.	2	0.15	0.31
5	SDI which has competent and trained in management big data- based halal tourism can move to other areas with opportunity more work promising.	2	0.15	0.31
Total		11	1.00	2.23
Sub-Total				5.30

Based on results EFAS calculation, value opportunity as much as (3.07) far more tall from factor threat with value (2.23). This result show that opportunity external more dominant compared to threat, signify that environment external support improvement SDI readiness in manage Madura halal tourism with technology big data. In a way the overall total EFAS score (5.30) is illustrative that Madura's SDI readiness is sufficient Ready in utilise opportunity, provided that balanced with policy in use digital technology, tourist data security.

Furthermore done determination alternative strategies based on SWOT analysis for determine position SWOT matrix, then done two calculation. First, with add up the total score strength with a total score weakness, second add up the total score opportunity with a total score threats. Based on the SWOT diagram analysis and the values in the IFAS and EFAS tables, that strength more big from weaknesses and opportunities more big from threat. Then tourist is at in quadrant I with appropriate aggressive strategies with SO strategy in the SWOT matrix.
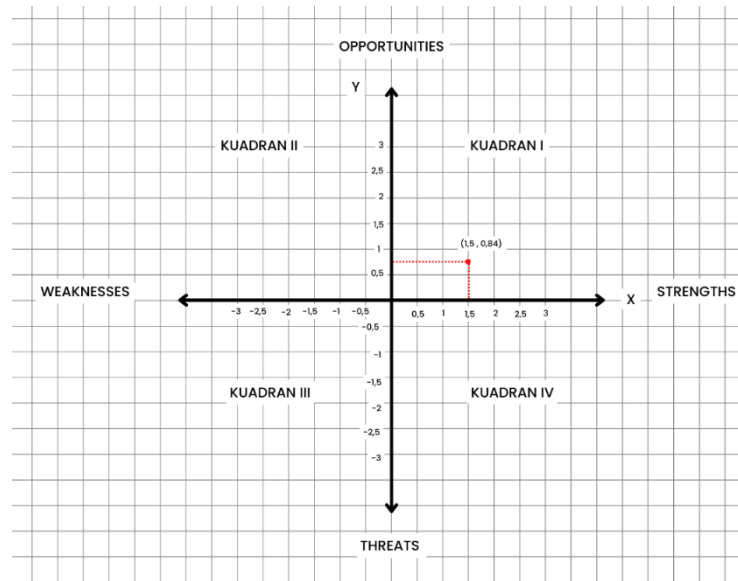
Figure 1. Diagram Cartesian SWOT.

Position this describe that SDI Madura has potential strength social, religious, and adaptation good technology. Condition the signify that SDI does not only Ready face change but also has the opportunity for speed up transformation management tour going to more systems good. Here are 4 main strategies, namely SO, WO, ST, and WT, each of which has its own advantages. characteristics alone in its implementation.

Table 6. SWOT strategy analysis.

	STRENGTHS Potential utilization technology big data with see analysis thousands comments on Google Maps are able to help management more halal tourism appropriate target. Halal tourism is one of the segment tren global that continues grow. Source Power human Madura specifically generation young own enthusiastic and adaptive in follow digital trends in help management and development halal tourism with big data technology. Potential halal tourism in Madura Enough big Because majority its people religious Islam. Budget from government can allocated For training big data technology for strengthen digital infrastructure at the destination halal tourism.	WEAKNESSES Infrastructure technology in several areas of Madura Still Not yet evenly. Limitations digital literacy and big data among SDI in manage tourist Lack of synergy between stakeholders such as; government, actor tourism and management tour so that its implementation Still hampered. SDI still Not yet best seller professionally in management halal tourism and big data technology Budget often limited so that no all aspect financed optimally.
OPPORTUNITIES Global halal tourism is growing develop, so that Madura potential enter in network destination world halal tourism. Partnership with party academics / digital startups can become a partner for SDI to Study or practice in a way direct. Big data can used SDI in management tour such as; prediction trend tourists, personalization services, and	S-O STRATEGY Optimization adaptive and religious potential of SDI for utilise global tourism trends through implementation big data like analysis behavior tourists and more digital promotions appropriate target. Utilization support government and partnerships with academics / digital startups for strengthen training and innovation management halal tourism based technology.	W-O STRATEGY Increase digital literacy and capabilities data analysis, so that SDI through training integrated financed government or digital industry partners. Build synergy between stakeholders so that opportunities development digital halal tourism can utilized in a way evenly distributed in Madura.

