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Digital Transformation in the Tariff Monitoring and Evaluation Division BP Batam

Transformasi Digital di Divisi Pemantauan dan Evaluasi Tarif BP Batam

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ABSTRACT

This program aims to shift the use of paper media in the tariff fairness evaluation activities of the Tariff Monitoring and Evaluation Division at BP Batam to digital media. Information is gathered through employee interviews and surveys. By transitioning to digital media, increased efficiency and reduced operational costs are expected, as well as a positive environmental impact through reduced paper usage.

Keywords: Digital transformation; surveys tariff; paper reduction

Abstrak: Program ini bertujuan untuk mengalihkan penggunaan media kertas dalam kegiatan evaluasi kewajaran tarif di Divisi Monitoring dan Evaluasi Tarif BP Batam ke media digital. Informasi dikumpulkan melalui wawancara dan survei karyawan. Dengan beralih ke media digital, diharapkan terjadi peningkatan efisiensi dan pengurangan biaya operasional, serta dampak positif terhadap lingkungan melalui pengurangan penggunaan kertas.

Kata kunci: Transformasi digital; tarif survei; pengurangan kertas

INTRODUCTION

Currently, technological advancements provide companies with numerous opportunities to enhance efficiency, productivity, and costs (Morford, 2020). Industry 4.0 has driven governments to utilize technology to improve public services and administration. The Internet of Things, Big Data, Artificial Intelligence, and Robotics are key components of the Industrial Revolution 4.0 that is emerging worldwide. As digital innovation evolves rapidly, traditional methods are being replaced by new technologies (Aminah & Saksono, 2021). Many companies have adopted digital transformation (DT), which has become a new method for gaining a competitive edge in the highly competitive and dynamic market. Implementing DT has had a positive impact on company performance (Chen et al., 2021).

BP Batam, particularly the Tariff Monitoring and Evaluation Division, needs to conduct tariff fairness evaluations for BP Batam's assets. Every year, surveys are carried out with the community as respondents. However, in conducting these surveys, paper remains the primary medium used, with a considerable amount being consumed. Considering the substantial and routine use of paper each year, implementing digital

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transformation by replacing paper with digital media is the appropriate solution to this issue.

LITERATURE OR CONCEPTUAL REVIEW

2.1 Digital transformation

The use of digital technology to enhance productivity and company value is known as digital transformation, an objective process that responds to changes in the business environment. Digital transformation is related to the implementation and alignment of digital technology within a company, making organizational changes, and creating new opportunities and value (Firmansyah & Saepuloh, 2022). With today's digital advancements, transitioning to digital media, such as Google Forms, would be a more effective approach. Using such services makes survey activities more efficient and provides ease of use for new users. Another benefit is the significant reduction in excessive paper usage. Digital transformation is not solely about adopting new technologies; it also involves reshaping how people think, interact, and work within a public environment (Mannayong et al., 2024). Research conducted by Al-Saudi & Flayyih. (2024) indicates that digital transformation can enhance office management efficiency by utilizing data analytics to boost productivity, streamline processes, automate tasks, and improve overall work efficiency.

2.2 BP Batam

The Batam Free Trade Zone and Free Port Authority (BP Batam) is a government agency that operates independently of any ministry. BP Batam was established to optimize Batam's strategic position as a primary economic and trade hub in Indonesia and Southeast Asia. As an agency with command over the Free Trade Zone and Free Port (KPBPB) area, BP Batam plays a crucial role in driving economic growth through investments, trade, and port activities.

The Batam Free Trade Zone and Free Port Authority (BP Batam) was established in 1974 through Presidential Decree (Keppres) Number 41. The decree stated that the Authority area, designated as the development area for the industrial growth of Batam Island, holds responsibility for overseeing the development and growth of the island's industrial sector. This includes authority over land allocation and usage to facilitate the development of Batam as an industrial zone (BP Batam).

RESEARCH DESIGN

This program is designed to support BP Batam in enhancing operational effectiveness through digitalization, particularly in the implementation of tariff fairness surveys. By adopting a digital system, business processes at BP Batam are expected to become more efficient, faster, and accurate, thereby improving service quality and decision-making. Additionally, this program aims to educate the organization on adopting the green office concept, which emphasizes environmental sustainability in every activity and the use of company facilities and infrastructure.

