

Analysis of Sap Fiori Utilization and its Influence on Employee Administrative Processes at Sinarmas Coal Mining Company

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Abstract

The digitalization of talent management is essential to meet the modern workforce's expectations for an intuitive technology experience. This study evaluates the use of SAP Fiori at PT Bumi Kencana Eka Sakti, a coal mining company under Sinarmas, focusing on the gap between technology implementation and user satisfaction. The main objective of this study is to evaluate the effectiveness of SAP Fiori use from an employee perspective and develop UI/UX development recommendations. This study argues that continuous innovation, driven by a user-centered design approach, is a key mediator between SAP Fiori quality and employee retention. This study uses qualitative methods with content analysis. Data will be collected through in-depth interviews and surveys to gain a comprehensive understanding of user perceptions, experiences, and challenges. This study is expected to provide an in-depth evaluation of SAP Fiori's effectiveness, identifying its strengths and areas for development. These findings will form the basis for formulating UI/UX innovation recommendations that can improve user experience, contribute to talent retention, and provide scientific contributions by linking digital innovation with HR management outcomes.

Keywords: SAP Fiori, Talent Management, Employee Retention, Continuous Innovation, User Experience

Introduction

Digital transformation is a strategic inevitability that must be adopted by modern organizations to increase operational effectiveness and competitiveness in the era of Industrial Revolution 4.0. Competitive pressure, the dynamics of the business environment, and demands for speed of service make digitalization the main instrument in creating adaptive, efficient and user-oriented business processes (Sun & Wu, 2026).

In the field of human resource management, digital transformation plays a crucial role because aspects of HR management are directly related to data accuracy, time efficiency, quality of decision making, and the quality of internal services received by employees (Dessler, 2020; Turel et al., 2021). Personnel administration processes that are not digitalized, for example still carried out manually or using systems that are not integrated, often result in various problems such as duplication of data, delays in approval flows, long bureaucratic processes, lack of transparency, and increased administrative workload (Stair & Reynolds, 2019; Al-Dmour et al., 2021).

As a large company operating in the mining sector, Sinarmas Mining faces a high level of business process complexity, especially in the employee administration aspect (Meyers & Kottke, 2020; Kim & Lee, 2019). With a workforce of more than 500 people, a wide spread of work locations, and a high need for updating personnel data, administrative efficiency is a fundamental factor in maintaining the resilience of operational processes (Martínez-Campillo et al., 2021). This complexity demands an

information system that is able to provide easy access, speed up internal service processes, and increase data accuracy (Henderson & Griggs, 2020; Lee et al., 2022).

To answer this challenge, Sinarmas Mining implemented SAP Fiori, a web and mobile-based platform that provides a modern, intuitive and user-centric interface. SAP Fiori was designed with a role-based design approach and simple UX, so it can speed up the approval process, provide better data visibility, and automate administrative activities that previously required significant time and effort (Kumar, 2023; Patel, 2024).

Employee business processes such as attendance, leave applications, supervisor approval, updating personal data, accessing pay slips, and other employee self-service services are high frequency activities and have a direct contribution to organizational effectiveness. Optimizing these services is correlated with increasing productivity, work efficiency, and employee satisfaction levels as users (Nair et al., 2025; Rulandari & Silalahi, 2025). In this context, the implementation of SAP Fiori is expected to reduce manual activities, speed up the flow of internal services, and provide fast and structured access to information for all Sinarmas Mining employees.

However, the success of technology implementation is not only determined by its ability to automate processes, but also by the level of user acceptance and experience in interacting with the system (Davis, 1989). Various studies confirm that information systems that are uncomfortable to use, slow, or do not meet user expectations can reduce utilization levels, hinder productivity, and trigger resistance to change (Venkatesh et al., 2003). In the case of SAP Fiori at Sinarmas Mining, indications of variations in user experience regarding ease of use, system speed, interface quality, and feature reliability require empirical analysis to assess the consistency of system benefits with operational needs.

Apart from the user perception aspect, evaluating the impact of SAP Fiori on administrative efficiency is important to assess the value for money of technology investments made by companies. A comprehensive evaluation that includes speed of service, reduction of manual activities, increased data accuracy, and effectiveness of approval flows is essential so that organizations can identify areas that have been optimized and aspects that require further improvement (Turban et al., 2018). Without a systematic review, it is potentially difficult for companies to assess whether system implementation really provides significant benefits to business operations and improves the quality of HR services.

Based on the background of this problem, this research is important to carry out. Analysis of the use of SAP Fiori in the employee administration process at Sinarmas Mining not only provides an empirical picture of its impact on process efficiency, but also strengthens understanding of user experience and perception as a key factor in the success of digital system implementation. It is hoped that the research results can become a strategic basis for companies in designing system development, making improvements to digital services, and improving the quality of personnel administration processes in the future.

