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Evaluating The Efficiency Of Digital Tax Reporting Systems: A Human-Computer Interaction Perspective On E-Faktur Implementation

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Abstract—The digitalization of corporate tax reporting through the E-Faktur application is intended to streamline administrative workflows, yet its practical efficiency heavily relies on user experience. This study evaluates the efficiency of the digital tax reporting system implemented at CV. Jati Visions Raya, utilizing a Human-Computer Interaction (HCI) perspective. The evaluation is systematically measured across five fundamental HCI usability criteria: learnability, efficiency, memorability, errors, and satisfaction. By analyzing user interaction patterns and operational workflows, the research identifies specific usability bottlenecks that impact the corporate reporting of Value Added Tax (VAT). The findings indicate that while the system achieves baseline regulatory compliance, optimizing specific interface elements can significantly reduce reporting errors and enhance overall task efficiency. The results provide actionable insights for improving digital taxation platforms and serve as a foundational reference for businesses adapting to mandated e-government applications.

Keywords— *Digital Tax Reporting, E-Faktur, Human-Computer Interaction, Usability Evaluation, System Efficiency*

I. INTRODUCTION

The rapid transition towards digital governance has fundamentally transformed how corporate entities manage their tax obligations. In Indonesia, the Directorate General of Taxes has mandated the use of the E-Faktur application for reporting Value Added Tax (VAT) [1], [2], [3], [4]. While this digitalization aims to increase transparency, streamline administrative processes, and improve taxpayer satisfaction [5], its effectiveness is highly contingent on the system's usability from the end-user's perspective. The shift from manual to electronic reporting often introduces new complexities, particularly for administrative staff who must interact with specific software environments to ensure strict regulatory compliance.

Despite the mandatory nature of the E-Faktur application, user experience remains a critical factor in achieving true operational efficiency. A reporting system that is counterintuitive can lead to increased data entry errors, extended task completion times, and heightened frustration among users. CV. Jati Visions Raya, a corporate entity that routinely processes VAT reporting, serves as a highly relevant environment to examine these practical challenges. The company's administrative workflow necessitates seamless and efficient interaction with the taxation application to maintain compliance and avoid potential administrative penalties [6].

To systematically evaluate these interaction dynamics, this study employs the principles of Human-Computer Interaction (HCI) [7]. HCI focuses on the design and evaluation of computer technology interfaces, emphasizing the optimal interaction between users and systems [8]. According to foundational organizational information systems frameworks, system usability can be comprehensively assessed through five key dimensions: learnability, efficiency, memorability, error rate, and user satisfaction [9], [10]. By applying these established criteria, this research can precisely identify specific interface bottlenecks and operational friction points within the application's workflow.

The primary objective of this study is to evaluate the efficiency of the digital tax reporting system at CV. Jati Visions Raya through the HCI perspective. By doing so, it aims to provide a comprehensive analysis of the system's usability and offer actionable recommendations for enhancing corporate digital tax workflows. Ultimately, this research seeks to bridge the gap between regulatory mandates and practical user execution, providing valuable insights for the continuous refinement of e-government applications.

II. METHOD

This research employs a descriptive qualitative methodology to systematically evaluate the user experience and operational efficiency of the E-Faktur application. Unlike quantitative research that focuses on trends and frequencies, qualitative research provides an inductive approach to understanding the underlying meanings and practical challenges of human-computer interactions within an organizational context [11]. The descriptive design allows for a detailed exploration of existing phenomena in their natural setting, which in this case is the daily administrative environment of CV. Jati Visions Raya [12].

The analytical framework of this study is grounded in the Human-Computer Interaction (HCI) evaluation model. Specifically, it applies Jacob Nielsen's established usability criteria to assess the software interface [13]. These criteria encompass five fundamental dimensions: learnability, efficiency, memorability, error rate, and user satisfaction.

Data collection was conducted through a triangulation of primary and secondary methods to ensure a comprehensive analysis. Primary data were gathered via direct observation of the administrative staff during the execution of Value Added Tax (VAT) reporting tasks. This was coupled with structured interviews focusing strictly on the five aforementioned HCI

criteria. The interviews were designed to capture in-depth user feedback regarding system responsiveness, interface clarity, and operational friction points. Meanwhile, secondary data were obtained through a comprehensive literature review of relevant system documentation, tax regulations, and previous HCI studies to corroborate and support the empirical findings.

III. RESULTS AND DISCUSSION

The evaluation of the E-Faktur application at CV. Jati Visions Raya yielded significant insights into the practical realities of digital tax administration. The analysis is structured around the five core usability components of the Human-Computer Interaction (HCI) framework. By evaluating these dimensions during the primary observation period, this study identifies both the functional strengths and the usability friction points within the current operational phase of the VAT reporting workflow.

