ISSN: 2338-8412 e-ISSN : 2716-4411

Ekombis Review – Jurnal Ilmiah Ekonomi dan Bisnis
Available online at : https://jurnal.unived.ac.id/index.php/er/index
DOI: https://doi.org/10.37676/ekombis.v14i1

Design Of Information Flow For Handling Installation Issues Of Indihome At PT Telkom Akses Palu

Resti Widyastuti Hi. Husen[1)]; Asngadi [2)]; Saharuddin Kaseng [3)]; Kadek Agus Dwiwijaya [4)]
[1)]Study Program of Management, Faculty of Economics and Business, Tadulako University Palu, Indonesia
[2,3,4)] Department of Management, Faculty Of Economics and Business, Tadulako University Palu, Indonesia
Email: [1)] restiwidyastuti07@gmail.com ;[2)] asngadi@untad.ac.id ;[3)] saharuddin.kfamily@yahoo.com
[4)] kadekagus@untad.ac.id

How to Cite :
Husen, R, W, H., Asngadi, Kaseng, S., Dwiwijaya, K. A. (2026). Design Of Information Flow For Handling Installation Issues Of Indihome At PT Telkom Akses Palu. EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis, 14(1). DOI: https://doi.org/10.37676/ekombis.v14i1

ARTICLE HISTORY
Received [26 June 2025]
Revised [07 January 2026]
Accepted [22 January 2026]

KEYWORDS
Information Flow Design, Indihome, Telkom Akses Palu, Installation Obstacles, Bottleneck, Information System, Constraint Management.

ABSTRACT

This study aims to redesign the information flow in handling installation-related obstacles for Indihome services at PT Telkom Akses Palu. Based on the obstacle data from October 2024 to February 2025, technical issues were the most dominant, followed by customer-related problems, while system-related issues were the least frequent. These findings indicate that most problems stem from suboptimal, fragmented, and non-integrated real-time information flow between departments. Using a descriptive qualitative method, this study analyzes the current system and identifies bottleneck points in the communication flow. The result is a proposed digital-based integrated information system design, emphasizing the role of the Helpdesk as a central coordinator. The system is expected to enhance the effectiveness, efficiency, and response speed in problem-solving and support digital transformation efforts within PT Telkom Akses Palu.

INTRODUCTION

In today's digital era, various sectors have experienced significant advancements, particularly in the field of technology, which has provided many conveniences for humans in various aspects of life (Rombe et al., 2021). The rapid development of technology, especially in the fields of communication and information, has influenced human behavior (Wahyuningsih et al., 2022)leading to changes in lifestyles (Muzakir et al., 2021) as well as in how people interact and manage information to meet increasingly urgent life demands (Asngadi, 2011). According to Wahyuningsih et al. (2022), these changes have accelerated following the Covid-19 pandemic. Moreover, Zahara et al. (2023), in their study, also explained that the pandemic affected social activities, which were previously broad, becoming limited. Due to restricted direct interaction with the outside world, society has become increasingly dependent on technology, especially in exchanging information and processing data (Rahmadoni et al., 2021). Because of this dependency, people have become highly familiar with the internet as a primary tool for communication in the digital age (Effendi, 1970).

Since its emergence, the internet has had a tremendous impact (Siaha Widodo, 2019). Therefore, Agung Nugraha et al. (2022) state that the internet has now become one of the primary needs of humans in the modern era. According to Lestari et al. (2025), the internet is a global network technology that enables the exchange of information and communication interactions among all parties in various situations. The advancement and reliance on technology in this digital era can be felt not only in daily activities but also in business contexts and public services (Syamsuddin et al., 2024), where technology serves as the main tool for adapting and staying relevant in rapidly changing situations (Dwiwijaya, 2024). The Covid-19 pandemic has brought significant impacts to the sustainability of businesses around the world (Zahara et al., 2022). This was evident when, after the World Health Organization (WHO) declared the global pandemic, many companies began leveraging digitalization to maintain their performance, particularly in customer service (Yunus Kasim et al., 2022). For this reason, digital technology has been adopted by various companies, including those operating in the telecommunications sector (Bachri et al., 2023).

PT Telkom Indonesia, as one of the largest telecommunications companies in Indonesia (Charity et al., 2016), has also taken advantage of this situation. Through various strategies, PT Telkom Indonesia has launched some products, both in the form of goods and digital services in the telecommunications sector, which are aligned with current trends and the evolving needs of society. The company has successfully reached a wide market, both nationally and internationally (Ali, 2024). One of the services offered by PT Telkom Indonesia that has attracted the attention of many consumers is Indihome. Indihome is a service that utilizes cable (fiber optic) networks to transmit data, offering a variety of services such as internet, cable TV, and telephone (H & Husufa, 2023). In a previous study conducted by Triana et al. (2019), it was explained that Indihome is a service product related to the construction and management of network infrastructure, developed by PT Telkom Indonesia and later handled by its subsidiary, PT Telkom Akses, with the aim of expanding broadband network coverage so that the public can easily access information.

