



Used of artificial intelligence for city branding: a design for smart tourism city

Ina Primasari

Vocational School, Universitas Sebelas Maret, Surakarta, Indonesia

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ABSTRACT

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The world of artificial intelligence is a necessity that continues to grow to this day. Its utilisation crosses disciplines and time dimensions that seem to be narrowing. The purpose of this study is to describe the possibility of using the world of artificial intelligence for city branding purposes, more specifically as a smart tourism city. The research method is a literature review with a qualitative perspective. The results of the study found that the construction of the use of artificial intelligence in the development of smart cities is very possible. City branding with artificial intelligence is integrated with the construction of smart cities. In the discourse of this study, tourism city branding is a necessity for accelerated development, especially the tourism sector.

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Corresponding Author:

Ina Primasari,
Vocational School,
Universitas Sebelas Maret
Jl. Ir. Sutami 36A Kentingan Surakarta, Kode Pos: 57126
Email: Inaprimasari@staff.uns.ac.id

1. INTRODUCTION

The Covid-19 pandemic has affected all sectors (Hanindharputri & Sagung Intan Pradnyanita, 2021). That also affected at marketing. A city's digital marketing strategy is created through the promotion of city branding, which includes the creation of marketing manuals or guides as well as digital systems for mobile applications and web portals. Information and communication technology (ICT) has been widely utilised in various factors, serving as an important tool in attracting visitors for various purposes marketed through mobile apps and online portals or websites. (Nurjaman, 2022). The reactions to the documentary range from consumers deciding to close their social media accounts to oppositional voices calling for freedom of speech and not censoring the media (Petrescu & Krishen, 2020).

The need for a regional brand, will make the region have a strong positioning, especially in the field of tourism globally. To shape the competitiveness of the city, there are several things that must be considered, namely all the potential owned, especially the potential of human resources, because this potential has a significant influence in globalisation. City branding is one of the efforts to shape the competitiveness of a city or region, and is currently the main focus and a fairly urgent need for all districts throughout Indonesia (Nuraini et al., 2021). AI marketing is on the horizon, but also its implications can be much. As artificial intelligence technology progresses and AI is widely employed in

advertising, marketers' capacity to successfully execute and run advanced analytics will be an extremely vital skill set in the future(Sığırıcı, 2021).

The development of city branding in a region runs well if it is supported by all potential components in the region. The local government must build a brand for the region, of course in accordance with the potential and positioning that is the target of the region(Redjeki et al., 2018). A region or area will have good smart branding if it can explore all the potential that exists in the region. This potential can have to be able to display an identity, symbol, and logo(Redjeki et al., 2018). We may not always have the opportunity to speak with our customers and audience directly. In fact, when we meet them, we can start to talk and chat with them. This action can foster a relationship that will help us to gain and even maintain the attention and loyalty of our customers.

AI also shows its significance in finance domain people by predictive marketing analytics based on past behavior easily. It assists in accurately forecast sales by analyzing customer expectations. Web action can be properly supervised and cell phone app usage can be understood to discover trends and patterns(Arya, 2021).

Smart city is a concept of developing, applying, and implementing technology applied in an area as a complex interaction between the various systems in it. In line with the development of smart cities, in a smaller context, namely villages.The concept of information technology-based villages has begun to be implemented or called smart villages. Although there is no single understanding of the smart village concept, in general, a village can be said to be a smart village if it innovatively uses information technology to achieve improvements in quality of life, efficiency and competitiveness in economic, social and environmental aspects. In practice, this understanding is interpreted differently. The implication is that each village declares itself a smart village without being supported by the same and adequate measure of smart village elements(Herdiana, 2019).