The implementation of the green office concept will help BP Batam reduce excessive use of natural resources, such as paper, while promoting a more environmentally friendly work culture. By prioritizing these sustainability principles, BP Batam can demonstrate its commitment to environmental preservation while improving operational efficiency and reducing costs. This program is expected to serve as a significant initial step in driving BP Batam towards a more sustainable and modern transformation in conducting its business.

In this project, data collection techniques are conducted through two primary methods: interviews and observations. These methods were chosen to ensure that the information obtained is accurate and relevant, as well as reflective of the actual conditions and needs of the work environment at BP Batam.

Based on the problem analysis at BP Batam, one of the main obstacles is the inefficiency of the tariff reasonableness survey process, which is still conducted manually or using conventional methods. This causes the survey process to take a long time and is prone to errors in data recording and analysis. The proposed solution is to design a digital transformation to optimize all stages of the survey, from data collection, storage, to tariff analysis, by utilizing digital technology such as Google Form. This transformation is expected to speed up the survey process, improve data accuracy, and facilitate real-time evaluation of survey results.

RESULTS

4.1 Before Implementation

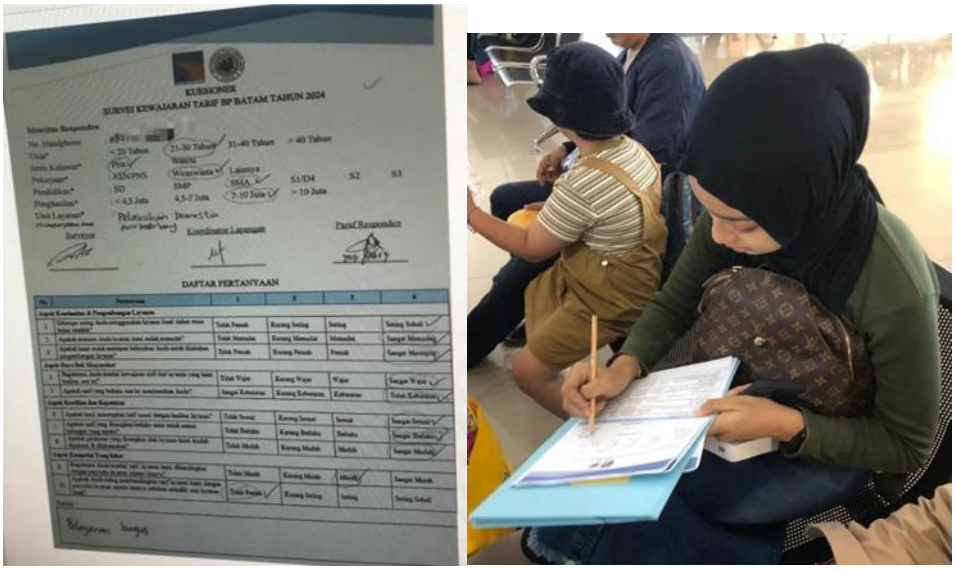
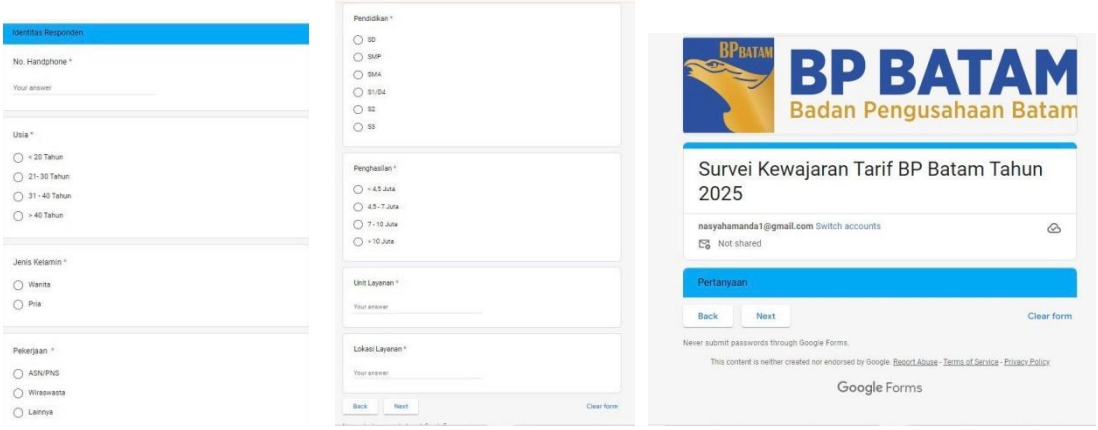