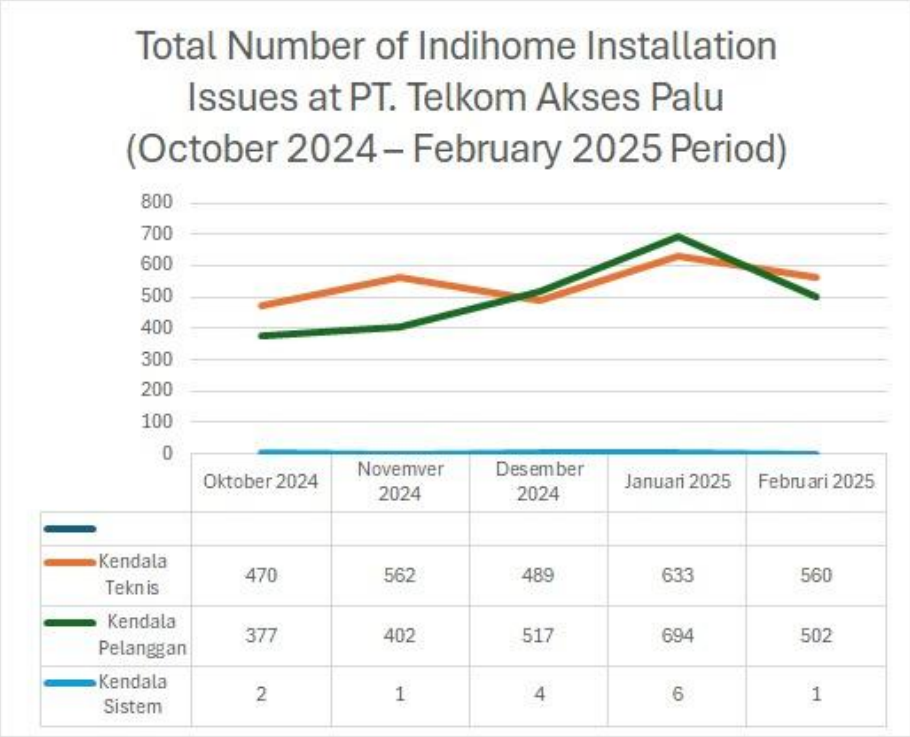
According to Bruque et al. (2009), although digitalization offers many conveniences in various aspects of life and business operations, humans still need to undergo significant adaptation to technological developments. This adaptation process involves understanding new technologies and requires a shift in mindset and work culture toward greater flexibility and openness to innovation (Asbari et al., 2023). Telecommunication companies such as PT Telkom Akses also need to continue adapting to existing technologies (Solihati & Adriwati, 2021), particularly in IT tools to support productivity, efficiency, and customer service. The optimal use of IT tools can help companies accelerate work processes, improve data accuracy, and facilitate team coordination (Akbar & Saputra, 2023). This also applies to Indihome, the flagship product of PT Telkom Akses, which provides high-speed internet services through a technology known as Fiber To The Home (FTTH). According to Bathara et al. (2022), FTTH (Fiber To The Home) is a telecommunication network technology that uses fiber optic cables as the medium for delivering data directly from the service provider's central point to the customer's home.

Although the FTTH technology used by Indihome offers many advantages, according to Fitriani et al. (2023), its installation process in the field is inevitably faced with various obstacles that can hinder customer service. Obstacles refer to conditions that become barriers for individuals or companies, particularly in business processes related to customer service (Sihadi et al., 2018). In the installation process of Indihome, several challenges can be grouped into three main categories (Fitriani et al., 2023), namely:

- Technical Constraints: Issues that often arise due to infrastructure conditions in the field or geographical factors that do not support the installation of Indihome.
- Customer Constraints: Issues that originate from or are caused by the customers themselves, which prolong the service completion time and reduce technician efficiency.

- System Constraints: Issues related to disruptions or limitations within the company's internal systems, which hinder coordination between technical teams and customer service, and make it difficult to monitor installation progress in real-time.

Figure 1. Total Number of Indihome Installation Issues at PT. Telkom Akses Palu (October 2024 – February 2025)



	Oktober 2024	Novemver 2024	Desember 2024	Januari 2025	Februari 2025
Kendala Teknis	470	562	489	633	560
Kendala Pelanggan	377	402	517	694	502
Kendala Sistem	2	1	4	6	1

Source: PT. Telkom Akses Palu – Installation Issue Report

Based on the data above, it can be seen that over the past five months, the Indihome installation process at PT Telkom Akses Palu has encountered significant challenges. Among these, Technical Constraints were the most frequently occurring issues, followed by Customer-Related Constraints. Meanwhile, System Constraints had less impact, as they occurred only rarely, sometimes not within a given month. Nevertheless, these obstacles have undoubtedly affected the operational processes of customer service. All of these challenges primarily stem from several factors, especially those related to the flow of information.

Therefore, this raises a fundamental question that forms the basis of this study: at which points do these obstacles occur during the Indihome installation process, and what causes them to arise? This research aims to redesign an information flow structure that can improve the effectiveness and efficiency of handling the issues that emerge during the Indihome installation process, particularly at PT Telkom Akses Palu.

LITERATURE REVIEW

Information Flow

Information flow refers to the process of data transfer between parties within a system and serves as a fundamental element in supporting a company's operational performance, particularly in information management (Daft & Lengel, 1986). According to Pyplacz & Kus (2020), this process plays a crucial role in decision-making, as a well-functioning flow of information can enhance the efficiency and effectiveness of a company's operations. In complex systems, information flow models are used to identify critical or strategic points where data must be processed and distributed, with the goal of optimizing the overall system performance (Cao et

al., 2015). Digital transformation has also influenced information flow, with modern technologies enabling faster and more transparent information dissemination, while also presenting challenges in data management (Nosova et al., 2021). Recent studies have shown that a well-structured information flow significantly contributes to improved company performance and responsiveness to market dynamics, even on a global scale. In fact, according to Ciuriak (2020), following the COVID-19 pandemic, there has been a paradigm shift in information flow, requiring companies to be more adaptive in managing information online and collaboratively.

