The Roles of Data Management and Pentahelix in Accelerating Development of Village Communities

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A B S T R A K

Dalam berbagai kasus di desa, data tidak dikumpulkan dengan baik, tidak mutakhir, dan tidak akurat. Proyek studi ini bertujuan untuk menganalisis peran pengelolaan desa dan validitas data desa dalam percepatan pembangunan masyarakat pedesaan. Metode deskriptif kualitatif dengan lima puluh responden dari 17 desa yang berhasil dijadikan sampel di Bali dan 9 informan kunci yang diwawancarai memberikan informasi terkait pengelolaan sistem informasi dan data di Desa Cepaka Kediri Tabanan. Temuan dari proyek ini adalah 1) Pemutakhiran data masyarakat desa menjadi prioritas utama setiap desa agar program yang dicanangkan pemerintah menjangkau sasaran masyarakat yang membutuhkan. 2) Edukasi masyarakat secara terus menerus mengenai validitas data sangat penting dalam penyaluran bantuan pemerintah yang tepat sasaran. 3) Kompetensi sumber daya manusia dalam menangani sistem informasi desa perlu ditingkatkan. 4) Ketersediaan sarana dan prasarana pendukung sistem informasi desa bersifat mutlak. 5) Kolaborasi beberapa pemangku kepentingan dalam konsep PENTAHELIX membantu mempercepat pemutakhiran data desa. Kesimpulan dari proyek ini adalah pengelolaan data dan kontribusi PENTAHELIX berperan penting dalam percepatan pembangunan desa.

A B S T R A C T

In various cases in villages, data is not collected properly, is not up-to-date and is not accurate. This study project's aims to analyze the role of village management and validity of village data in accelerating development in rural communities. A qualitative descriptive method with fifty respondents from 17 villages that were successfully sampled in Bali and 9 key informants interviewed provided information related to the management of information and data systems in Cepaka Village Kediri Tabanan. The findings of this project are 1) Updating village community data is the top priority for each village so that the program launched by the government reaches the target community in need. 2) Continous public sducation about the validity of data is very important in disbursing government assistance that is right on target. 3) Competence of human resources in handling village information systems needs to be improved. 4) The availability of facilities and infrasctucture to support the village information system is absolute. 5) The collaboration of several stakeholder in the PENTAHELIX concept helps accelerate updating of village data. The conclusion of this project is that data management and PENTAHELIX contributions play an important role in accerelating developments of the village.

1. INTRODUCTION

The village is the smallest unit of the community in Indonesia and even in other countries in the world. The existence of the community in the village related to various aspects of their life is an important indicator for the relevant village manager (Edison et al., 2019; Khotimah, 2018; Wirawan et al., 2020). Several villages form a sub-district, several sub-district heads form a district and then several districts will form a province. Indicators for assessing the success of life in the village include several things including: level of income (welfare), level of education, level of health, security and environmental sustainability (Dauri & Ricco Andreas, 2019; Sukmana et al., 2018). This indicator becomes the village's short and

medium term goals, which are listed in the Village RPJM or Medium Term Development Plan. The data related to this indicator is a reference for concluding a portrait of the related village. In the context of assessing the level of achievement of village development, data accuracy is a priority (Kusumajanti et al., 2021; Logor et al., 2022; Suwarni et al., 2020). The central government provides assistance related to the achievement of indicators referring to data owned by related villages. In the development of Indonesia, the accurate numbers or statistics are needed. It is necessary to fight for the presence of government regulations regarding the administration of government based on precision village and sub-district data (Alawiyah et al., 2019; Karta et al., 2021). Existing data is not accurate and can be misused in manipulating the state, with statistical engineering. A good and accurate data base will make it easier for the government to distribute various aid funds susch as funds for the communities (*BLT Desa*), funds for the students (*KIP* for college), funds for Small Business Entreprise *(KUK),* funds for the poor *(RASKIN),* assistance for improving child nutrition and pregnant women. In an effort to improve the education of the village community, the program to build learning houses in Cepaka Village helps students' intellegence, providing learning facilities assistance is carried out through community leaders.