Things may not turn out as planned even though management had planned for it, but synergies of a different kind can emerge in the post-acquisition phase, we label such synergy as unintended. Unintended synergy is a consequence of the actions initiated by the acquisition, not planned for by the acquirer or the acquired. Unintended synergy can be either wished for or not, but the consequence of the change arises at a later stage(Holtström & Anderson, 2021). While human intelligence continues to be a highly debated topic, nonhuman or artificial intelligence has intrigued many great minds over the past centuries, including philosophers, mathematicians, writers and scientists (Hentzen et al., 2022).

In this era of increasingly competitive in all areas of life, marketing yourself through a name or brand is important, among others, because there has been a change in perception and understanding of the meaning and meaning of a name, the uniqueness or uniqueness of a name, which in turn will make it easier for others to remember the person who has the name as well as positioning it as something different from other people or competitors, as well as advances in science, science and technology which have an impact on increasingly intense competition in achieving the title of excellence (Setiawan, 2018).

The phenomenon is a condition where the emergence of many photographers makes the competition even tougher. One of the most important things that every photographer needs to do and pay attention to is to continue to innovate and create so that they can continue to exist in the midst of intense competition (Yunitasari & Japariato, 2013). Marketers have always been looking for alternative ways to reach the target population with their messages(Abrahamsson, Jens , Lindblom, 2012).

2. RESEARCH METHOD

This research uses a descriptive qualitative approach with observation data collection techniques,indepth,interviews, and documentation. The determination of informants was determined using purposive sampling technique. The indicators used in this research

refers to Kavaratzis' (2004) city branding framework, namely, research, deliberation, consultation, action, and communication. The data obtained was then analysed through three stages, namely, (1) data reduction to sort out data that is appropriate or not in accordance with the research objectives; (2) data verification through source triangulation techniques both between informants, between researchers, and document sources; and (3) conclusion drawing if the analysed data is believed to have a high level of trust and objectivity (Padang et al., 2021).

3. RESULTS AND DISCUSSIONS

3.1 The Artificial Intelligence

Artificial Intelligence (AI) is the study of computational procedures to perform actions that humans perform and requires a certain amount of intelligence. Humans are gradually being substituted by artificial intelligence and robots in virtually all departments in organisations (Azah, 2021). Co-communication and learning are ways in which humans demonstrate their intelligence. Both ways require mental skills such as synthesis, analysis, decision-making, judgement, organisation, reasoning, hypothesis, interpretation, and others. AI involves knowledge representation, search, perception, and inference. But while there are many uses for AI in the operation of a financial Institution (Odinet, 2021). To produce results, AI must define and read data in a form that will enable representation and processing. AI has brought about the harmful effect of making the model a black box (Kato, 2020).

The path to success is search and inference. Referring to search, there must be a search algorithm to find the optimal solution. Digital financial inclusion is increasingly becoming central in the debate on how to ensure that people who are at the lower levels of the pyramid become financially active (Mhlanga, 2020). Then conclusions are drawn for each situation. The path through AI leads to decision-making starting from the data selection process, continuing data pre-processing, then data transformation, data mining plays a key role to the whole process, finally evaluation will lead to decision-making. AI marketing helps organizations understand who their target audience will be and so that they can create a personalized experience for each of their customers as consumers expect companies to understand and meet their needs and expectations (Kumari, 2021).

3.2 The Smart City

The future global strategic objectives set out the need to accelerate the dissemination of energy and environmental policies as well as the implementation of wide-ranging actions, it sets out priority actions aimed at investing in environmentally friendly technologies, supporting innovation, introducing cleaner, cheaper, and more sustainable forms of private and public transport, ensuring greater energy efficiency and, finally, increasing collaboration between actors (BOUMALI & TAMINE, 2022). The smart city concept must also be supported by several components so that its implementation has a positive and maximum impact. The government, community and urban environment are the elements that form a smart village that has different roles and functions. The three elements become a unity that influences each other and forms the elements of a smart village, namely smart government, smart community and smart economy. Smart Government is a development of e-government that is carried out by utilising technology and information used by the government for better performance. Smart government can be measured by looking at: 1). Public participation in decision making; 2). Availability of public and social services and 3). Transparency of governance (Nuraini et al., 2021).