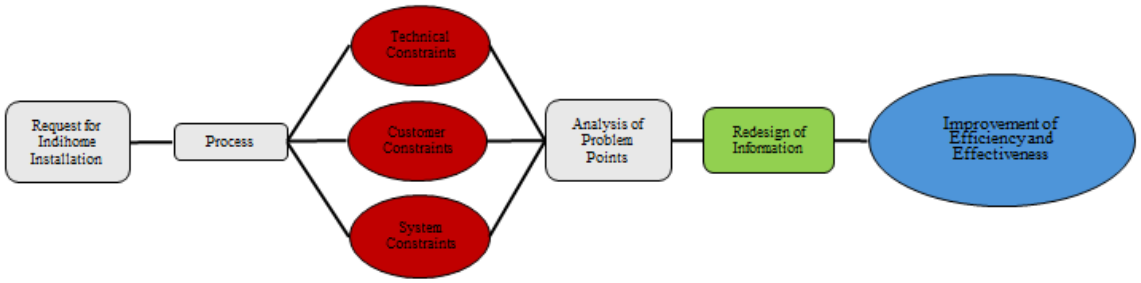
Obstacle Management

According to Goldratt (1984), obstacle management is a crucial process in management, particularly in project and operational contexts, aimed at identifying, analyzing, and addressing barriers that may hinder the achievement of organizational or business goals. In the context of the Theory of Constraints, Amin & Syed (2013) argue that every system has one or more constraints that limit overall performance. Therefore, the main focus of management should be on handling these constraints to improve effectiveness and efficiency so they do not restrict the company's productivity (Inayati & Wahyuningsih, 2018). Typically, the first step in managing obstacles is to identify the existing constraints, whether they relate to resources, processes, or other factors that hinder the operational workflow (Kumar Mishra & Kumar Moktan, 2019). Once identified, the next step is to analyze the root causes to understand the contributing factors, enabling the formulation of appropriate solutions (Kehinde, 2025). Implementing effective solutions often involves changes in operational processes or better allocation of resources, which can lead to significant improvements in company performance. In addition, it is essential to foster a corporate culture that supports innovation and continuous improvement, so that obstacles can be addressed proactively rather than reactively. With a systematic and collaborative approach, obstacle management can help companies maintain quality control, achieve strategic goals, and enhance competitiveness in the market (Pratiwi et al., 2024).

Bottleneck

Asngadi et al. (2020) explain that a bottleneck is a point within a process where congestion occurs due to limitations, thereby disrupting the overall workflow, causing delays, and reducing system efficiency (Zofio et al., 2023). In the context of operational management, identifying and analyzing bottlenecks is crucial to improving efficiency and productivity, as they can hinder the overall performance of a company (Syahria & Noor Ali, 2017). Recent studies indicate that even in an increasingly modern era, bottlenecks are still commonly found in the flow of information (Garcés et al., 2025), both internally within companies and externally in interactions with customers. Furthermore, according to Garcés & Peña (2023), strategies to address bottlenecks must involve a systematic approach, such as process flow analysis and the implementation of lean techniques, to ensure that each element within the system functions optimally. Therefore, effective bottleneck management not only improves the overall performance of the system but also contributes to reducing operational costs and enhancing customer satisfaction.

Figure 2. Conceptual Framework



METHODS

In this study, a qualitative method with a descriptive approach was used (Sutomo et al., 2024). This approach aims to systematically and objectively describe and analyze the processes and constraints occurring in the information flow of Indihome installation services at PT Telkom Akses Palu (Sugiyanto et al., 2020). According to Karim et al. (2023), the qualitative approach was chosen as the most appropriate method because the main focus of this research is to gain an in-depth understanding of the dynamics of information flow and to identify bottlenecks that hinder operational efficiency in the installation process (John W. Creswell & Poth, 2019).

Data collection was carried out through semi-structured interviews and direct observation of fieldwork processes, as well as a literature review involving the company's internal documentation (Rahmadoni et al., 2021). Observations were conducted to examine the actual workflow in the field, while the interviews focused on individuals directly involved in the Indihome installation process to obtain information regarding the causes and impacts of installation constraints (Adda et al., 2022; Triana et al., 2019). Documentation data, such as reports on constraints from the past five months, served as a primary basis for the analysis process. The analysis focused on identifying information bottlenecks and obstacles within the information flow of the Indihome installation process (Asngadi et al., 2020; Garcés & Peña, 2023). The results of this analysis were then used as a foundation to redesign the information flow for handling constraints, with an emphasis on integrating real-time information processes across relevant departments (Cao et al., 2015; Daft & Lengel, 1986).

Thus, this research method is not only aimed at mapping the problems but also at producing a data-driven information flow redesign solution that is relevant to the operational context in the field and supports the overall improvement of efficiency and service quality at PT Telkom Akses Palu (Pratiwi et al., 2024).

RESULTS

Based on the results of interviews and direct observations at PT Telkom Akses Palu related to the Indihome installation process, it was found that several parties are involved, each with their respective roles. These parties have the following responsibilities:

- Customer: The party that submits a request for Indihome installation services.
- TSEL (Telkomsel): The party responsible for marketing the product and directly interacting with customers, particularly by inputting customer data into the system.
- TIF (Telkom Infrastruktur): The party responsible for checking network feasibility and providing the necessary infrastructure during the installation process.
- TA (Telkom Akses): This party is divided into two subunits:
  - HD (Helpdesk): This is the unit that manages installation tickets, coordinates information between departments, and records incoming issues.
  - Technicians: The personnel who directly interact with customers by performing the installation of Indihome services at customer locations and reporting the results from the field.