Learnability

Learnability assesses how easily new users can accomplish fundamental tasks upon their initial interaction with the system. Observations indicate that the E-Faktur application presents a moderately steep learning curve for administrative staff. The interface is heavily structured around strict bureaucratic terminology rather than intuitive, user-centric language. Consequently, new administrators at CV. Jati Visions Raya require a dedicated orientation period to understand the navigation hierarchy and the specific sequence required to input tax invoice data correctly. While the system provides standardized digital manuals, the practical onboarding process heavily relies on peer-to-peer knowledge transfer within the office.

Efficiency

Efficiency measures the speed and productivity with which experienced users can complete their tasks. Once the administrative staff familiarized themselves with the interface, the time required to process individual tax invoices decreased. However, operational efficiency is frequently hampered during peak reporting cycles. The study found that while the system supports bulk data uploading (e.g., CSV imports), any slight formatting deviation in the source file causes the entire batch to fail without pinpointing the exact line of error. This forces users into a time-consuming manual review process, significantly degrading the overall efficiency of the tax reporting workflow.

Memorability

Memorability evaluates how easily users can reestablish their proficiency after a period of non-use. Because VAT reporting is a mandatory routine activity, the primary administrative staff interacts with the core features of the E-Faktur application regularly, leading to high retention of standard procedures. However, challenges arise with less frequently used features, such as generating specific annual recap reports or correcting historical input errors. Users reported that navigating these peripheral menus often requires them to relearn the steps, indicating that the system's architecture does not adequately support intuitive recall for secondary functions.

Errors

This dimension analyzes the frequency, severity, and recoverability of user errors. During the observation period, the most common errors were related to manual data entry, specifically concerning tax identification numbers and transaction dates. A critical finding is that the E-Faktur application's error-handling mechanism is suboptimal. When a user inputs invalid data, the system often generates generic error codes (e.g., "Error ETAX-XXXX") rather than plain-language explanations of what went wrong and how to fix it. This lack of constructive feedback increases user frustration and extends the time required to recover from simple typographical mistakes.

Satisfaction

User satisfaction reflects the subjective comfort and acceptability of the system. Interviews with the administrative staff at CV. Jati Visions Raya revealed a pragmatic but unenthusiastic attitude toward the E-Faktur application. Users recognize it as a mandatory, indispensable tool for regulatory compliance, which drives utilization regardless of user experience. However, the rigid visual design and the high-stress environment induced by strict reporting deadlines and generic error messages result in a low baseline of aesthetic and operational satisfaction. The system is perceived strictly as an administrative obligation rather than an empowering digital tool.

Discussion and Implications

The findings across these five HCI dimensions suggest that while the E-Faktur application successfully fulfills its primary function as an e-government data collection tool, its user interface is not optimized for administrative efficiency at the corporate level. The strict, unyielding design prioritizing database integrity often comes at the expense of user experience. For entities like CV. Jati Visions Raya, this translates to hidden operational costs in the form of extended processing times and the need for meticulous manual cross-checking. Enhancing the system's error-feedback mechanisms and introducing more intuitive data validation interfaces would significantly bridge the gap between technical compliance and practical user efficiency.

IV. CONCLUSIONS

The evaluation of the E-Faktur application at CV. Jati Visions Raya through the Human-Computer Interaction (HCI) framework reveals a system that, while technically effective for regulatory compliance, presents significant usability challenges in a practical corporate setting. The study demonstrates that although the application successfully facilitates mandatory Value Added Tax (VAT) reporting, its rigid interface design, steep initial learning curve, and suboptimal error-handling mechanisms severely impede administrative efficiency. While users maintain high memorability for routine tasks, overall user satisfaction is compromised by the system's unforgiving response to data entry deviations, particularly during bulk uploading processes.

To bridge the gap between bureaucratic mandates and operational productivity, it is highly recommended that future iterations of e-government taxation platforms adopt a more user-centric design philosophy. Implementing plain-language error feedback, intuitive data validation protocols, and streamlined navigation for peripheral functions will not only reduce administrative friction for corporate users but also enhance the overall efficacy of digital tax compliance systems.

Authors' Contributions

Aris Riyanto conceptualized the study, developed the methodology, provided academic supervision, and led the drafting and final editing of the manuscript. Salsabila contributed to the formal analysis, manuscript validation, and provided critical reviews during the writing process. Afifah conducted the primary field investigation, including data curation, observations, and interviews at CV. Jati Visions Raya. All authors have read and agreed to the published version of the manuscript.

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