

**SOCIALIZATION OF DIGITAL TECHNOLOGY UTILIZATION FOR
PUBLIC TRANSPORT USERS IN REALIZING SAFE AND
COMFORTABLE TERMINAL SERVICES**

Aris Budi Sulisty¹, Budi Mardikawati^{2*}, A.A. Bagus Oka Khrisna Surya², Rania Ratnadewati Arif Putri³, Adiwangsa Amurti Tirani³

¹Automotive Technology Study Program, Politeknik Transportasi Darat Bali, Jl. Cempaka Putih, Samsam, Kerambitan, Tabanan, Bali 80582, Indonesia

²Road Transportation Management Study Program, Politeknik Transportasi Darat Bali, Jl. Cempaka Putih, Samsam, Kerambitan, Tabanan, Bali 80582, Indonesia

³Logistics Management Study Program, Jl. Cempaka Putih, Samsam, Kerambitan, Tabanan, Bali 80582, Indonesia

*mardikawati@poltradabali.ac.id

ABSTRACT

This Community Service (PKM) activity aims to improve digital literacy of public transportation users through socialization of the use of digital technology at the Mangkang Terminal, Semarang. Bali Land Transportation Polytechnic students play an active role in providing education on the use of transportation applications such as Trans Jateng and Trans Semarang, online ticketing systems, real-time bus tracking, and digital complaint services. The implementation method includes distributing brochures, direct counseling, and filling out questionnaires regarding the performance of terminal managers and the level of fulfillment of Minimum Service Standards (SPM). The results of the activity show an increase in public understanding of digital services, although there are still obstacles such as low digital literacy, limited infrastructure, and limited budget. The success of this program is reflected in the enthusiasm of the participants and the collaboration between students, terminal managers, and the community. This activity strengthens the role of vocational education in supporting the digital transformation of national land transportation and encouraging the creation of safe, comfortable, and technology-based terminal services.

Keywords: digitalization; public transportation; terminal; transportation applications

INTRODUCTION

The development of information and communication technology today has brought transformational impacts across various sectors of life, including the land transportation sector (Jaelani and Hanim, 2021). Digitalization has become a key strategy to enhance operational efficiency, governance transparency, and the quality of public services in ways that are more adaptive to the needs of society (Barunea *et al.*, 2023). In the context of terminal services as nodes of public mobility, the openness of information and ease of access to technology-based transportation services have become increasingly urgent aspects to address (Sutopo and Ardianti, 2014; Ramadhani, Harjanto and Putra, 2022; Nabila and Aisah, 2023; Sari, Hariyoko and Soesiantoro, 2024). Terminal digitalization involves not only technical aspects such as system and infrastructure integration but is also closely related to improving the digital literacy capacity of service users (Nabila and Aisah, 2023; Asana *et al.*, 2024). Terminals are required to evolve from merely being transit points to becoming centers of information and public services that are digitally integrated (Ali, Susanto and Saputra, 2024).

Several previous community service activities (PKM) have also highlighted the importance of technology education in public transportation spaces. For example, PKM initiatives such as direct socialization and discussions with the public and students have focused on increasing awareness about selecting reputable online platforms and understanding how to protect personal data when using digital media commonly utilized in daily life, particularly in online transportation applications (Amri *et al.*, 2024). In addition, the implementation of digitalization training for conventional tourism services targeted at MSME actors in the transportation sector has shown significant results, as evidenced by the success of PKM partners in digitizing their travel products through the On-Journey platform. This has enabled full digitalization of their processes—from marketing and operations to transactions (Agustino *et al.*, 2023). These findings indicate a strong urgency to continue and expand digital education-based PKM across various regional contexts. Therefore, increasing digital knowledge and awareness among service users, drivers, and fleet operators is a strategic step to optimize the use of digital innovations such as online ticketing systems, public Wi-Fi access, digital information media, and technology-based complaint management systems (Malisan *et al.*, 2021; Loliyana, Hadi and Meidasari, 2023; Setyawan, Utami and Erlyana, 2025).