Natural Language Processing (NLP) is a part of Artificial Intelligence. Natural Language Processing (NLP) is the processing of language, such as spoken and written by humans in everyday conversations through computers. The computational process for language processing must be represented into a series of symbols that fulfil certain rules (Radhian & Afrianto, 2019).

AI will create new jobs that are more complex and more valuable. In some cases, AI can help humans to perform more complicated tasks and free up human time to do work that requires interpersonal skills, creativity, and empathy that AI cannot do (Nirwana, 2023).

3.3 The City Branding

City Branding. Kavaratzis explains that City Branding is a key component of city planning by Kavaratzis explains that City Branding is a key component of urban planning, namely by doing various ways of building differentiation and having a strong city identity so that the city is able to compete with other cities and can attract tourists, investors, reliable human resources, industry and can strengthen relations between citizens and cities (Raina Aifha Salshabilla & Itca Istia Wahyuni, 2022). City branding is an effort in shaping the brand of a city in order to facilitate the government in introducing its city to target targets such as investors, tourists, events from the city through icons, slogans, exhibitions, good positioning and various others. City branding is a slogan or promotional campaign, a picture of the a picture of the thoughts, feelings, associations and expectations that come to mind when someone sees or hears a name, logo, service product, event, or various symbols and designs that describe a city or region (Mihardja et al., 2020).

City Branding is the strategic effort of a city to create a strong positioning in regional and global create a strong regional and global positioning. Each city is a distinct system and each of its components penetrates and intersects with each other, which is reflected in the impression of the space (Mihardja et al., 2020). The purpose of city branding is carried out, namely:

1. Introducing the city/region deeper. The application of City branding, a city will introduce itself more deeply, because external parties must know the existence of a city, because external parties must know the existence of a city. Which then increases the visit to a city higher.
2. Improving the image. The image of a city that has been rated poorly by visitors and residents of the city itself, it is quite difficult for a city to improve its image.
3. Residents themselves, it is quite difficult for a city to have an attraction for interested parties, but one of the strategies to restore the positive image of the city is by city branding which is balanced with city branding.
4. Attracting foreign and domestic tourists the application of the right city brand can attract external stakeholders of the city including domestic and foreign tourists. This is because tourists see the brand as a differentiator from one another so that they will choose a place with uniqueness or characteristics that are not owned by other cities.
5. Attracting investors to invest Another goal of city branding is to get investment to improve the development of the city, both from the economic sector and foreign tourists. To increase the development of the city whether it is from the economic, social, or other sectors.
6. Increase trade Through the application of city branding, a city will be widely recognised by the public, both domestically and internationally. Society both domestically and abroad. Then a transaction will be made by external parties to the city and internal parties to the city which causes an increase in trade.

City Value is a measure of the degree of high-low or level that can be observed, scrutinised, or lived in various objects that are physical (concrete) or abstract (Singh et al., 2023). Moser calls it an internal identity defined by values that the company/city stakeholders believe are integral to its existence, and are the "source" from which all other aspects of the corporate/city brand ideally flow. Because it is the internal identity, then this value is sourced to the internal stakeholders of city branding (Erniza & Hamidah, 2014). Brand personality, or brand personality, is a set of human characteristics associated with a brand. A city's brand personality can be a point of differentiation that distinguishes one city from another (Kumari, 2021). Brand personality will be related to the way of conveying a message (message form), just like a human being who is talking, of course,

also has characteristics and characteristics, and from the way a person speaks, it can be known how his personality is. In determining the personality of the city, the role of the city leader is very influential, because although not completely, it can be said that the personality of a city is the personality of its leader (Mihardja et al., 2020).