Golden Energy Mines Tbk (GEMS) is a coal mining company that is part of the Sinarmas Mining business ecosystem, one of the largest mining groups in Indonesia. GEMS operates through various business entities and affiliated companies that manage the coal supply chain in an integrated manner, from exploration, production, transportation, to marketing. Several major mining companies under the auspices of GEMS include PT Borneo Indobara (BIB) which is a large-scale coal producer in South Kalimantan, PT Kuansing Inti Makmur (KIM) in Central Kalimantan, as well as a number of other mining companies that support regional diversification and production capacity. According to GEMS public reports, their total concession area reaches around 66,204 hectares with coal reserves reaching 0.90 billion tons.

In 2024, GEMS recorded coal production of 50.69 million tons, an increase from the previous year, and exceeding their production target. Total consolidated coal sales will also reach 51.9 million tons in 2024. From a marketing perspective, GEMS distributes its production results to domestic and export markets. In its sustainability report, GEMS stated that it fulfills its Domestic Market Obligation (DMO) obligations by selling at least 25% of its products to the domestic market. In fact, in certain years, domestic sales realization reached 37% of total sales. Domestic products are supplied to PLN, private power plants and smelter projects in Indonesia.

Meanwhile, the export portion is quite large: in 2024, 63% of GEMS' total coal sales will be exported abroad. Of these exports, 45% was sent to China, 11% to India, and the rest to other countries. GEMS' commitment to efficient operations, sustainability and good governance makes it an important player in the Sinarmas Mining portfolio. With a large production scale and strong global marketing channels, GEMS provides a significant contribution to the national energy supply while strengthening Sinarmas Mining's strategic position in the coal mining industry.

As a public company, GEMS is committed to implementing good corporate governance and high operational standards in all its business processes. The company prioritizes efficiency, regulatory compliance and operational sustainability through various environmental and community empowerment programs. With the support of integrated technology and information systems, including the use of digital platforms such as SAP Fiori, GEMS continues to improve its operational capabilities to answer the needs of the dynamic energy market.

This study aims to comprehensively analyze the use of SAP Fiori in supporting employee administration processes within Sinarmas Mining Company (GEMS) by focusing on the perception and experience of internal users related to ease of use, system reliability, adoption rate, and its impact on administrative process efficiency, such as accelerating workflows, reducing administrative burden, and improving data accuracy.

Theoretically, this research contributes to the development of the study of information systems management and human resource management through the integration of the perspectives of Technology Acceptance Model, Information Systems Success Model, and TQM. Practically and managerially, the results of this research are expected to be the basis for evaluation and decision-making for management in

optimizing the implementation of SAP Fiori, both in terms of UI/UX, business process improvement, and strengthening digital transformation policies that are oriented towards improving the quality of internal services and sustainable organizational governance

Method

This research used a descriptive-exploratory qualitative approach to understand phenomena in depth through research subjects' perspectives and experiences. According to Creswell (2014), qualitative research is employed when researchers seek to explore processes, meanings, and individual perspectives on complex phenomena. A descriptive-exploratory approach was appropriate for examining user experiences with SAP Fiori utilization and its effects on administrative processes and job satisfaction.

This research was grounded in the interpretivism paradigm, which views reality as socially constructed through individuals' subjective experiences and interpretations (Schwandt, 1994). Within this paradigm, the study examined how employees perceived and interpreted SAP Fiori use in their daily work, including views on system ease of use, challenges encountered, and its perceived impact on administrative processes. By emphasizing users' lived experiences, the interpretivist approach enabled deeper exploration of meaning, context, and organizational practices surrounding information system implementation.

Data collection employed qualitative methods to obtain rich, in-depth, contextually grounded insights into SAP Fiori utilization and its implications for administrative processes at Sinarmas Mining. The primary technique was in-depth, semi-structured interviews, which allowed flexibility for respondents to articulate experiences, perceptions, and evaluations while enabling probing of key system-use issues.

Approximately ten (10) SAP Fiori end users were selected through purposive sampling. Criteria included: (1) employees who actively used SAP Fiori in routine administrative tasks; (2) users with sufficient system usage duration for reflective insights; (3) those directly involved in personnel administration (e.g., leave, attendance, approvals, or data management); and (4) willingness to participate openly.

From a Total Quality Management (TQM) perspective, these end users were considered internal customers who directly received and utilized organizational information system services. Their experiences thus provided critical data for evaluating System Quality and Information Quality, as conceptualized in the DeLone and McLean (D&M) Information Systems Success Model.