Running System Analysis

The running system analysis in this study refers to the evaluation of the current information flow (flow map) used by PT Telkom Akses in the process of new Indihome installations. This analysis aims to describe and understand how the current processes and information management are being carried out—from the moment the customer submits a service request until the service is fulfilled—including identifying all parties involved in the process at PT Telkom Akses Palu (Bayhaqi et al., 2023).

Figure 3. Flowmap Of The Indihome Installation Process At PT Telkom Akses Palu Without Any Issues

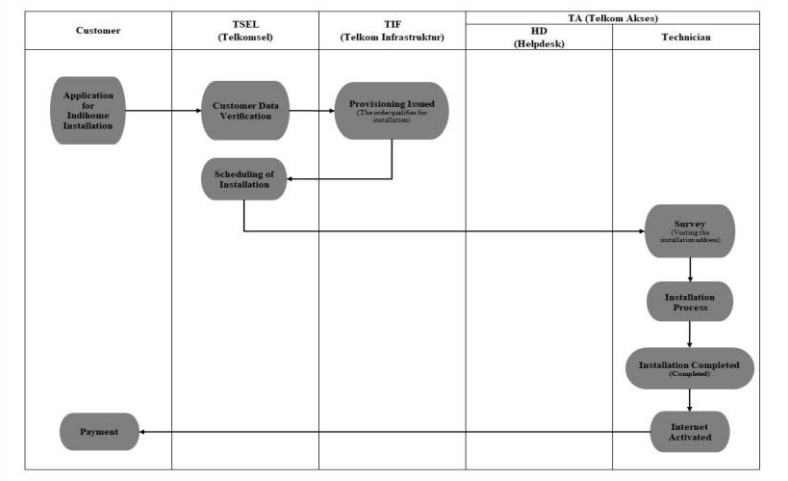


Figure 4. Flowmap Of The Indihome Installation Process At PT Telkom Akses Palu During The Occurrence Of Issues

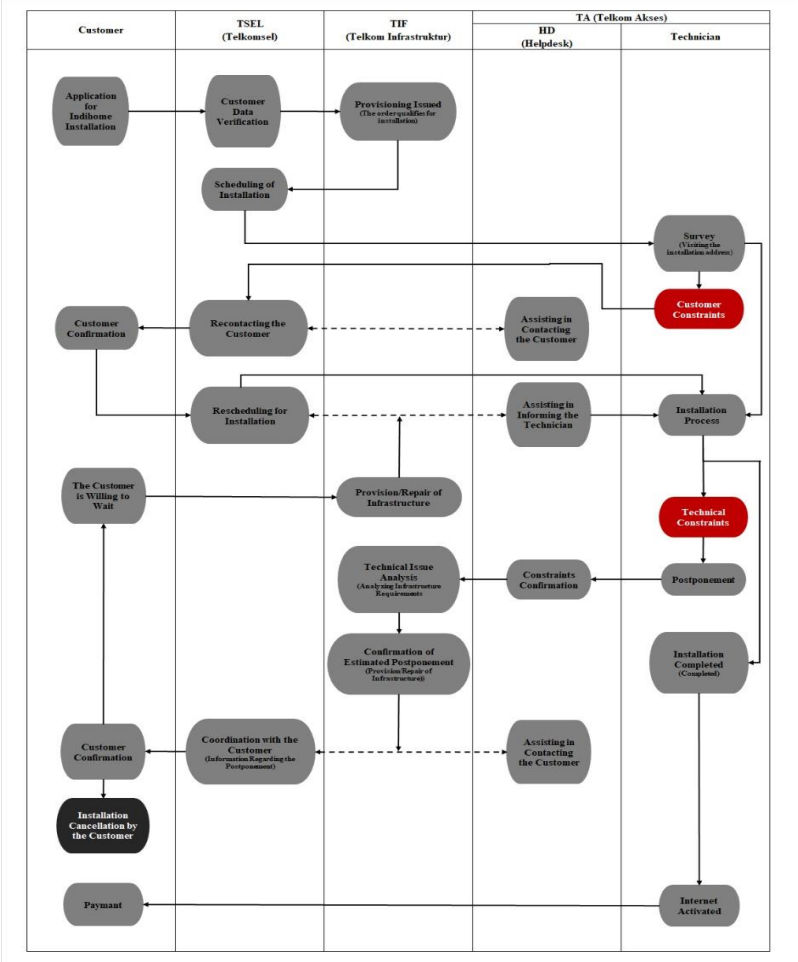


Figure 3 above illustrates the information flow of the Indihome installation process from start to finish under normal conditions without any issues. In contrast, Figure 4 presents an overview of the information flow during the occurrence of issues in the Indihome installation process at PT Telkom Akses Palu (Siregar & Sari, 2018).

Proposed System Analysis

In this study, the proposed system analysis refers to the process of developing or improving the existing information flow (flow map) at PT Telkom Akses Palu, in order to create a new and more effective and efficient system. The main objective of this proposed information flow is to enhance work effectiveness and efficiency, thereby delivering optimal service quality through the utilization of available technology and facilities. In this context, the proposed system analysis will be applied to the information flow of the new Indihome installation service at PT Telkom Akses Palu (Bayhaqi et al., 2023).