4. CONCLUSION

Based on the discussion above, several conclusions were obtained some conclusions, among others: 1). Optimising tourism management through smart tourism can increase tourist visits tourist Regency.2). Increased tourist visits can support the improvement of the image of a Regency / City. 3). The smart tourism approach can be used as a city branding strategy strategy so that it will support the acceleration towards smart city. 4). City branding can be done by looking at the potential of the area that characterises an region. The construction of the use of artificial intelligence in the development of smart cities is very possible. City branding with artificial intelligence is integrated with the construction of smart cities. In the discourse of this study, tourism city branding is a necessity for accelerated development, especially the tourism sector.

The implication of this study is as an input that can be used by policy makers, in this discourse is the city government or bureaucracy in designing decisions related to the development of its territory.

Suggestions that can be given by the author for further research are the need for a more in-depth study in the form of a case study of a particular city, so that a clearer picture of the branding model of a city can be obtained.

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REFERENCES

- Abrahamsson, Jens , Lindblom, N. (2012). Product Placement A study about Swedes attitude towards product. *Handbuch Marketing-Kommunikation*, 673–695.
- Arya, S. (2021). A study on artificial intelligence in production management. *South Asian Journal of Marketing & Management Research*, 11(11), 102–107. <https://doi.org/10.5958/2249-877x.2021.00118.1>
- Azah, A.-S. A. (2021). Manpower, AI, robot, Re-imagining the Workforce. *Industry and Higher Education*, 3(1), 1689–1699. <http://journal.unilak.ac.id/index.php/JIEB/article/view/3845%0Ahttp://dspace.uc.ac.id/handle/123456789/1288>
- BOUMALI, B.-E., & TAMINE, R. (2022). Synergy between smart cities and industry 4.0 in public spaces: bibliometric analysis. *Procedia Computer Science*, 204, 775–783. <https://doi.org/10.1016/j.procs.2022.08.094>
- Erniza, S. D., & Hamidah. (2014). Pengaruh Pelatihan Neuro-Linguistic Programming (NLP) terhadap Penurunan Tingkat Stres Kompetitif pada Atlet Pelajar. *Jurnal Psikologi Industri Dan Organisasi*, 3(4), 96–101. <http://repository.unair.ac.id/eprint/105748>
- Hanindharputri, M. A., & Sagung Intan Pradnyanita, A. A. (2021). Konten Visual Instagram Sebagai Strategi Pemasaran UMKM Baru. *Institut Desain Dan Bisnis Bali*, 1–8. <https://www.instagram.com/omosnackbali>,
- Hentzen, J. K., Hoffmann, A., Dolan, R., & Pala, E. (2022). Artificial intelligence in customer-facing financial services: a systematic literature review and agenda for future research. *International Journal of Bank Marketing*, 40(6), 1299–1336. <https://doi.org/10.1108/IJBM-09-2021-0417>
- Herdiana, D. (2019). Pengembangan Konsep Smart Village Bagi Desa-Desa di Indonesia (Developing