In various cases in villages, data is not collected properly, is not up-to-date and is not accurate. There are various difficulties in collecting data in the community, due to certain considerations; including: 1) the mindset of the people who do not understand that data must change according to current conditions; 2) those who receive assistance feel that they have benefited and do not want to move up a grade to be categorized as unfit to receive assistance; 3) providing incorrect information when collecting data, causing erroneous conclusions; 4) officials and beneficiaries are not transparent (Prabawati et al., 2022; Uska et al., 2021). Relevant data in the development of a village can be divided into two communication practices which are held by the state and government which are called top-down, and communication that starts from intellectuals in the village collectively called bottom-up (Hikmawati et al., 2021; Khotimah, 2018) (Pitaloka, et al., 2022). The information system in the village requires regular development in line with the development of technology and information. Now there are various applications that are able to collect data on data in the village, in order to maintain population data that was born, moved, arrived and other statistics (Jeppesen et al., 2018; Pitaloka et al., 2022).

PENTAHELIX concept has known as five elements of strength in developing the potential of villages and rural areas. So the PENTAHELIX or multistakeholder concept in which elements of government, academics, business, media and community to coordinate and commit to developing the local potencial of village and rural areas that contonue to prioritize local wisdom and local resources (Maturbongs, 2020; Prasiasa, 2022; Simatupang & Sukmadi, 2020). The involvement of various stakeholders in efforts to improve data accuracy is also very much needed. The PENTAHELIK concept in tourism villages and/or other tourism activities is also recommended in an effort to form accurate SID and village data (Elizamiharti & Putra, 2022; Maturbongs, 2020).

In line with previous study that conducted study on the involvement of PENTAHELIK elements namely Academic, Business, Government, Media and Community (ABGMC) elements in the management of tourism potential in Pekanbaru City can develop rapidly when all stakeholders collaborate well in carrying out their functions (Vani et al., 2020). The results of this study are very appropriate to be applied in the effort to collect data in the village. Involving academic elements, namely lecturers and students in creating data validity in the village, of course, will give maximum results. Other study explained that the involvement of the five PENTAHELIK elements in tourism development requires strong collaboration in order to provide good benefits in tourism (Soemaryani, 2016). Elements of society (Community) as a component of PENTAHELIX are also urgently needed. Community involvement in various tourism and village development activities ensures the sustainability of the village concerned (Amiruddin et al., 2020; Sutapa et al., 2022). The impacts of this inaccurate data include: the performance of village managers in improving village performance is not clearly measurable, targets that should be targeted by beneficiaries are not achieved, work programs for the coming year are not on target in terms of quantity and quality. In an interview with the Head of Cepaka Village explained that the messy data have confused officials in making decisions, both in providing assistance and in compiling village programs. Collecting data sometimes requires a large number of personnel; the role and contribution of students as an extension of village officials who can quickly and simultaneously collect data is absolutely necessary. Therefore this study aims to analyze the role of village management and validity of village data in accelerating development in rural communities.

2. METHOD

This project is implemented in a village which has been collaborate with Triatma Mulya University. Information is collected about the usefulness of data in the village and its role in making

important decisions that have an impact on accelerating development in the related village community. Respondents in this projrct consisted of 50 villagers from 17 villages in Bali. As resource persons (key informants) in the context of qualitative analysis on the validity of village data in accelerating development in villages; 9 village leaders have been interviewed. The interview guide concerning data accuracy as a basic reference in accelerating the development of Cepaka village is used as the main instrument in gathering information. The results of the exploration from the key informants were analyzed to reformulate in depth and scientifically the role of data validity in the village. This project also measured PENTAHELIX's involvement in accelerating program implementation.

3. RESULTS AND DISCUSSION

Results
Village Data Collection Survey Results

Cepaka Village is a small village consisting of four official banjars, with a population of up to 700 households or around 3.500 people. Based on village statistics it is noted that the number of BLT recipients in the last four years has not decreased, in fact there has been an increase. An interview, the Head of Cepaka Village explained that the data on BLT recipients was never updated, the people who received BLT were recorded with the same names, even new names were added that were considered reasonable as BLT recipients. As a newly appointed village head, with a educational background of Masters in Public Policy, Head village began to explore the possible causes of this mistake. The instinct of a community leader is called upon to unravel one by one the problems that exist in the village. As a new leader, seeing this downward trend is actually a poor performance over the performance of the previous leader. When it is related to government programs, the way the leader of the smallest unit works like this tends to slow down village progress. Listed on the website of Cepaka Village, Kediri, Tabanan Regency, Cepaka is the only one of the research object villages that has problems in presenting its village data. Website of Cepaka Village is show in Figure 1.