Figure 5. Proposed Flowmap Of The Indihome Installation Process At PT Telkom Akses Palu In The Event Of Installation Issues

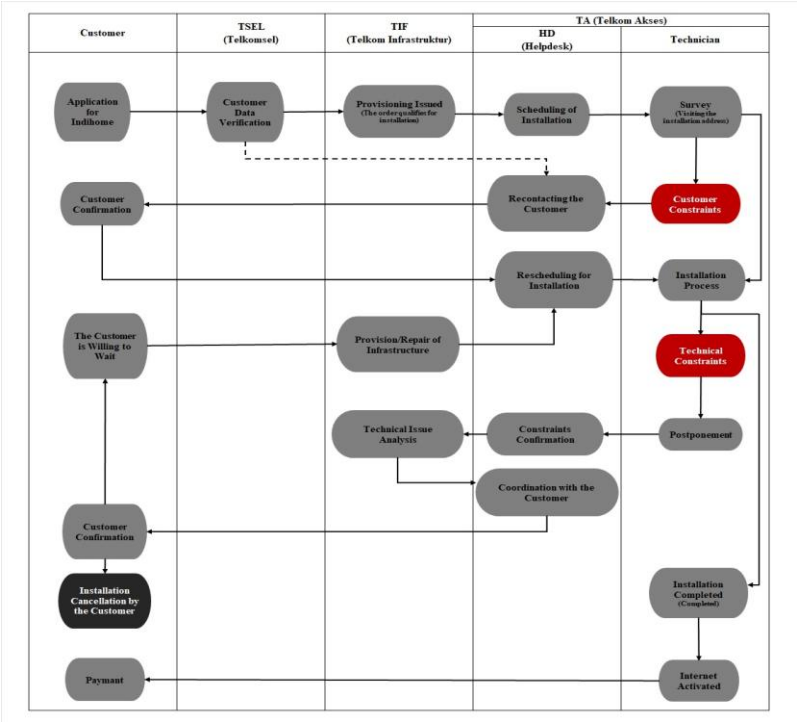


Figure 5 above represents the proposed information flow for the Indihome installation process at PT Telkom Akses Palu. This proposed flow has been designed to address the issues encountered during the Indihome installation process at PT Telkom Akses Palu (Siregar & Sari, 2018).

DISCUSSION

The analysis of the Indihome installation process at PT Telkom Akses Palu reveals that the emerging issues are closely related to a suboptimal flow of information, as illustrated in the current system's flowmap. Based on the issue report data from October 2024 to February 2025, it was found that technical issues were the most dominant, followed by customer-related issues, while system-related issues were the least frequent. These findings reinforce the argument presented in the introduction that, although technologies such as FTTH (Fiber To The Home) provide convenience in delivering high-speed internet services (Bathara et al., 2022), their implementation in the field still faces obstacles (Fitriani et al., 2023). These obstacles are not only technical but also involve inefficiently synchronized information flows between departments, as reflected in the flowmap when issues occur.

Theoretically, disorganized information flow hampers work effectiveness. According to Daft & Lengel (1986), information flow is a fundamental element that governs how data moves

from one party to another within an organizational system. Pyplacz & Kus (2020) further add that an effective flow can enhance decision-making speed and operational efficiency. However, in the context of PT Telkom Akses Palu, the lack of integration and real-time coordination among parties such as TSEL, TIF, Helpdesk, and technicians causes information bottlenecks. This is largely due to the fact that communication and reporting still rely on informal media such as Telegram groups, Google Workspace (spreadsheets), and verbal messages between teams, as well as overlapping roles among units, which lead to information disparities and bottlenecks in the information flow.

This bottleneck phenomenon becomes especially evident when issues arise. Information from technicians in the field must go through several administrative layers before it can be acted upon. This aligns with Asngadi et al. (2020), who argue that bottlenecks occur when a part of the process becomes a choke point due to limitations, thereby reducing the overall system efficiency. These bottlenecks lead to installation delays, decreased customer satisfaction, and increased workloads for the affected units (Zofio et al., 2023). From the perspective of constraint management, the inefficiency in this flow can be explained using the Theory of Constraints developed by Goldratt (1984). According to this theory, every system is limited by one or more constraints, and to improve performance, management must focus on resolving those constraints. In this study, the primary constraint lies in the slow and unresponsive flow of information. Amin & Syed (2013) stated that effective constraint management begins by identifying the bottlenecks, analyzing their causes, and implementing appropriate solutions to enhance overall system output.

Therefore, the solution proposed through the system redesign analysis in this study is to restructure the information flow by utilizing real-time coordination and optimizing the role of the Helpdesk as the central hub for inter-unit communication. The proposed flowmap shown in Figure 5 demonstrates that information from field technicians can be directly and digitally communicated to the Helpdesk, which then immediately distributes it to the relevant units without the need for time-consuming intermediary roles. This solution aligns with the lean information flow approach as proposed by Garcés & Peña (2023), which advocates for simplifying and integrating workflows to eliminate non-value-added processes. If this proposed system is implemented, it is estimated that the efficiency of the installation process will improve, with issue resolution time reduced by 30–40%, as also observed by Bayhaqi et al. (2023) in a similar study at Telkom Gaharu Medan.

Thus, the proposed redesign of the information flow not only serves as a response to the current obstacles but also aligns with the digital transformation required in the post-pandemic era (Ciuriak, 2020; Nosova et al., 2021). An adaptive and integrated information system will enable PT Telkom Akses Palu to deliver services that are more efficient, effective, and competitively superior in the market. Furthermore, this study proves the importance of system redesign as a strategic step capable of turning weaknesses into strengths. This supports the assertion by Pratiwi et al. (2024) that systematic and data-driven constraint management is crucial for improving public service performance and addressing increasingly complex customer demands in the digital era, thereby sustaining customer trust.