As a concrete effort to improve digital literacy in the land transportation sector, students participating in the Magang Bersama Dosen (Internship with Lecturers) program of Bali Land Transportation Polytechnic organized an activity titled "Digital Information Education for Safe and Comfortable Public Transport Services at Terminals" on January 13–14, 2025. This activity not only focused on delivering information about available technological innovations at the terminal but also emphasized a participatory approach to encourage active community involvement in utilizing digital services to create a safer, more comfortable, and more efficient transportation experience. The involvement of students in this initiative reflects the strategic role of vocational higher education institutions in supporting the government's agenda on digital transformation in land transportation. As agents of change, students are expected to contribute preventive and solution-oriented actions through public education and serve as an extension of their institution in expanding the reach of public information. The synergy built among educational institutions, government bodies, and the community through this program strengthens modern and adaptive terminal governance and supports the development of an inclusive, responsive, and sustainable national transportation system (Ramadhani, Harjanto and Putra, 2022).

METHOD

The implementation method of this community service activity was carried out through an educational and communicative approach in the form of direct socialization or outreach to passengers at the terminal. This strategy aimed to encourage the utilization of digital technology by public transport users in terminal services (Permana, 2024). Technology is not only about sophistication, but also about creating value in aesthetics, innovation, and cost-efficiency, while remaining within the bounds of human ergonomics (Monata, 2018). The activity was conducted in a structured and organized manner with full support from the staff and students of Bali Land Transportation Polytechnic (Poltrada Bali). The activity took place at Mangkang Terminal, located at Jl. Raya Semarang–Kendal, Mangkang Kulon, Tugu District, Semarang City, Central Java.

In its implementation, the socialization was carried out by distributing brochures to passengers and providing access to a Google Form link containing questionnaires on terminal management performance and the level of fulfillment of the terminal's Minimum Service Standards (SPM). The performance questionnaire aimed to assess how well terminal managers carried out their duties and responsibilities in providing professional, effective, and responsive services to the public (passengers). This questionnaire was used to collect data from respondents, namely terminal passengers, in order to gather relevant information aligned with the questions prepared in the Google Form (Fudla, Maimunah and Baharuddin, 2021). Meanwhile, the SPM questionnaire aimed to measure the extent to which the terminal's facilities and services met the minimum standards set by the government, such as the availability of waiting rooms, proper toilets, accessibility, and a complaint-handling system. The results of these questionnaires are expected to serve as a basis for evaluation and recommendations to improve terminal services to make them safer, more comfortable, and better aligned with the needs of public transportation users (Sutopo and Ardianti, 2014).

RESULTS AND DISCUSSION

The Community Service (PKM) activity, which focused on educating the public about the digitalization of information for safe and comfortable public transportation services at the terminal, was carried out to enhance community participation in utilizing digital information related to public transport services that ensure safety and comfort for users. The success of this activity was measured through several indicators, including the effectiveness of the program, supporting factors, and obstacles encountered during its implementation.

1. Program Success

The socialization program successfully improved the digital literacy of public transportation users, as evidenced by the participants' enthusiasm in understanding the use of public transport applications and accessing integrated digital services at the terminal. Through live demonstrations on how to use public transportation apps such as Trans Jateng and Trans Semarang, group discussions, and surveys, participants showed increased ability to utilize features like online ticketing, real-time tracking, and digital information systems. Additionally, the program fostered collaboration among internship cadets, terminal managers, and the public, creating synergy toward realizing a more efficient, safe, and comfortable terminal. The positive impact was reflected in the growing awareness of the importance of digital technology among users, as well as favorable responses to smart terminal-based services, such as intermodal integration and digital security facilities. This success marks an initial step in strengthening the digital transformation of the transportation sector, while also promoting the development of more inclusive and sustainable public services.

2. Supporting Factors

The supporting factors for the community service activity on the socialization of digital technology utilization for public transportation users in realizing safe and comfortable terminal services include several key aspects that contributed to the program's success. First, the collaboration between the Road Transportation Management Study Program and the Center for Research and Community Service (P3M) of the Bali Land Transportation Polytechnic, along with the Mangkang Terminal authorities, made the implementation of this activity possible. Second, the active participation of lecturers and students throughout the program ensured that the activities were relevant and well-targeted, as illustrated in Figure 1.



