

## Desimination of innovation in the digitalization of Padukuhan Gading tourism village

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### ABSTRACT

Padukuhan Gadingan has quite a lot of tourism potential but there are still many people who don't know about this tour. With these problems, the UMY KKN team carried out community service by implementing a digital tourism village to promote the village. In our community service project, we socialize Kumparan and create social media accounts for Karang Taruna, the names of the social media accounts are Instagram and Kumparan, with social media accounts it can help to disseminate art and tourism activities in Padukuhan Gadingan so that it can developing and enlivening tourism and activities at Padukuhan Gadingan with digitalization innovations is an effective renewal strategy in promoting various information or potential that exists in each region.

### KEYWORDS

Social media;  
Gading Padukuhan;  
Tourism and Art



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## 1. Introduction

Digital innovation is the application of new digital technology to be able to solve problems faced by humans. This process must be carried out continuously so that the problem gets a solution. Not only done by individuals but also carried out by various large organizations for the purpose of developing their business. Digital innovation has been researched by previous researchers and used in this community service. Disruptive digital innovation in healthcare: Knowing the past and anticipating the future was researched by Bamel [1]. Development of Digital Innovation Engineering Methods Using Design Science Research was researched by Huseynli [2]. Using open data for digital innovation: Barriers to use and recommendations for publishers researched by Natvig [3]. Shared value creation for digital innovation: An interorganizational boundary span perspective researched by Shi [4]. Guest editorial: Innovation and digital transformation in asset management and built facilities researched by Chen [5]. Digital innovation: Overview and new perspectives researched by Hund [6].

Analysis of decision-making for co-creation of value in digital innovation systems: An evolutionary game model of complex networks researched by Xu [7]. Development of Quality Digital Innovation by Utilizing Company Resources Optimally to Increase Competitive Advantage and Business Performance was researched by Hidayat [8]. How Artificial Intelligence drives digital innovation: A cross-case analysis of Scandinavian companies researched by Trocin [9]. The Orchestration Framework for Digital Innovation: Lessons from the Health Care Industry was researched by Satwekar [10]. Industrial Poverty Alleviation, Digital Innovation and Sustainable Regional Economic Growth: Empirical Evidence Based on State Owned Enterprises in China researched by Lin [11]. Change Management and Digital Innovation in Hospitals in Five European Countries was researched by Hospodková [12]. Distributed innovation, digital entrepreneurial opportunities, IT-enabled capabilities and enterprise digital innovation

performance: a moderated mediation model investigated by Tang [13]. Increasing outpatient care for heart failure through digital innovation: a feasibility study investigated by Arnar [14]. Platform ecosystem and digital innovation in food retail: Exploring the rise of Hema in China researched by Wang [15].

Digital units and digital innovation: Balancing fluidity and stability for Embedded knowledge Creation, Conversion, and Dissemination was researched by Deist [16]. Non-technical inhibitors: Exploring the adoption of digital innovations in the UK construction industry was researched by Shojaei [17]. Innovation Analysis and Digital Innovation Experiments: The Rise of Research-Based Online Review Platforms was researched by Mariani [18].

Shaping Digital Innovation Through Digitally Related Capabilities was researched by Nasiri [19]. Digital innovation for retinal treatment in diabetic retinopathy was investigated by Vujosevic [20]. Digital innovation as a driving force for regional management development and consumer interaction in the post-pandemic period was researched by Yampolskaya [21]. The role of INTERCheckWEB's digital innovation in supporting polytherapy management was investigated by Foglia [22]. Internationalization of Digital Innovation: A Rapidly Growing Stream of Research was researched by Shaheer [23]. Digital innovation of public catering companies: needs and opportunities researched by Gusev [24]. Research on Mechanisms of Impact of Corporate Industrial Internet Standardization on Digital Innovation was researched by Wang [25]. Leveraging 5G networks for digital innovation in small and medium enterprises: a conceptual review researched by Olokundun [26]. Digital Innovation in Incumbent Companies: Exploration Analysis of Value Creation researched by Bosler [27]. Research on Dynamic Optimization and Co-Creation Value Coordination Strategies in Digital Innovation Ecosystems was researched by Ji [28]. Interoperability in the era of digital innovation: An information systems research agenda researched by Hodapp [29]. Digital health applications: the legal introduction of patient-centred digital innovation in healthcare was investigated by Ludewig [30].