Figure 1. Website of Cepaka Village

In this search it appears that the field for how to present the data is quite interesting, but when the title of the data you want to download is selected, none of the data appears and is presented. This inequality persists and even has an impact on making important decisions related to data. In the context of this research, initial data collection was carried out in order to determine the level of understanding of the village community about village data and information systems. The initial survey of 50 respondents came from various villages with various professions that are always related to village data needs. Based on the results of the survey, there were 17 villages with the following proportions of understanding village data as show in Table 1.

Table 1. Results Of Data Understanding Survey

NO	DESCRIPTION	PERCENTAGE
1	Accuracy level of village data collection.	58.8% (states data collection in the community is quite accurate)
2	Frequency of data collection by the government	76.5% (stating that there is often data collection)
3	The level of validity of the data on recipients of	58.8% (appropriate, 41.2% said it was not

NO	DESCRIPTION	PERCENTAGE
	BLT assistance was	appropriate)
4	Competence of village officials is quite competent about data.	76.9% (stated having competence)
5	Success in accessing the website to obtain village data	70.6% (stated inaccessible)
6	Ownership of hardware and software in the village	70.6% (inadequate)
7	The need for updating data at any time / up to	100% (stating the need to update village data)

Based on the description of the survey results in **Table 1** of the data above, it appears that the people in the village are still not well served in fulfilling their data needs. This also has a negative impact on the possibility of obstacles in achieving village goals, namely achieving a prosperous society starting from the lowest level.

Discussion

Government policy is to start building from the village; evidenced by the formation of the Ministry of Villages, Development of Disadvantaged Regions and Transmigration. This policy should slowly be able to oversee efforts to improve the community's economic level from the smallest community, namely the village.

BLT Aid Recipients, KIP Lectures, RASKIN and KUK

Based on the results of an interview with a member of the community in Cepaka Village physically, the Astika family currently has adult children, has a decent job, and owns a motorbike, but they are still hoping for *RASKIN* assistance because there is no updating of the data. This condition occurs in almost all members of the community who have been accustomed to receiving *RASKIN* for decades because there was no evaluation of the *RASKIN* criteria and no data updating by officials in the local village (Karima et al., 2022; Larasati et al., 2022). When the new official questions it, evaluates and stops the *BLT*, and transfers it to those who really deserve it; then they tend to reject and hope to get *BLT* forever. In this context, the lack of information about guidelines for giving and procedures for distributing BLT assistance meant that the community was not properly educated. Misperceptions about rights as beneficiaries of assistance make people confused. The inaccuracy of *BLT* beneficiary data also creates miss perceptions that give a negative impression to the community.

The data at the Cepaka Village office cannot be accessed, efforts to re-register with administrative procedures have only just begun, so it can take up to four months to get results. Persistence produced positive results, but there were many other people who were unable to obtain *KIP* college, even though in reality they should have had the right. As a Kindergarten School manager, the government also provides assistance incentives to *SME* managers in the village (Albar & Hoque, 2019; Iqbal et al., 2023). However, the criteria provided by the government were not clearly defined, in the end people flocked to apply for assistance and speculated about obtaining this assistance. In this case, there are three government assistance programs that tend to be misdirected because there is no accurate data and the community does not understand the technical guidelines for receiving assistance. To anticipate so that similar things don't happen; government at the smallest level, namely village officials, must update, update village data and educate community members about guidelines and eligibility requirements for receiving various government assistance.

Competency of Human Resources with Performance Achievements of Data Management Staff in the Village

In one governance and service system; The element that plays an important role is human resources. In the context of the competence of human resources who are competent to process in the village, there are not all staff in the village are competent in managing data in the village (Darmana, 2018; Mardiana Firdaus et al., 2022). Based on survey data of 17 villages in Bali, as many as 24.4% of villages do not yet have reliable human resources in managing village population data. While in the village; the government is able to pay according to governments (*ASN*) standards; so it is very unlikely that *HR* will be concerned with data management in the village (Ekaputri, 2020; Hasibuan, 2019). Village staff's lack of understanding about the important role of updating data in the village is also a determining factor for the validity of data in the village. As a solution, villages must have an integrated database, an integrated village information system based on needs and prepare village monographs digitally. All staff involved in data

management in the village need to gradually upgrade their abilities to manage data and understand the village information system.