- the Smart Village Concept for Indonesian Villages). *JURNAL IPTEKKOM: Jurnal Ilmu Pengetahuan & Teknologi Informasi*, 21(1), 1. <https://doi.org/10.33164/iptekkom.21.1.2019.1-16>
- Holtström, J., & Anderson, H. (2021). Exploring and extending the synergy concept – a study of three acquisitions. *Journal of Business and Industrial Marketing*, 36(13), 26–39. <https://doi.org/10.1108/JBIM-09-2020-0420>
- Kato, Y. (2020). AI/Fintech and Asset Management Businesses. *Public Policy Review*, 16(4), 1–28. https://ideas.repec.org/a/mof/journal/ppr16_04_04.html
- Kumari, P. (2021). *Role of Artificial Intelligence (AI) in Marketing Role of Artificial Intelligence (AI) in Marketing View project*. August. <https://www.researchgate.net/publication/354200837>
- Mhlanga, D. (2020). Industry 4.0 in finance: the impact of artificial intelligence (ai) on digital financial inclusion. *International Journal of Financial Studies*, 8(3), 1–14. <https://doi.org/10.3390/ijfs8030045>
- Mihardja, E. J., Mulyasari, P., Widiastuti, T., & Bintoro, B. K. (2020). Strategi City Branding,. In *Slims.Bakrie.Ac.Id* (Issue 1).
- Nirwana, A. (2023). *Implementation of Artificial Intelligence in Digital Marketing Development: a Thematic Review and Practical Exploration Implementation of Artificial Intelligence in Digital Marketing Development: a Thematic Review and Practical Exploration*. 2(1), 85–112.
- Nuraini, H., Larasati, E., Suwitri, S., & Nugraha, H. S. (2021). Pengembangan Smart Village Sebagai Upaya Menjalankan Badan Usaha Milik Desa (BUMDes) Pada Masa Pandemi Covid-19. *Briliant: Jurnal Riset Dan Konseptual*, 6(4), 862. <https://doi.org/10.28926/briliant.v6i4.777>
- Nurjaman, K. (2022). Digital Marketing Strategy in Promoting the City's Brand. *INFLUENCE: International Journal of Science Review*, 4(2), 112–117. <https://doi.org/10.54783/influencejournal.v4i2.39>
- Nurjaman, K. (2022). Digital Marketing Strategy in Promoting the City's Brand. *INFLUENCE: International Journal of Science Review*, 4(2), 112–117. <https://doi.org/10.54783/influencejournal.v4i2.39>
- Odinet, C. K. (2021). Fintech Credit and the Financial Risk of AI. *Iowa Legal Studies Research Paper*, 1093(2019), 2021–2060.
- Padang, F., Husna, A., & Fahrimal, Y. (2021). *PENERAPAN STRATEGI CITY BRANDING DALAM MEWUJUDKAN SUBULUSSLAM SEBAGAI KOTA SANTRI DI PROVINSI ACEH*. 5(3).
- Petrescu, M., & Krishen, A. S. (2020). The dilemma of social media algorithms and analytics. *Journal of Marketing Analytics*, 8(4), 187–188. <https://doi.org/10.1057/s41270-020-00094-4>
- Radhian, D., & Afrianto, I. (2019). *PEMBANGUNAN APLIKASI CHATBOT SEBAGAI MEDIA Program Studi Teknik Informatika-Universitas Komputer Indonesia*.
- Raina Aifha Salshabilla, & Itca Istia Wahyuni. (2022). Strategi City Branding Dalam Mewujudkan Smart City Di Kabupaten Sumedang. *Medium*, 10(1), 1–18. [https://doi.org/10.25299/medium.2022.vol10\(1\).8803](https://doi.org/10.25299/medium.2022.vol10(1).8803)
- Redjeki, S., Faizal, E., Iskandar, E., Rosadi, D., & Mustofa, K. (2018). Framework Pengembangan City Branding Kabupaten Bantul Menggunakan Pendekatan Smart Tourism. *Jurnal TAM (Technology Acceptance Model)*, 9(2), 79–85. <http://www.ojs.stmikpringsewu.ac.id/index.php/JurnalTam/article/view/656>
- Setiawan, D. (2018). Strategi Membangun Personal Branding Dalam Meningkatkan Performance Diri. *Jurnal BAPPEDA*, 4(1), 19–25.
- Singh, P., Verma, A., Vij, S., & Thakur, J. (2023). Implications & Impact of Artificial Intelligence in Digital Media: With Special Focus on Social Media Marketing. *E3S Web of Conferences*, 399. <https://doi.org/10.1051/e3sconf/202339907006>
- Sığircı, Ö. (2021). *Artificial Intelligence in Marketing*. September, 342–365. <https://doi.org/10.4018/978-1-7998-6985-6.ch016>
- Yunitasari, C., & Japarianto, E. (2013). Analisa Faktor-Faktor Pembentuk Personal Branding dari C.Y.N. *Jurnal Manajemen Pemasaran Petra*, 1(1), 1–8.