Then digitalization innovations can be a means to develop artistic activities and disseminate tourism in Padukuhan Gadingan. After seeing the potential that exists, in this activity we use social media, namely Instagram and Kumparan, with social accounts it makes it easier for Karang Taruna to introduce art activities such as Jatilan, Night Markets, Tambak Kali and many other activities in Padukuhan Gadingan. Apart from that, this innovation can also be used as a method to introduce tourism in Padukuhan Gadingan such as Batu Besar, Mount Merapi and others. In its activities, we use several methods such as surveying locations in Padukuhan Gadingan. Then we had discussions with representatives from Karang Taruna to explain the form of the program, as well as explain our aims and objectives. After that, it was continued with counseling events regarding innovation and digitalization. Taking advantage of developments in the current era of digitalization is very important for the environment, especially Padukuhan Gadingan, especially the younger generation and using digitalization is an effective strategy in promoting various destinations and the tourism potential of Padukuhan Gadingan. with that can invite tourists to visit Padukuhan Gadingan.

## 2. Method

The implementation of community service activities in the form of disseminating our digitalization innovations uses several methods such as surveying locations in Padukuhan Gadingan. Then we had discussions with representatives from Karang Taruna to explain the form of the program, as well as explain our aims and objectives. After that, it was continued with counseling events regarding innovation and digitalization. Digitization innovation counseling activities, namely outreach to Karang Taruna about how to take advantage of digitalization innovations and this socialization activity was carried out at one of the Karang Taruna houses in Gadingan Padukuhan, Argomulyo Village, Kapanewon Cangkringan, Sleman Regency. This activity consists of several stages, namely conducting socialization to Karang Taruna, namely we explain what the coil is, the benefits of the coil and how to use the coil and tell how to create a coil account. Next, it tells how to arrange the Instagram feed so that it looks neat and attracts tourists to visit the Gadingan Padukuhan tour and the final stage is that we conduct forum discussions with Karang Taruna.

## 3. Results and Discussion

This digitalization innovation socialization activity was carried out in one of the Padukuhan Gadingan Karang Taruna houses on Saturday 11 February 2023 as shown in Figure 1. This activity was successfully

carried out in the form of digitalization innovation socialization. We convey how to use digital as creatively as possible and as well as possible so that tourists are interested in visiting and seeing tourism in Padukuhan Gadingan.



**Fig. 1.** The following is the presentation of digitization material.

We received a positive response regarding the suggestions we gave as shown in Figure 2. The figure shows that the Padukuhan Gadingan Youth Organization said that they still have problems with human resources. Currently, many teenagers are members of Karang Taruna, but they have their own activities. This problem then becomes the reason why it might be a little difficult to operate social media. Therefore, the KKN 114 group then provides options to help and guide them in the future.



**Fig. 2.** Response from the Padukuhan Gadingan regarding digitization.

#### 4. Conclusion

Digital innovation is the application of new digital technology to be able to solve problems faced by humans. This process must be carried out continuously so that the problem gets a solution. Not only done by individuals but also carried out by various large organizations for the purpose of developing their business. Seeing the opportunities that Padukuhan Gadingan has, digitization innovations can be used as digital technology to help Karang Taruna disseminate various kinds of activities in Padukuhan Gadingan. In addition, this is also used to promote interesting tours in Padukuhan Gadingan so that it can invite many tourists to visit Padukuhan Gadingan. In its activities, we use several methods such as surveying locations in Padukuhan Gadingan. Then we had discussions with representatives from Karang Taruna to explain the form of the program, as well as explain our aims and objectives. After that, it was continued

with counseling events regarding innovation and digitalization. We received a positive response regarding the suggestions we provide. However, the Padukuhan Gadingan Youth Organization said that they still had problems with human resources. Currently, many teenagers are members of Karang Taruna, but they have their own activities. This problem then becomes the reason why it might be a little difficult to operate social media. Therefore, the KKN 114 group then provides options to help and guide them in the future.