Availability of Infrastructure to Support Data Updating Efforts in the Village

In addition to human resources, efforts to update village data require several other elements, namely hardware and software that have standard capabilities. The need for this device requires a sizable investment for every village in all corners of Indonesia. The government through the Ministry of Disadvantaged Villages and Transmigration has operationally disbursed village funds to each village which gives authority to the village head to conduct village spending to support *SID*. In the context of spending on village funds, each village has the right to spend the village budget according to the village's Medium and Long Term Development Plans/*RPJMP* (Hikmawati et al., 2021; Prabawati et al., 2022). The capacity of a village head in this regard must be complex, understand advances in information and technology and continuously educate residents about developments in the village governance system related to various assistance programs carried out by the government in the welfare of society. Software that exists in villages such as websites, *SID* applications must be budgeted continuously from the village budget so that they become sustainable.

Involvement of PENTAHELIK Elements in the Village

In the context of community data collection which is quite complex, both village and community staff are the same subject and object. Therefore, intensive cooperation is needed in order to produce data that is accurate and according to needs. In an effort to accelerate data updating, collaboration with PENTAHELIK elements was needed, namely Academic, Business, Government, Media and Community (ABGMC) elements (Simatupang & Sukmadi, 2020; Vani et al., 2020). In this context, the head the village collaborated with university, lecturers and students. The village become a partner of the university, doing collaboration. The village has been greatly assisted in updating village data by mobilizing students to collect data and to be able to adapt the needs of the information field in the *SID*. In the community service program as an part of activities for students in 2022, explaining the involvement of lecturers and students in one month recording the population of the village is very helpful for village in updating village data. Both students and the village community were very enthusiastic and satisfied with this result. So at the end of 2022 the village data will be updated and valid. So this PENTAHELIK element (Academician, Business, Government, Media nad Community) are involved and simultaneous contributes to updating village data (Elizamiharti & Putra, 2022; Soemaryani, 2016). The accurate data management guarantee that all the programmes are running smooth according to the government's plan.

4. CONCLUSIONS

Based on the analysis that has been done, it can be concluded updating village community data is a top priority for every village so that the program launched by the government reaches the target community in need. Moreover, continuous public education about the importance of management and updating data as a valid reference in the distribution of various government assistance. Then, HR competencies regarding SID and the role of data in the village must always be improved following standard requirements in village governance. The collaboration of several stakeholders as elements of PENTAHELIK helps accelerate the process of updating village data.

5. REFERENCES

Alawiyah, T., Hikmah, A. B., & Simpony, B. K. (2019). Sistem Informasi Data Administrasi Penduduk E-SIDAPI. *IJCIT (Indonesian Journal on Computer and Information Technology)*, *4*(2), 189–195. https://repository.bsi.ac.id/repo/files/312920/download/5884-19324-1-PB.pdf.

Albar, A. M., & Hoque, M. R. (2019). Factors affecting the adoption of information and communication technology in small and medium enterprises: a perspective from rural Saudi Arabia. *Information Technology for Development*, *25*(4), 715–738. https://doi.org/10.1080/02681102.2017.1390437.

Amiruddin, I., Hasniati, H., & Yunus, M. (2020). Evaluasi Konteks Dalam Program Pemberdayaan Masyarakat Pt. Ceria Nugraha Indotama Di Kecamatan Wolo Kabupaten Kolaka. *Kolaborasi : Jurnal Administrasi Publik*, *6*(3), 351–364. https://doi.org/10.26618/kjap.v6i3.4299.

Darmana, K. (2018). Community-Based Cultural Tourism and Local Tourism in the Globalizartion Center: Case Study in Kemiren Village, Banyuwangi, East Java. *Jurnal IPTA*, *7*(1), 89–95. https://ojs.unud.ac.id/index.php/pariwisata/article/download/51389/30450.

Dauri, & Ricco Andreas. (2019). Bada Usaha Milik Desa Sebagai Pemberdayaan Ekonomi Syariah Melalui

Organisasi Berbasis Keagamaan Islam. *Legalita*, *1*(1). https://doi.org/10.47637/legalita.v1i1.22.

Edison, E., Kartika, T., & Dewi, N. (2019). Persepsi Masyarakat terhadap Pengembangan Kawasan Wisata di Desa Kertawangi, Cisarua Kabupaten Bandung Barat. *Journal of Indonesian Tourism, Hospitality and Recreation*, *2*(2), 138–144. https://doi.org/10.17509/jithor.v2i2.20980.

Ekaputri, D. A. (2020). Assessors' Readiness in Implementing the Flexible Working Arrangement (FWA). *Civil Service*, *14*(2), 1–10. https://jurnal.bkn.go.id/index.php/asn/article/view/245.