Most end-user informants came from the Compliance, Licensing, and Administration Business Units, whose core activities relied heavily on structured administrative processes, regulatory documentation, approvals, and data accuracy—all directly supported by SAP Fiori functionalities. Employees in these units interacted intensively with the system, making them likely to experience its benefits and limitations. These units also offered suitable contexts for in-depth inquiry due to researcher access, facilitating repeated interactions and comprehensive data collection without operational disruption.

To complement end-user perspectives, the study included informants from the Human Resources (HR) Department. HR interviews provided functional and managerial insights into SAP Fiori's role in personnel administration—including data management, leave/attendance administration, approval workflows, and other HR services. As process owners and internal service providers, HR perspectives were essential for assessing alignment between SAP Fiori functionalities, policies, and standardized processes.

Additionally, two (2) SAP Fiori Key Persons or Administrators from the Information Technology (IT) function served as informants. These individuals—such as SAP Functional Consultants, SAP Fiori/System Administrators, or IT Application Support personnel—handled system configuration, development, maintenance, troubleshooting, and user support. Their input offered system-level views on process efficiency, technical decisions, and integration, while validating and triangulating findings from end users and HR.

This research employed Thematic Analysis, as developed by Braun and Clarke (2006). This method identified patterns (themes) from interview, observation, and document data via coding, categorization, and interpretation. Braun and Clarke (2006) emphasize that Thematic Analysis (TA) is flexible and adaptable across paradigms, including interpretivism, making it suitable for exploring SAP Fiori user experiences.

Thematic Analysis served as the primary technique for analyzing data from in-depth interviews and Focus Group Discussions (FGDs). It identified, analyzed, and interpreted thematic patterns emerging from informants' experiences and perceptions of SAP Fiori utilization. Specifically, the study identified key user-perceived issues in System Quality (e.g., usability, reliability, responsiveness); analyzed SAP Fiori's effects on employee administration efficiency; explored factors influencing user satisfaction from an internal customer perspective; and generated qualitative insights for system improvement recommendations. These objectives linked user experiences to organizational outcomes and service quality.

To achieve these objectives, Thematic Analysis proceeded through data familiarization (transcribing and reviewing interview/FGD recordings verbatim), initial open coding (identifying statements on efficiency, satisfaction, barriers, and improvements), theme/sub-theme development (aligned with DeLone and McLean and TQM's internal customer view), theme review/refinement for consistency and relevance, and final interpretation of SAP Fiori's impact on processes and satisfaction.

The application of Thematic Analysis was explicitly linked to the Logical Framework (Logframe) approach, systematically connecting findings to objectives and outcomes. Qualitative data from interviews/FGDs with end users, HR, and SAP Fiori administrators formed inputs; coding/theme development were core activities; main themes (e.g., system quality, usage barriers, process effectiveness, training needs) were outputs. These yielded outcomes like structured understanding of efficiency and satisfaction gains, culminating in impacts via theme-based recommendations for continuous SAP Fiori improvement and internal service quality.

Results and Discussion

This chapter discusses the research findings obtained from data analysis on the use of SAP Fiori in supporting employee administration processes at Sinarmas Mining Company (GEMS), while linking them to discussions relevant to the research objectives. The presentation of the results in this chapter focuses not only on empirical findings but also seeks to provide deeper meaning to user perceptions and experiences in using SAP Fiori.

Aspects examined include ease of use, system usability, application reliability, and the level of SAP Fiori adoption in daily employee administration activities. Furthermore, this chapter also describes how the use of SAP Fiori affects the efficiency of employee administration processes, particularly in terms of process speed, reduced administrative burden, increased data accuracy, and workflow simplification. The discussion is carried out in stages by linking the field findings and the company's operational context.

Based on this analysis, the final section of this chapter presents applicable suggestions and recommendations, which are also in line with research conducted by (Henderson & Venkatraman, 1993) which states that alignment between technological capabilities and business strategies (Strategic Alignment) is crucial for information technology investments to provide optimal added value for the organization. Therefore, both in terms of improving user experience and improving business processes, Sinarmas Mining Company (GEMS) can maximize the use of SAP Fiori in supporting the effectiveness of employee administration in the company.

The analysis of SAP Fiori user perceptions and experiences was conducted using the Thematic Analysis approach, as developed by Braun and Clarke (2006). This approach enabled researchers to identify meaningful patterns from interview data through a step-by-step process of coding, grouping, and interpretation. Interview questions were designed to explore user experiences in depth, from initial interactions with the system to how the system is interpreted in the context of daily administrative work, while remaining linked to the Total Commitment to the Internal Customer framework from a TQM perspective. The following presents the analysis results from the interviews and focus group discussions conducted by the researchers, including:

Ease of Use as a Dominant Yet Contextual Initial Impression

The findings indicate that ease of use emerged as a dominant yet contextual initial impression of SAP Fiori among users. Most respondents reported positive first impressions, perceiving SAP Fiori as relatively easy to understand and use without requiring intensive training. This perception was largely attributed to the system's simple interface, consistent iconography, and familiarity with other commonly used applications. From a Total Quality Management (TQM) perspective, this initial satisfaction reflects positive internal service quality, indicating that the IT function's output generally met employees' expectations in supporting their work.