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### **Author Contribution**

The activity plan in order to implement the solutions offered that there are five series of activities, namely coordination, logo design, socialization of covid, marketing, and marketing education.

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### **Conflict of Interest**

The authors declare no conflict of interest.

### **References**

- [1] U. Bamel, S. Talwar, V. Pereira, L. Corazza, and A. Dhir, "Disruptive digital innovations in healthcare: Knowing the past and anticipating the future," *Technovation*, vol. 125, p. 102785, Jul. 2023.
- [2] M. Huseynli, U. Bub, and M. C. Ogbuachi, "Development of a Method for the Engineering of Digital Innovation Using Design Science Research," *Information*, vol. 13, no. 12, p. 573, Dec. 2022.
- [3] M. K. Natvig, S. Jiang, and E. Stav, "Using open data for digital innovation: Barriers for use and recommendations for publishers," *JeDEM - eJournal eDemocracy Open Gov.*, vol. 13, no. 2, pp. 28–57, Dec. 2021.
- [4] Y. Shi, T. Cui, and S. Kurnia, "Value co-creation for digital innovation: An interorganizational boundary-spanning perspective," *Inf. Manag.*, vol. 60, no. 5, p. 103817, Jul. 2023.
- [5] L. Chen, J. Yang, and Q. Lu, "Guest editorial: Digital innovation and transformation in built asset and facility management," *J. Facil. Manag.*, vol. 20, no. 3, p. 325, May 2022.
- [6] A. Hund, H.-T. Wagner, D. Beimbom, and T. Weitzel, "Digital innovation: Review and novel perspective," *J. Strateg. Inf. Syst.*, vol. 30, no. 4, p. 101695, Dec. 2021.
- [7] Y. Xu, H. Sun, and X. Lyu, "Analysis of decision-making for value co-creation in digital innovation systems: An evolutionary game model of complex networks," *Manag. Decis. Econ.*, vol. 44, no. 5, pp. 2869–2884, Jul. 2023.
- [8] S. Hidayat, M. Setiawan, F. Rohman, and A. S. Hussein, "Development of Quality Digital Innovation by Optimally Utilizing Company Resources to Increase Competitive Advantage and Business Performance," *Adm. Sci.*, vol. 12, no. 4, p. 157, Nov. 2022.
- [9] C. Trocin, I. V. Hovland, P. Mikalef, and C. Dremel, "How Artificial Intelligence affords digital innovation: A cross-case analysis of Scandinavian companies," *Technol. Forecast. Soc. Change*, vol. 173, p. 121081, Dec. 2021.
- [10] A. Satwekar, T. Volpentesta, P. Spagnoletti, and M. Rossi, "An Orchestration Framework for Digital Innovation: Lessons From the Healthcare Industry," *IEEE Trans. Eng. Manag.*, vol. 70, no. 7, pp. 2465–2479, Jul. 2023.
- [11] C. Lin, H. Zhai, and Y. Zhao, "Industrial Poverty Alleviation, Digital Innovation and Regional Economically Sustainable Growth: Empirical Evidence Based on Local State-Owned Enterprises in China," *Sustainability*, vol. 14, no. 23, p. 15571, Nov. 2022.
- [12] P. Hospodková, J. Berežná, M. Barták, V. Rogalewicz, L. Severová, and R. Svoboda, "Change Management and Digital Innovations in Hospitals of Five European Countries," *Healthcare*, vol. 9, no. 11, p. 1508, Nov. 2021.