Elizamiharti, & Putra, D. A. (2022). The Principles of Pentahelix in Supporting the Awareness of State Defense in the Millennial Generation in the Globalization Era. *Formosa Journal of Applied Sciences (FJAS)*, *1*(7), 1345–1356. https://doi.org/10.55927/fjas.v1i7.1818.

Hasibuan, H. A. (2019). Dominasi Kepuasan Kerja Dalam Memoderasi Pengaruh Kepemimpinan Transformasional Terhadap Employee Engagement Pegawai ASN Di Medan. *Kajian Ekonomi Dan Kebijakan Publik*, *4*(2), 90–98. http://download.garuda.kemdikbud.go.id/article.php?article=1503941&val=9497&title=Peran kepemimpinan transformasional dalam meningkatkan employee engagement dan dampaknya pada kinerja pegawai.

Hikmawati, Suastra, I. W., & Pujani, N. M. (2021). Local wisdom in Lombok island with the potential of ethnoscience for the development of learning models in junior high school. *Journal of Physics: Conference Series*, *1816*(1). https://doi.org/10.1088/1742-6596/1816/1/012105.

Iqbal, M., Yanuarni, E., Mawardi, M. K., & Astuti, E. S. (2023). Linking knowledge management to tourism business of SMEs in aftermath of disaster: Implications for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(2), 100054. https://doi.org/10.1016/j.joitmc.2023.100054.

Jeppesen, J. H., Ebeid, E., Jacobsen, R. H., & Toftegaard, T. S. (2018). Open geospatial infrastructure for data management and analytics in interdisciplinary research. *Computers and Electronics in Agriculture*, 130–141. https://doi.org/10.1016/j.compag.2017.12.026.

Karima, N., Alfirdaus, L. K., & Yuwono, T. (2022). The Politics Of Social Policy Of Direct Cash Assistance Of Village Funds (Blt Dd) As Poverty Reduction Effort In Pandemic Periods In Indonesia. *Jurnal Education And Development*, *11*(1), 187–191. https://doi.org/10.37081/ed.v11i1.4323.

Karta, N. L. P. A., Sutapa, I. K., Wardani, R. K., & Wiles, E. (2021). Program Holistik Pembangunan Pemberdayaan Desa (Php2D) Optimalisasi Balai Banjar Sebagai Rumah Belajar Pada Masa Covid 19 Di Desa Cepaka Tabanan. *Synergy and Society Service*, *1*(1), 13–20. https://doi.org/10.51713/save.v1i1.42.

Khotimah, K. (2018). The Form of State Defense Awareness Through Community Participation Culture in Renewable Energy Management. *Jurnal Pertahanan Dan Bela Negara Bela Negara*, *8*(2), 63–88. https://doi.org/10.33172/jpbh.v8i2.391.

Kusumajanti, K., Widiastuti, N. P. E., & Nashir, A. K. (2021). Strategi Pendampingan Terhadap Pelaku Wisata di Ekowisata Sunge Jingkem, Kampung Sembilangan, Desa Samudra Jaya, Kabupaten Bekasi. *Indonesian Journal of Society Engagement*, *1*(2). https://doi.org/10.33753/ijse.v1i2.17.

Larasati, A. D., Dinda, D., Aidah, N. A., Gustiputri, R., & Isyak, S. N. R. (2022). Analisis Kebijakan Program Beasiswa Kartu Indonesia Pintar-Kuliah (Kip-K) Di Universitas Diponegoro. *Jurnal Ilmu Administrasi Dan Studi Kebijakan (JIASK*, *5*(1), 1–22. https://doi.org/https://ejournal.pps-unisti.ac.id/index.php/JIASK/article/view/91.

Logor, T., Kumenaung, A. G., & Walewangko, E. N. (2022). Strategi Pengembangan Ekonomi Perdesaan di Kabupaten Minahasa Tenggara. *Jurnal Pembangunan Ekonomi Dan Keuangan Daerah*, *22*(4), 18. https://doi.org/10.35794/jpekd.38879.22.4.2021.

Mardiana Firdaus, R., Andayani, E., Yudiono, U., & Walipah, W. (2022). Implementasi triple helix of economic education terintegrasi sustainable develompent goals (SDGs) dalam konteks merdeka belajar kampus merdeka. *Jurnal Riset Pendidikan Ekonomi*, *7*(1), 71–77. https://doi.org/10.21067/jrpe.v7i1.6404.