CONCLUSION

This study concludes that the main obstacle in the Indihome installation process at PT Telkom Akses Palu lies in the suboptimal organization of the information flow. This has led to bottlenecks, particularly during technical or customer-related issues, resulting in installation delays and a decline in service quality. The lack of a real-time integrated information system, along with continued reliance on informal media such as Telegram groups and Google Sheets, hinders cross-unit coordination. As explained by Daft & Lengel (1986) and Pyplacz & Kus (2020), organizational efficiency greatly depends on the smooth flow of information.

Therefore, the proposed solution through the redesign of the information flow emphasizes optimizing the role of the Helpdesk and utilizing an integrated digital system so that information from technicians can be responded to quickly and accurately. This approach aligns with the principles of lean information flow and the Theory of Constraints, wherein eliminating the primary bottlenecks will enhance overall process efficiency. The implementation of the proposed system is expected to accelerate issue resolution by 30–40%, as demonstrated in the study by Bayhaqi et al. (2023), while also promoting a more adaptive and competitive digital transformation within PT Telkom Akses Palu.

SUGGESTION

Based on the findings and discussion of this study, it is recommended that PT Telkom Akses Palu begin implementing the proposed information flow system gradually, particularly in areas with the highest number of installation issues. This phased implementation will allow for comprehensive evaluation of the system's efficiency and effectiveness, as well as adjustments based on field conditions. The company should also strengthen digitalization and system integration by utilizing real-time technologies such as internal applications or ERP systems to support transparency of information across units. The presence of an application or website that connects all relevant parties will enhance service integrity and transparency, ultimately reinforcing customer trust.

In addition, improving human resource competencies through training and establishing clearer role divisions among TSEL, TIF, Technicians, and the Helpdesk is crucial to prevent overlapping responsibilities that can lead to information bottlenecks. Furthermore, increasing the number of personnel, especially technicians-is necessary to ensure that issues in the field can be handled more effectively and efficiently.

LIMITATION

This study has several limitations that should be taken into consideration. First, the scope of the research is limited to the area of PT Telkom Akses Palu, which means the results and proposed system design may not be generalizable to other Telkom regions or units that have different conditions and organizational structures. Second, the research employed a descriptive qualitative method, which does not allow for quantitative or statistical measurement of the improvements in effectiveness and efficiency following the implementation of the proposed system.Additionally, the proposed system presented in this study remains conceptual and has not yet been tested in the field, so the results do not reflect real-world implementation or the actual challenges that may arise. Finally, the issue data analyzed covers only a five-month period (October 2024 – February 2025), which does not represent annual trends or potential seasonal effects that may influence the frequency and types of installation issues.For future research, it is recommended that the proposed system be tested directly through case studies or limited-scale experiments and expanded to other regions for comparison. This is essential for producing a more adaptive, measurable, and applicable information flow model to meet the increasingly complex challenges of digitalization in public service delivery.

REFERENCES

Adda, H. W., Chintya, P., Buntuang, D., & Ardianto, H. (2022). Promoting Transformative Learning Through Independent-Study Campus (MBKM) During the COVID-19 Pandemic. Al-Ishlah: Jurnal Pendidikan, 14, 2701–2709. https://doi.org/10.35445/alishlah.v14i1.1867

Agung Nugraha, Nadya Ananda Efendi, Fadhillah Irwani Saragih, & Nurbaiti, N. (2022). Peran Internet Dan Google Classroom Sebagai Media Pembelajaran Mahasiswa. Jurnal Ilmiah Teknik Informatika Dan Komunikasi, 2(3), 17–24. https://doi.org/10.55606/juitik.v2i3.329

Akbar, H., & Saputra, R. (2023). Evaluasi Kinerja Tata Kelola Teknologi Informasi Terhadap Tools Internal Framework Cobit 2019. Sebatik, 27(2), 589–605. https://doi.org/10.46984/sebatik.v27i2.2336

Ali, R. F. (2024). Telkom Indonesia's Strategy for Business Expansion in the Global Market in the Digital Era. Global South Review, 6(1), 84. https://doi.org/10.22146/globalsouth.93308

Amin, T. S., & Syed, N. (2013). Securing the Future: A Systems Approach to Continuous Improvement in Health Care by Applying the Theory of Constraints. International Journal of Science and Research (IJSR) ISSN (Online Index Copernicus Value Impact Factor, 14(1), 2319–7064. www.ijsr.net

Asbari, M., Nuryanti, Y., Simorangkir, Y. N., & Sukriyah. (2023). The Consequences of Information Technology Adoption on Individual Knowledge-Sharing Intention. JISMA: Journal Of Information Systems and Management, 02(03), 97–109.

Asngadi. (2011). Studi Exploratory atas Faktor Penentu Konsumen Berkunjung di Mall Tatura Palu Sulawesi Tengah. Jurnal Aplikasi Manajemen, 9(2), 641–649.

Asngadi, Mas'adah, Miru, S., & Kaseng, S. (2020). Bottle Neck Point Rattan Industry Cluster Development in Palu City. 18013–18023.