Image 1. Questionnaire form and A respondent filling out a questionnaire form

4.2 After Implementation



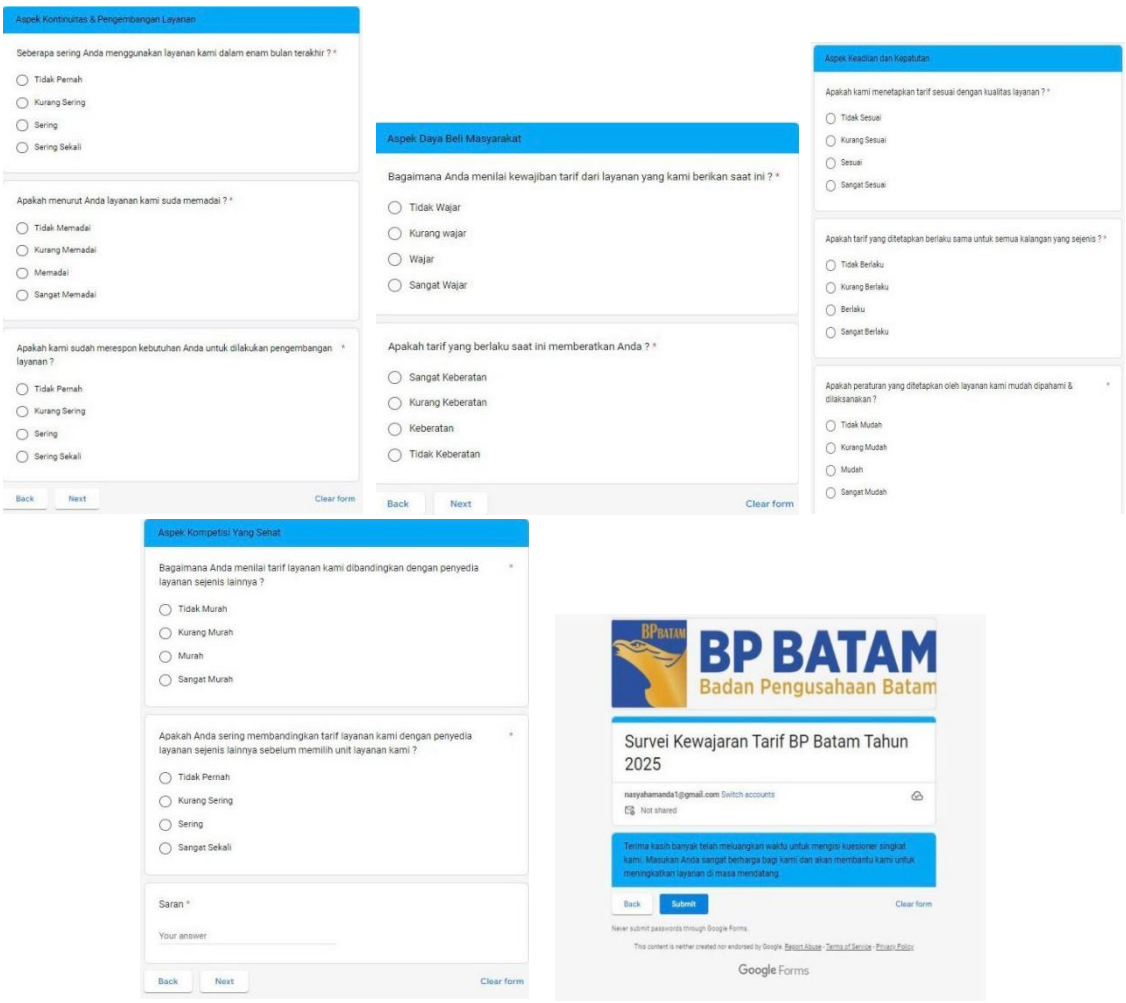


Image 2. Google form

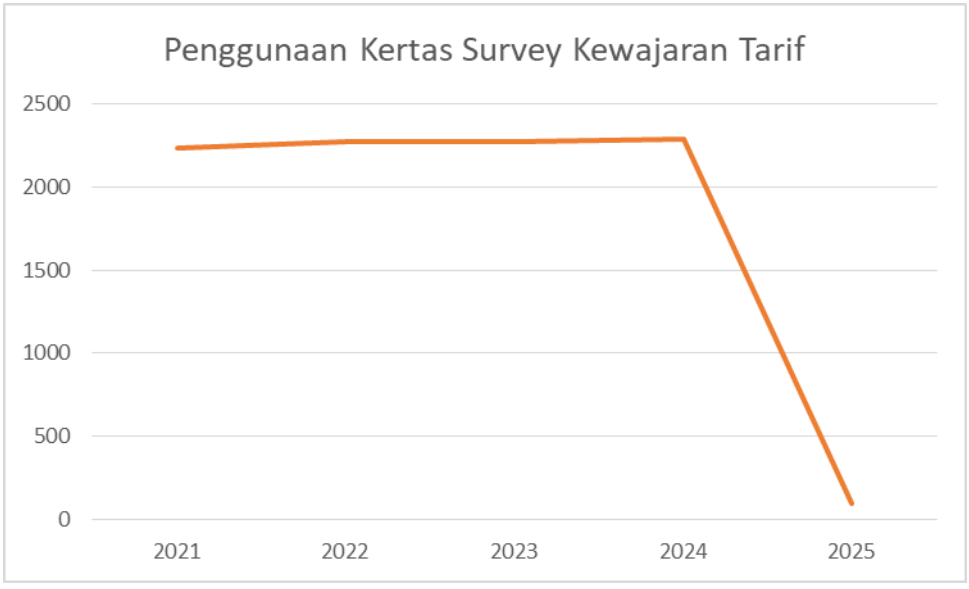


Image 3. Graph of Paper Usage Decline

The image above shows the Google Form that has been designed and effectively used for the tariff feasibility survey. This form is part of the effort to improve data collection efficiency, allowing respondents to complete the survey more quickly and easily in a digital format. The use of Google Forms in this survey ensures that the data collected is more structured, accurate, and can be

analyzed in real-time. With this approach, the tariff feasibility survey becomes more systematic, supporting the smooth process of monitoring and evaluating tariffs conducted by BP Batam.

After BP Batam implemented the Google Form system, data processing became much more efficient. Previously, BP Batam often faced difficulties in managing data due to the need to manually re-enter information from the distributed paper forms. However, with the use of Google Forms, the collected data is automatically stored, ensuring greater accuracy and better structure.

Respondents also experienced significant benefits from the use of Google Forms. The data entry process became easier, more convenient, and could be done at any time without the need to visit the location in person. As a result, the time required for data collection was reduced, speeding up service delivery and minimizing the potential for errors in data recording. Overall, the implementation of Google Forms by BP Batam not only helped improve internal data processing efficiency but also enhanced the public's experience in accessing the services provided.

By implementing Google Forms, BP Batam successfully reduced paper usage while supporting the green office initiative. Previously, the Monitoring and Tariff Evaluation division used a large amount of paper to collect responses from respondents, with an average paper usage of about 2,000 to 2,500 sheets per year from 2021 to 2024. However, by transitioning to a digital system, paper usage was significantly reduced. This is evident from the graph, which shows a sharp decline in 2025, where paper usage nearly reaches zero.