others. Support government through digital programs can increase SDI competency and readiness in manage tourist with big data. The right budget Can open opportunity development tour big data based halal.		
THREATS Risk tourist data security in use of big data if no there is a good protection system. The development preference fast traveler, if the SDI No balanced with innovation and creativity so halal tourism in Madura Can left behind. SDI competition between other possible areas more Ready in digital -based halal tourism SDI which has competent and trained in management big data- based halal tourism can move to other areas with opportunity more work promising. SDI which has competent and trained in management big data- based halal tourism can move to other areas with opportunity more work promising.	**S-T STRATEGY** Use strength SDI adaptation and values religious for respond fast change preference tourists and maintain halal destination image tour. Apply system Sharia -based data security and digital technology for prevent risk data leaks and increase trust tourists.	**W-T STRATEGY** Increase SDI professionalism through certification and training sustainable so that No left behind from other areas that are more Ready digitally. Build policy for prevent the transfer of SDI which has been competent to outside Madura and ensure management more halal tourism quality.

From the results analysis said, SO strategy is more development - oriented digital capacity and collaboration with stakeholders, while other strategies are more focused on stability data security, as well as SDI professionalism Combination the four strategies strengthen SDI position which indicates readiness and development become manager empowered tourism competitive and sustainable.

10. Implications IFAS and EFAS Results on SDI Readiness in Manage Halal Tourism

The results of the IFAS and EFAS analysis show that Source Power Humanity (SDI) in Madura has sufficient readiness strong and opportunities high development in manage halal tourism based technology Big data. Implications main results this is SDI Madura has enter phase readiness strategic (strategic readiness) or is at in " Ready " category growth position in manage halal tourism based big data. Source Power Human No only play a role as implementer activity tourist but also as driving force digitalization in the sector halal tourism. In additions that, the results of IFAS and EFAS also show importance transformation institutional government area need strengthen system training, expanding cooperation, and continue innovate to be able to adapt to change trend tourists and global competition.

In IFAS and EFAS analysis of the values obtained show balance between internal strengths and opportunities external, as well as SDI's ability to adapt to change direction digitalization tourism. In general In general, the readiness of Madura's SDI is reflected from three aspect main, namely:

a. Aspect Digital Adaptation

Source Power Madurese people, especially generation young own enthusiasm and ability base for utilise digital technology in promotion and management destination. Support to utilization big data like analysis comment tourists on Google Maps and Social Media show that they start understand the importance of data in increase effectiveness management halal tourism. In the Regency Sumenep related information tourism Already Can accessible via the official website namely datawisata.sumenepkab.go.id.

b. Aspect Support Government

Government area has provide training programs, budgets, and policies supporters digitalization halal tourism, collaboration with digital startup opens SDI opportunities for study and practice in a way directly. Based on the interview that has been researchers do together with the Tourism Office from second tourist said, the most prepared its management is Regency Sumenep, they often stage training or seminar about technology together Ministry of Communication and Information Sumenep, reservations tickets boat Already using Traveloka.

c. Aspect Limitations

Although digital opportunities already open, SDI readiness is still face constraint in the form of limitations adequate facilities especially area islands.

With see condition said, can concluded that SDI Madura has own readiness in a way conceptual and social. However Still need strengthening technical and systematic for reach readiness full in a way facilities digital technology. This means that SDI is at the stage transition from management conventional towards modern management based on big data, with opportunity big For develop if supported by policies, training advanced, and integration to halal tourism.

Conclusion

Source Power Humans in Madura are at the level high readiness with potential develop in manage halal tourism based technology big data. The results of the IFAS and EFAS analysis show balance between internal strengths and opportunities external confirm that SDI has adaptive potential to digital transformation of tourism. SDI's readiness is reflected from three aspect main, namely; ability digital adaptation by generation young, support government, as well as commitment social religious society to Sharia principles. Limitations on aspects digital literacy, infrastructure technology not enough adequate Still become challenge in realize management halal tourism based big data optimally. Research this show that big data not only functioning as tool technology, but also as a strategic instrument in increase SDI readiness and capacity and power competition halal tourism. By Karen that, is necessary existence training continuation, expansion of cooperation and equality infrastructure technology in several areas.

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