Bachri, S., Putra, S. M., Farid, E. S., Darman, D., & Mayapada, A. G. (2023). the Digital Marketing To Influence Customer Satisfaction Mediated By Purchase Decision. Jurnal Aplikasi Manajemen, 21(3), 578–592. https://doi.org/10.21776/ub.jam.2023.021.03.03

Bathara, N., Siahaan, P., Aryza, S., & Anisah, S. (2022). ANALYSIS AND DESIGN FTTH (FIBER TO THE HOME) NETWORK WITH GPON TECHNOLOGY AT PT TELKOM, Tbk. Jurnal Infokum, 10(3), 526–531. http://infor.seaninstitute.org/index.php/infokum/index

Bayhaqi, A., Rifansyah, M. R., & Ikhsan, M. (2023). Rancangan Sistem Komplain Terhadap Jaringan pada Produk Indihome di Telkom Gaharu Medan. Jurnal Ilmiah Teknik Mesin, Elektro Dan Komputer, 3(3), 490–504. https://doi.org/10.51903/juritek.v3i3.2305

Bruque, S., Moyano, J., & Eisenberg, J. (2009). Individual adaptation to IT-induced change: The role of social networks. In Journal of Management Information Systems (Vol. 25, Issue 3, pp. 177–206). https://doi.org/10.2753/MIS0742-1222250305

Cao, W., He, X. ., Fan, X. ., Liu, G. ., Zhou, D. ., & Luo, B. (2015). Modelling of Complex Adaptive System of Information Flow. Proceedings of the International Conference on Computer Information Systems and Industrial Applications, 18(Cisia), 359–362. https://doi.org/10.2991/cisia-15.2015.98

Charity, D. S., Yulianto, E., & Wilopo. (2016). Analisis Strategi dalam Memasuki Pasar Internasional (Studi Kasus Pada PT Telekomunikasi Indonesia dalam Ekspansi di Myanmar). Jurnal Administrasi Bisnis (JAB)|Vol, 32(1), 18–26.

Ciuriak, D. (2020). Digital Trade in a Post-Pandemic Data-Driven Economy. SSRN Electronic Journal, June, 1–9. https://doi.org/10.2139/ssrn.3617251

Daft, R. L., & Lengel, R. H. (1986). Organizational Information Requirements, Media Richness and Structural Design. Management Science, 32(5), 554–571.

Dwiwijaya, K. A. (2024). E-Business and Digital Marketing : Integrating Management Information Systems for Competitive Advantage.

Effendi, M. (1970). Peranan Internet Sebagai Media Komunikasi. KOMUNIKA: Jurnal Dakwah Dan Komunikasi, 3(2), 130–142. https://doi.org/10.24090/komunika.v3i2.143

Fitriani, Adrian, & Yusnita. (2023). Analisis Strategi Penanganan Keluhan Konsumen Indihome Pada PT Telkom Cabang Kota Kendari. 8(2), 672–692.

Garcés, G., Forcael, E., Osorio, C., Castañeda, K., & Sánchez, O. (2025). Systematic review of Lean Construction: an approach to sustainability and efficiency in construction management. Journal of Infrastructure Preservation and Resilience, 6(1), 1–29. https://doi.org/10.1186/s43065-025-00119-1

Garcés, G., & Peña, C. (2023). A Review on Lean Construction for Construction Project Management. Revista Ingenieria de Construccion, 38(1), 43–60. https://doi.org/10.7764/RIC.00051.21

Goldratt, E. M. (1984). The Goal A Process of Ongoing Improvement. North River Press. 2004 Third Revised Edition.

H, I. M. W. P., & Husufa, N. (2023). Monitoring Application Complaints of Internet Service Provider Interference Using Waterfall Method (Case Studies: Indihome Pasar Baru Tangerang). Journal of Information Systems and Informatics, 5(1), 186–200. https://doi.org/10.51519/journalisi.v5i1.426

Inayati, T., & Wahyuningsih, S. D. (2018). Pendekatan Theory of Constraint (TOC) dalam Meningkatkan Efisiensi Biaya Produksi (Studi ada PT. Perkebunan Nusantara X Pabrik Gula Tjoekir Diwek Kabupaten Jombang Propinsi Jawa Timur). Jurnal Manajemen Perbankan Keuangan Nitro, 1(2), 94–117. https://doi.org/10.56858/jmpkn.v1i2.10

John W. Creswell, & Poth, C. N. (2019). Qualitative Inquiry and Research: Design Choosing Among Five Approaches. In Sustainability (Switzerland) (Vol. 11, Issue 1). http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciurbeco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484_SISTEM_PEMBETUNGAN_TERPUSAT_STRATEGI_MELESTARI

Karim, F., Laupe, S., Zahra, F., & Latowale, I. (2023). The impression of information system internalization on the sustainability of the quality of financial reports and their impact on local government performance. International Journal of Public Policy and Administration Research, 10(3), 87–98. https://doi.org/10.18488/74.v10i3.3505

Kehinde, O. (2025). Leveraging Data-Driven Decision-Making for Enhanced Risk Management and Resource Allocation in Projects. January. https://doi.org/10.7753/IJCATR1402.1001

Kumar Mishra, A., & Kumar Moktan, K. (2019). Identification of Constraints in Project Schedule Management. International Journal of Research -GRANTHAALAYAH, 7(2), 18–35. https://doi.org/10.29121/granthaalayah.v7.i2.2019.990

Lestari, F., Hartanti, D., & Hasanah, H. (2025). Pemodelan Sistem Rekomendasi Pemilihan Paket Internet. Jurnal JTIK (Jurnal Teknologi Informasi Dan Komunikasi), 9(March), 217–224.

Muzakir, Bachri, S., Adam, R. P., & Wahyuningsih. (2021). The analysis of forming dimensions of e-service quality for online travel services. International Journal of Data and Network Science, 5(3), 239–244. https://doi.org/10.5267/j.ijdns.2021.6.010

Nosova, S., Norkina, A., Makar, S., & Fadeicheva, G. (2021). Digital Transformation as a New Paradigm of Economic Policy. Procedia Computer Science, 190(2019), 657–665. https://doi.org/10.1016/j.procs.2021.06.077

Pratiwi, R. Y., Kaseng, S., & Asngadi. (2024). THE ANALYSIS OF PAVING BLOCK QUALITY CONTROL WITH VARIABLE APPROACHES (Study Of CV . Proton In Palu City). 6(3), 172–179.