DISCUSSION

The implementation of Google Forms by BP Batam significantly improved the efficiency of data collection and processing for the tariff feasibility survey. By transitioning from paper forms to a digital system, BP Batam eliminated manual data entry, ensuring more accurate, structured, and real-time data analysis, which sped up the evaluation process. Respondents benefited from the convenience of filling out the survey at their own time, leading to faster feedback and increased participation. Additionally, this digital shift supported BP Batam’s green office initiative by drastically reducing paper usage, with an average reduction from 2,000–2,500 sheets per year to nearly zero by 2025. The systematic, organized nature of Google Forms also helped streamline the survey process, making it more efficient, cost-effective, and environmentally friendly, while enhancing both the internal and public experience of the tariff evaluation process.

CONCLUSIONS

The conclusion from the discussion is that BP Batam's adoption of Google Forms for the tariff feasibility survey has proven to be a highly successful initiative, enhancing both operational efficiency and sustainability. The shift to a digital platform streamlined data collection and processing, reduced human error, and allowed for real-time data analysis, ultimately accelerating decision-making and improving the overall quality of the survey. Furthermore, the transition contributed significantly to BP Batam's green office goals by dramatically reducing paper usage, benefiting both the environment and cost management. Overall, this move has not only optimized internal processes but also improved the public’s experience by making the survey more accessible and convenient.

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