- [13] H. Tang, Q. Yao, F. Boadu, and Y. Xie, "Distributed innovation, digital entrepreneurial opportunity, IT-enabled capabilities, and enterprises' digital innovation performance: a moderated mediating model," *Eur. J. Innov. Manag.*, vol. 26, no. 4, pp. 1106–1128, Jun. 2023.
- [14] D. O. Arnar et al., "Improving outpatient care for heart failure through digital innovation: a feasibility study," *Pilot Feasibility Stud.*, vol. 8, no. 1, p. 242, Nov. 2022.
- [15] Y. Wang and N. M. Coe, "Platform ecosystems and digital innovation in food retailing: Exploring the rise of Hema in China," *Geoforum*, vol. 126, pp. 310–321, Nov. 2021.
- [16] M. K. Deist, W. C. McDowell, and R. B. Bouncken, "Digital units and digital innovation: Balancing fluidity and stability for the Creation, Conversion, and Dissemination of sticky knowledge," *J. Bus. Res.*, vol. 161, p. 113827, Jun. 2023.
- [17] R. S. Shojaei and G. Burgess, "Non-technical inhibitors: Exploring the adoption of digital innovation in the UK construction industry," *Technol. Forecast. Soc. Change*, vol. 185, p. 122036, Dec. 2022.
- [18] M. M. Mariani and S. Nambisan, "Innovation Analytics and Digital Innovation Experimentation: The Rise of Research-driven Online Review Platforms," *Technol. Forecast. Soc. Change*, vol. 172, p. 121009, Nov. 2021.
- [19] M. Nasiri, M. Saunila, J. Ukko, T. Rantala, and H. Rantanen, "Shaping Digital Innovation Via Digital-related Capabilities," *Inf. Syst. Front.*, vol. 25, no. 3, pp. 1063–1080, Jun. 2023.
- [20] S. Vujosevic, C. Limoli, L. Luzi, and P. Nucci, "Digital innovations for retinal care in diabetic retinopathy," *Acta Diabetol.*, vol. 59, no. 12, pp. 1521–1530, Aug. 2022.
- [21] D. Yampolskaya and S. U. Chernikov, "Digital innovations as a development driver for regional management and consumer interaction in the post-pandemic period," *E3S Web Conf.*, vol. 311, p. 06007, Oct. 2021.
- [22] E. Foglia et al., "The role of INTERCheckWEB digital innovation in supporting polytherapy management," *Sci. Rep.*, vol. 13, no. 1, p. 5544, Apr. 2023.
- [23] N. Shaheer, K. Kim, and S. Li, "Internationalization of Digital Innovations: A Rapidly Evolving Research Stream," *J. Int. Manag.*, vol. 28, no. 4, p. 100970, Dec. 2022.
- [24] Y. Gusev, T. Polovova, and A. Pinsky, "Digital innovations of public catering enterprises: the need and opportunities," in *3rd International Scientific Conference on Innovations in Digital Economy, 2021*, pp. 356–362.
- [25] L. Wang, C. Zhao, W. Wei, and S. Li, "Research on the Influence Mechanism of Enterprise Industrial Internet Standardization on Digital Innovation," *Sustainability*, vol. 15, no. 9, p. 7347, Apr. 2023.
- [26] M. Olokundun, M. E. Ogbari, H. Falola, and A. S. Ibidunni, "Leveraging 5G network for digital innovation in small and medium enterprises: a conceptual review," *J. Innov. Entrep.*, vol. 11, no. 1, p. 41, Dec. 2022.
- [27] M. Bosler, W. Burr, and L. Ihring, "Digital Innovation in Incumbent Firms: An Exploratory Analysis of Value Creation," *Int. J. Innov. Technol. Manag.*, vol. 18, no. 02, Apr. 2021.
- [28] H. Ji, H. Zou, and B. Liu, "Research on Dynamic Optimization and Coordination Strategy of Value Co-Creation in Digital Innovation Ecosystems," *Sustainability*, vol. 15, no. 9, p. 7616, May 2023.
- [29] D. Hodapp and A. Hanelt, "Interoperability in the era of digital innovation: An information systems research agenda," *J. Inf. Technol.*, vol. 37, no. 4, pp. 407–427, Dec. 2022.
- [30] G. Ludewig, C. Klose, L. Hunze, and S. Matenaar, "Digitale Gesundheitsanwendungen: gesetzliche Einführung patientenzentrierter digitaler Innovationen in die Gesundheitsversorgung," *Bundesgesundheitsblatt - Gesundheitsforsch. - Gesundheitsschutz*, vol. 64, no. 10, pp. 1198–1206, Oct. 2021.