However, further analysis reveals that ease of use is not experienced uniformly across all system functionalities. Users tended to perceive SAP Fiori as easiest when accessing frequently used features such as attendance, leave submission, business trips,

payroll, training, and personal data updates. In contrast, less frequently used functions or those requiring longer navigation paths were often perceived as confusing.

This finding suggests that ease of use is strongly influenced by usage intensity and task context, rather than interface design alone, highlighting the presence of potential internal service gaps that require continuous improvement in line with TQM principles. Comparisons with the previous system (Sunfish) further reinforce these findings. SAP Fiori was generally regarded as simpler and more efficient due to its integrated processes and reduced repetitive data entry, contributing to improved process efficiency and reduced waste.

Nevertheless, several users noted the need for an adaptation period during the transition from the old system, particularly for those accustomed to prior work patterns. This underscores that perceived ease of use is closely linked to user habits and prior experience, emphasizing the importance of change management, user involvement, and training to ensure successful system adoption and sustained internal customer satisfaction.

System Reliability as a Basis for Trust, Vulnerable to Disruption

Analysis of interview questions regarding reliability and accuracy yielded patterns related to user trust in the system. Most respondents stated that the data displayed in SAP Fiori is reliable and rarely experiences discrepancies. This trust is particularly felt when conducting important transactions, such as attendance requests, leave requests, business trips, promotions, payroll, training, or approval processes, where data consistency is crucial. As Wang & Strong (1996) noted, data quality has the dimensions of "Representational Quality" and "Intrinsic Quality." If data in SAP Fiori is inconsistent, employees, as internal customers, will perceive the organization as disrespecting their basic needs, which risks lowering employee engagement.

However, this pattern is also tinged with certain negative experiences. Several respondents reported encountering data discrepancies between SAP Fiori and other systems or experiencing occasional technical outages. Although these incidents are infrequent, their impact on perceived reliability is significant. As stated by Crosby (1979) who emphasized the principle of Zero Defects, where the performance standard should be flawless because customers (including internal) tend to remember a single technical failure as evidence of the unreliability of the system as a whole. Sila & Ebrahimpour (2002) also noted that system inconsistencies create "hidden quality costs" in the form of lost user trust that is difficult to recover. Thus, this analysis shows that system reliability is perceived dynamically, and the experience of disruptions, even incidental ones, can affect the level of user trust in the long term.

System Adoption as a Functional Need

Finally, regarding SAP Fiori adoption, respondents indicated that SAP Fiori has become the primary system for employee administration processes. However, analysis

indicates that adoption is driven more by functional needs and organizational policies, rather than solely by user preferences. This is in line with research conducted by (Kanakriyah, R. 2020), who stated that, "Within a TQM framework, technology adoption is often top-down.

However, internal customer satisfaction remains crucial for the system to become not just an administrative tool, but also a quality improvement tool." Interviewees who recommended SAP Fiori to colleagues were generally driven by ease of use and time efficiency. As stated by (Psomas & Jaca, 2020), efficiency is at the heart of TQM, reducing waste. Internal customers will recommend a system if it significantly reduces their workload.

Meanwhile, factors that make some employees reluctant to use SAP Fiori relate to old habits, limited understanding of features, or previous negative experiences. In line with the statement by (Al-Damen, 2017) that resistance to change is a major challenge of TQM. Lack of training (feature education) often triggers negative perceptions of system quality. Therefore, this pattern indicates that user adoption can still be increased through improvements in the user experience and a more contextual mentoring approach. In accordance with a research study by (Sweis et al., 2019) that the TQM approach emphasizes continuous improvement (Kaizen). Therefore, providing technical assistance to employees is a form of service to internal customers.

Conclusion

SAP Fiori was generally perceived positively by Sinarmas Mining Company (GEMS) employees for its ease of use in frequent administrative tasks, thanks to an intuitive interface and independent workflows that boosted efficiency—reducing processing times, workloads, error rates, and reliance on fragmented systems compared to manual methods. However, experiences varied: less common or complex features caused confusion, dependency on assistance, and approval delays involving multi-role dependencies, underscoring the need for integrated enhancements in user experience, business processes, and technical design within a TQM framework focused on internal customer commitment for sustained optimization. For future research, longitudinal studies could track SAP Fiori's long-term impacts post-optimizations, incorporating quantitative metrics like time savings and error reductions alongside user surveys to validate qualitative findings and explore scalability across larger mining workforces.

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