Figure 1. Documentation of the Socialization Activity Implementation

Feedback from both parties helped refine the approach and methods used. The media utilized in this community service (PKM) activity included brochures and pamphlets containing information on the use of digital technology for public transportation users to support safe and comfortable terminal services. These materials facilitated the dissemination of information and helped reach a wider audience. The brochure used in this community service activity is shown in Figure 2.



Figure 2. Brochure of the Socialization of Digital Technology Utilization for Public Transport

3. Inhibiting Factors

Although this socialization program provided many benefits, several inhibiting factors affected the effectiveness of its implementation, including:

a. **Low Digital Literacy Among Public Transport Users**

Some passengers, particularly the elderly or those with limited access to technology, still struggle to understand and adopt digital tools such as transportation apps or online information systems. This hampers the education process and the application of technology at the terminal.

b. **Limited Digital Infrastructure at Terminals**

Facilities such as public WiFi, digital signage, or real-time information systems are not yet fully available or optimally functioning in all terminals. Slow internet connections or inadequate devices also reduce the effectiveness of the socialization efforts.

c. **Lack of Awareness and Interest in Digital Services**

Some passengers continue to rely on conventional methods, such as buying tickets manually or asking staff directly, making them less inclined to use digital technology even after it has been introduced.

d. **Limited Budget and Time for Socialization Implementation**

Educational programs require sufficient time to reach all segments of the community, but are often constrained by limited funding or tight schedules, preventing full engagement of all target participants.

4. Activity Implementation

The Community Service (PKM) activity titled *Socialization of Digital Technology Utilization for Public Transport Users in Realizing Safe and Comfortable Terminal Services* was conducted at Mangkang Terminal, located on Mangkang Raya Street, Mangkang Kulon, Tugu District, Semarang City, Central Java. This socialization activity was specifically targeted at members of the public who are users of public transportation services.

a. **Socialization to Public Transport Users**

The socialization was carried out by providing information about digital information media in the form of applications that contain public transportation services, including bus tracking, route information, and bus arrival times. The socialization activity is shown in Figure 3.



Figure 3. Socialization to Public Transportation Service Users

2. Demonstration of How to Use Public Transportation Service Applications

In this socialization activity, students delivered the material individually using a direct demonstration method with the passengers' own devices, supported by visual guide cards and informative brochures. For elderly passengers, more intensive assistance was provided, focusing on basic features. The entire process was carried out in real-time during terminal

operating hours without disrupting travel activities, while also allowing for material adjustments based on each passenger's level of digital literacy. This activity is expected to help public transportation users easily understand and directly implement the use of such applications.



Figure 4. Demonstration of the Use of Public Transportation Information Media

The results of this activity align with research findings that indicate accessibility of information, operational efficiency, and transparency significantly influence user satisfaction (Agus Setiono and Purwiyanto, 2025). The positive impact in the form of increased digital literacy among participants is also in line with the goals of this community service (PKM) activity, emphasizing the importance of direct field-based educational approaches to bridge the digital divide in society. The outcomes of this activity have proven effective in enhancing the community's ability to access, understand, and utilize information efficiently (Zupti and Fathurrahman, 2025). The discovery of digital literacy barriers and infrastructure limitations reinforces previous research stating that the success of digital transformation heavily depends on technological readiness and multi-stakeholder collaboration (Sunarso, Harahap and Suparwata, 2025). Thus, this activity not only produced immediate qualitative outcomes but also strengthened the argument that participatory and contextual approaches in digital education play a crucial role in supporting the realization of safe and comfortable terminals based on digital technology.

CONCLUSION

The conclusion of this Community Service (PKM) activity, conducted by lecturers and internship cadets at Mangkang Terminal, Semarang, through the Socialization of Digital Technology Utilization for Public Transport Users in Realizing Safe and Comfortable Terminal Services, is that the program successfully provided education to the public, particularly passengers, on the importance of utilizing digital services at terminals. Throughout the activity, participants showed strong enthusiasm in understanding technology-based transportation services such as online ticket booking applications, real-time bus arrival tracking, and the use of other digital information media. It is hoped that this activity will continue to be implemented regularly and expanded in scope as part of Bali Land Transportation Polytechnic's contribution to supporting the national land transport digitalization program and enhancing the overall quality of public services in the transportation sector.