Pyplacz, P., & Kus, A. (2020). The Role of The Information Flow Management System in Creating Organizational Knowledge. Education Excellence and Innovation Management: A 2025 Vision To Sustain Economic Development During Global Challenges, 35th International-Business-Information-Management-Association Conference (IBIMA), 2159-2166 WE-Conference Proceedings Citation In.

Rahmadoni, J., Arga, A., #2, A., & Akbar, R. (2021). Rancangan dan Evaluasi Sistem Informasi Inventori APD untuk Covid-19 dengan Metode PIECES. JEPIN (Jurnal Edukasi Dan Penelitian Informatika), 7(2), 270–281.

Rombe, E., Zahara, Z., Santi, I. N., & Rahadhini, M. D. (2021). Exploring E-mobile banking implementation barriers on indonesian millennial generation consumers. International Journal of Data and Network Science, 5(4), 579–586. https://doi.org/10.5267/j.ijdns.2021.8.010

Siaha Widodo, A. (2019). Peran Internet dalam Meningkatkan Jumlah Pekerja Lepas di Indonesia. NYIMAK : Journal of Communication, 3(2), 191–202.

Sihadi, I. P., Pangemanan, S. S., & Gamaliel, H. (2018). Identifikasi Kendala dalam Proses Produksi dan Dampaknya Terhadap Biaya Produksi Pada UD. Risky. 13(4), 602–609.

Siregar, H. F., & Sari, N. (2018). Analisis Dan Perancangan Sistem Administrasi Pasang Baru Indihome Di Pt. Telkom Indonesia Plasa Tanjungbalai. Jurnal Teknologi Informasi, 1(2), 153. https://doi.org/10.36294/jurti.v1i2.289

Solihati, K. D., & Adriwati. (2021). Adaptasi Perusahaan Telekomunikasi Indonesia Dalam Menghadapi Era Disrupsi. Journal of Business Administration Economic & Entrepreneurship, 3(1), 30–37.

Sugiyanto, Mustafa, P. setya, Gusdiyanto, H., & Victoria, A. (2020). Metode Penelitian Kuantitatif dan kualitatif (p. 144).

Sutomo, M., Wahyuningsih, Muslimin, Mangun, N., Rombe, E., & Fattah, vitayanti. (2024). Optimization of Pentahelix Collaboration in Tourism Development Management:Effective Strategies to Overcome Poverty. Jurnal Konsep Bisnis Dan Manajemen, 10(2), 237–250. https://doi.org/10.31289/jkbm.v10i2.11850

Syahria, R., & Noor Ali, A. (2017). Analisa Kesenjangan dan Dampak Perubahan Proses Bisnis Financial Accounting Berdasarkan Best Practice SAP (Studi Kasus: PT Perkebunan Nusantara XI). Jurnal Teknik ITS, 5(2), 1–5.

Syamsuddin, Saharuddin, Yusrizal, Dharmawati, T., Pujisari, Y., & Fatmawati, E. (2024). Utilizing Blockchain Technology in Global Supply Chain Management: An Exploration of Scalable Information Systems. EAI Endorsed Transactions on Scalable Information Systems, 11(1), 1–12. https://doi.org/10.4108/eetsis.4374

Triana, Y. S., Rochana, A., & Saputri, A. E. (2019). Implementasi Sequential Search Pada Pencarian Data Tarif Aplikasi Perjalanan Dinas Karyawan PT Telkom Akses. Jurnal RESTI (Rekayasa Sistem Dan Teknologi Informasi), 3(2), 202–209. https://doi.org/10.29207/resti.v3i2.920

Wahyuningsih, Nasution, H., Roostika, R., & Yeni, Y. H. (2022). an Examination of Customer Satisfaction Toward Online Food Shopping During Covid-19 Pandemic. Jurnal Aplikasi Manajemen, 20(2), 231–241. https://doi.org/10.21776/ub.jam.2022.020.02.02

Wahyuningsih, W., Nasution, H., Yeni, Y. H., & Roostika, R. (2022). The Drivers of Repurchase Intention During The Corona Pandemic: An Examination of Gender Difference. Asean Marketing Journal, 14(1). https://doi.org/10.21002/amj.v14i1.1149

Yunus Kasim, M., Muslimin, & Dwijaya, I. K. B. (2022). Market reaction to the Covid-19 pandemic: Events study at stocks listed on LQ45 index. Cogent Business and Management, 9(1). https://doi.org/10.1080/23311975.2021.2024979

Zahara, Z., Ikhsan, Santi, I. N., & Farid. (2023). Entrepreneurial marketing and marketing performance through digital marketing capabilities of SMEs in post-pandemic recovery. Cogent Business and Management, 10(2). https://doi.org/10.1080/23311975.2023.2204592

Zahara, Z., Muslimin, M., & Buntuang, P. C. D. (2022). The impact of marketing innovations and business plans on business sustainability during the COVID-19 pandemic. Innovative Marketing, 18(3), 121–135. https://doi.org/10.21511/im.18(3).2022.11

Zofio, J. L., Aparicio, J., Barbero, J., & Zabala-Iturriagagoitia, J. M. (2023). The influence of bottlenecks on innovation systems performance: Put the slowest climber first. Technological Forecasting and Social Change, 193(January), 122607. https://doi.org/10.1016/j.techfore.2023.122607