Maturbongs, E. E. (2020). Kolaborasi Model Pentahelix Dalam Pengembangan Pariwisata Berbasis Kearifan Lokal Di Kabupaten Merauke. *Transparansi : Jurnal Ilmiah Ilmu Administrasi*, *3*(1), 55–63. https://doi.org/10.31334/transparansi.v3i1.866.

Pitaloka, R. D., Hendriyani, H., Eriyanto, E., & Haryatmoko, H. (2022). Communication practice in village data collection. *Jurnal Studi Komunikasi*, *6*(1), 179–198. https://ejournal.unitomo.ac.id/index.php/jsk/article/view/4378.

Prabawati, I., Pradana, G. W., Ma'ruf, M. F., Kurniawan, B., Eprilianto, D. F., & de Araujo Tolentino, T. (2022). The Development of Village Data and Information Management through the Innovation Diffusion. *The Journal of Society and Media*, *6*(2), 566–590. https://doi.org/10.26740/jsm.v6n2.p566-590.

Prasiasa, D. P. O. (2022). Pendampingan Perguruan Tinggi Dalam Pengembangan Desa Wisata Baha, Mengwi, Badung, Bali. *Bina Cipta*, *1*(2), 34–49. https://doi.org/10.46837/binacipta.v1i2.7.

Simatupang, V., & Sukmadi, S. (2020). Analisis Kebijakan Pembangunan Pariwisata Berkelanjutan Di Kota Bandung Selama Pandemi Covid 19. *Media Bina Ilmiah*, *15*(6), 4669–4680. https://doi.org/10.33758/mbi.v15i6.906.

Soemaryani, I. (2016). Pentahelix model to increase tourist visit to bandung and its surrounding areas through human resource development. *Academy of Strategic Management Journal*, *15*, 249–259. https://www.researchgate.net/profile/Aldrin-Herwany-2/publication/311927795_Impact_of_coffee_product_labeling_and_packaging_on_purchase_behavior_with_mediating_of_brand_image_and_brand_trust/links/5e252b01458515ba209644d3/Impact-of-coffee-product-labeling-and-packaging-on-purchase-behavior-with-mediating-of-brand-image-and-brand-trust.pdf#page=256.

Sukmana, E., Brahmantyo, H., & Mumin, A. T. (2018). The Influence of Community Participation, The Role of Village Government, Number of Tourist Visits, and Village Income on Community Welfare in Cibuntu and Citundun Tourism Villages. ,. *TRJ Tourism Research Journal*, *2*(2), 61–77. https://doi.org/10.30647/trj.v2i2.37.

Sutapa, I. K., Karta, N. L. P. A., Dwiyanti, N. M. C., & Bendesa, N. M. M. P. (2022). Community Involvement in Packaging Innovation Ensuring The Sustainability of Destination. *International Journal of Social Science and Business*, *6*(2), 199–206. https://doi.org/10.23887/ijssb.v6i2.44268.

Suwarni, L., Sarwono, E., Suryadi, E., & Selviana, S. (2020). Sosialisasi Strategi dan Web Pemasaran Online (PPDM di Desa Rasau Jaya Satu). *International Journal of Community Service Learning*, *4*(4), 274–281. https://doi.org/10.23887/ijcsl.v4i4.29246.

Uska, M. Z., Wirasasmita, R. H., Arianti, B. D. D., Kholisho, Y. N., Djamaluddin, M., & Jamaluddin, J. (2021). Android-Based Waste Education App: An Information Media on Zero-Waste Programs. *Elinvo (Electronics, Informatics, and Vocational Education)*, *6*(1), 16–25. https://doi.org/10.21831/elinvo.v6i1.41104.

Vani, R. V., Priscilia, S. O., & Adianto, A. (2020). Model Pentahelix dalam mengembangkan potensi wisata di Kota Pekanbaru. *Publikauma: Jurnal Administrasi Publik Universitas Medan Area*, *8*(1), 63–70. https://doi.org/10.31289/publika.v8i1.3361.

Wirawan, I. N. S., Eka, P., Suwi, A. A., Tanjungsari, K. ., Semara, I. M. T., Lemy, D. M., & Pujiastuti, S. N. (2020). "Green village destination" development strategy based on ecgo bike in Pelaga district petang Badung Bali Indonesia. *Systematic Reviews in Pharmacy*, *11*(12), 259–266. https://doi.org/10.31838/srp.2020.12.42.