ACKNOWLEDGEMENTS

Gratitude is first and foremost extended to God Almighty, whose grace and blessings made the smooth implementation of this Community Service (PKM) activity possible. The authors would also like to express sincere thanks to the Director of Bali Land Transportation Polytechnic, the supervising lecturers, and all cadets who actively participated in the execution of the program. Deepest appreciation is also extended to the management of Mangkang Terminal, the users of public transportation services, and all parties who have provided their support and participation, enabling the successful implementation of the socialization on digital technology utilization in terminal services and the achievement of its intended goals.

REFERENCES

- Agus Setiono, B. and Purwiyanto, D. (2025) ‘Pengaruh Penggunaan Sistem Digital dalam Pengelolaan Transportasi Laut terhadap Kepuasan Pengguna Layanan’, *Prosiding SENAMA AKPELNI*, 1(1), pp. 164–169. Available at: <https://doi.org/https://doi.org/10.6425/9qynhm47>.
- Agustino, D.P. *et al.* (2023) ‘Pelatihan Digitalisasi Jasa Pariwisata Konvensional untuk Pelaku UKM Pariwisata’, *WIDYABHAKTI JURNAL ILMIAH POPULER*, 6(1), pp. 1–8. Available at: <https://doi.org/https://doi.org/10.30864/widyabhakti.v6i1.380>.
- Ali, H., Susanto, P.C. and Saputra, F. (2024) ‘Faktor-Faktor Yang Mempengaruhi Manajemen Transportasi Udara: Teknologi Informasi, Infrastruktur dan Kompetensi Sumber Daya Manusia’, *Jurnal Siber Transportasi dan Logistik (JSTL)*, 1(4), pp. 154–167. Available at: <https://doi.org/10.38035/jstl.v1i4>.
- Amri, P. *et al.* (2024) ‘Pencegahan Kebocoran Data Pada Aplikasi Transportasi Online’, *Madaniya*, 5(1), pp. 225–230. Available at: <https://doi.org/https://doi.org/10.53696/27214834.736>.
- Asana, A.R. *et al.* (2024) ‘Kebutuhan Internet of Things dalam meningkatkan pelayanan di Terminal Tipe B Baruga Kendari’, *Jurnal Teknik Sipil ITP*, 11(1). Available at: <https://doi.org/10.21063/JTS.2024.V1101.065-69>.
- Barunea, P.P. *et al.* (2023) ‘Evaluasi Jakarta Kini (Jaki) Dalam Mewujudkan Jakarta Smart City (Kajian Pemanfaatan Layanan JakWifi)’, *Journal of Social Contemplativa*, 1(1), pp. 31–44. Available at: <https://doi.org/https://doi.org/10.61183/jsc.v1i1.12>.
- Fudla, D.V., Maimunah, S. and Baharuddin, A. (2021) ‘Evaluasi Kinerja Terminal Leuwipanjang Kota Bandung’, *Jurnal Teknologi Transportasi dan Logistik*, 2(1), pp. 65–78. Available at: <https://doi.org/https://doi.org/10.52920/jttl.v2i1%601.31>.
- Jaelani, A. and Hanim, T.F. (2021) ‘Teknologi Digital, Keberlanjutan Lingkungan, dan Desa Wisata di Indonesia’, *Jurnal Penelitian Hukum Ekonomi Islam*, 6(2), pp. 237–244. Available at: <https://doi.org/http://dx.doi.org/10.24235/jm.v6i2.9613>.
- Loliyana, R., Hadi, M. and Meidasari, E. (2023) ‘Pengaruh Pelatihan Terhadap Produktivitas Kerja Pegawai Dengan Motivasi Sebagai Variabel Mediasi (Pada PT. Nisan Abadi Jaya)’, *Jurnal Manajemen dan Bisnis (JMB)*, 4(1), pp. 2745–892. Available at: <https://doi.org/https://doi.org/10.57084/jmb.v4i1.1052>.

- Malisan, J. *et al.* (2021) ‘Kajian Pengembangan Pelabuhan Dalam Mendukung Ibu Kota Baru Berdasarkan Konsep Smart City, Smart Mobility’, *Jurnal Sistem Transportasi dan Logistik*, 1(1), pp. 6–13. Available at: <https://doi.org/http://dx.doi.org/10.54324/jstl.v1i1.628>.
- Monata, R.S. (2018) ‘Penerapan Teknologi Tepat Guna Pada Toilet Portabel Studi Kasus: Terminal Bus Giwangan Yogyakarta’, *Jurnal Ilmiah Desain & Konstruksi*, 17(2), pp. 115–128.
- Nabila, H. and Aisah, S. (2023) ‘Pengaruh Kualitas Layanan Dan Nilai Pelanggan Terhadap Loyalitas Pelanggan PT Pelindo Multi Terminal Branch Jamrud’, *Jurnal Ilmiah Wahana Pendidikan, Desember, 2023*(25), pp. 420–428. Available at: <https://doi.org/10.5281/zenodo.10427089>.
- Permana, Y. (2024) ‘Revolusi Transportasi: Desain Stasiun dan Terminal Masa Depan’, *WriteBox*, 1(3), pp. 1–14. Available at: <https://writebox.cloud/index.php/wb/article/view/172/172> (Accessed: 16 June 2025).
- Ramadhani, R., Harjanto, S.T. and Putra, G.A. (2022) ‘Perancangan Terminal Bus Tipe B di Kota Nganjuk Tema: Arsitektur Modern’, *Pengilon: Jurnal Arsitektur*, 6(1), pp. 275–294. Available at: <https://ejournal.itn.ac.id/index.php/pengilon/article/view/4818/3130> (Accessed: 16 June 2025).
- Sari, E.Y., Hariyoko, Y. and Soesiantoro, A. (2024) ‘Analisis Pelayanan Digitalisasi Transportasi Pada Transportasi Publik “Suroboyo Bus” Kota Surabaya’, *PRAJA Observer: Jurnal Penelitian Administrasi Publik*, 4(2), p. 103. Available at: <https://www.aksiologi.org/index.php/praja/article/view/1370/969> (Accessed: 16 June 2025).
- Setyawan, S., Utami, T. and Erlyana, S. (2025) ‘Upaya PT. Terminal Teluk Lamong Menuju Smart Terminal’, *Prosiding SENAMA AKPELNI*, 1(1), pp. 31–38. Available at: <https://doi.org/https://doi.org/10.12345/hha9zb41>.
- Sunarso, B., Harahap, M.A.K. and Suparwata, D.O. (2025) ‘Manajemen Kota dan Pengembangan Ekonomi Lokal melalui Pemanfaatan Sistem Informasi Bisnis: Tinjauan Pustaka tentang Strategi Meningkatkan Kesejahteraan Masyarakat melalui Pengembangan UMKM dan Pemanfaatan Teknologi Informasi’, *Jurnal Minfo Polgan*, 14(1), pp. 336–345. Available at: <https://doi.org/10.33395/jmp.v14i1.14726>.
- Sutopo, Y.K. and Ardianti, R.R.R. (2014) ‘Analisa Pengelolaan Sumber Daya Manusia Sektor Formal Dan Sektor Informal Di Jawa Timur’, *Agora*, 2(1), pp. 1–13. Available at: <https://www.neliti.com/publications/35944/analisa-pengelolaan-sumber-daya-manusia-sektor-formal-dan-sektor-informal-di-jaw> (Accessed: 16 June 2025).
- Zupti, B.A. and Fathurrahman, M. (2025) ‘Peran Komunitas Rumah Internet dalam meningkatkan literasi informasi masyarakat di Desa 3T’, *Pustaka Karya: Jurnal Ilmiah Ilmu Perpustakaan dan Informasi*, 13(1), pp. 2089–5216. Available at: <https://doi.org/10.18592/pk.v13i1.16239>.