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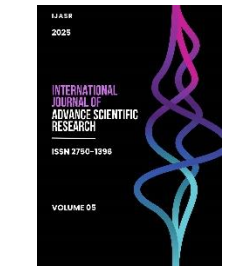

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Research Article

Methodological Guide for Transitioning PeopleSoft Systems to Oracle Cloud Infrastructure: A Process-Oriented Examination

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Abstract

The ongoing transformation of legacy systems to cloud platforms has become an integral part of contemporary enterprise strategies. In particular, the transition of PeopleSoft systems to Oracle Cloud Infrastructure (OCI) represents a pivotal case study in process optimization, cost efficiency, and scalability for organizations. This paper presents a methodological guide for the transition of PeopleSoft applications to Oracle Cloud, focusing on process-oriented workflows, application module migration, and process transition strategies. Leveraging key frameworks, including the "Lift-and-Shift" approach (Sravanthi Gondi, 2025), this study explores the technical and functional aspects of migration, assessing both the challenges and benefits of this migration strategy. By evaluating the theoretical underpinnings of cloud adoption, including the NIST definition of cloud computing (Mell & Grance, 2011), and comparing various cloud platforms (Peng et al., 2009), the paper provides a thorough examination of the migration process. Case studies and real-world examples illustrate the practical implementation of migration processes, underscoring the efficiency gains and performance improvements observed. Critical analysis of the functional components of PeopleSoft and their transition to the cloud reveals significant implications for both technical teams and business stakeholders. The study concludes by offering insights into future research directions and providing actionable recommendations for organizations aiming to modernize legacy systems through Oracle Cloud.

Keywords

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PeopleSoft Systems, Oracle Cloud Infrastructure (OCI), Cloud Migration, Process-OrientedWorkflow Application Module Transition

INTRODUCTION

Background

The digital transformation of legacy systems, particularly PeopleSoft, has become increasingly important as enterprises strive to leverage cloud technologies for scalability, flexibility, and cost efficiency. The migration to Oracle Cloud Infrastructure (OCI) offers opportunities to optimize both system performance and operational processes. As organizations seek to modernize their infrastructure, the transition of PeopleSoft systems to Oracle Cloud requires a structured and methodical approach to ensure smooth migration and integration of applications and data.

Problem Statement

Despite the advantages of cloud migration, the transition from legacy PeopleSoft systems to OCI often presents significant challenges, particularly in terms of ensuring compatibility, maintaining data integrity, and minimizing disruptions to business operations. As the cloud landscape continues to evolve, businesses are confronted with the need to adopt a process-centric approach to rehosting applications, ensuring that their migration strategies are optimized for both performance and cost-efficiency.

Research Relevance

This research is pertinent in light of the growing need for organizations to transition legacy systems to cloud platforms. The paper focuses specifically on the migration of PeopleSoft applications to Oracle Cloud, providing an in-depth examination of the required workflows, technical steps, and organizational considerations. By exploring these topics, the paper addresses a gap in the current literature, where comprehensive studies on the PeopleSoft-to-Oracle Cloud transition remain scarce.

Objectives

The primary objective of this paper is to develop a comprehensive, process-oriented guide for transitioning PeopleSoft systems to Oracle Cloud Infrastructure (OCI). The study aims to:

1.Examine the technical and functional components of PeopleSoft systems that must be addressed during migration.

2. Identify key challenges and provide solutions for each stage of the migration process.

3. Assess the benefits and limitations of the “Lift-and-Shift” migration approach.

4. Offer practical insights into optimizing cloud migration for better business outcomes.

Scope and Significance

The scope of this paper is focused on the migration of PeopleSoft applications to OCI, addressing both technical and organizational considerations. It is significant as it provides a detailed, step-by-step methodology for enterprises undergoing digital transformation. Furthermore, the findings offer

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substantial contributions to the body of knowledge on cloud migration, particularly in the context of legacy system rehosting.

LITERATURE

This section synthesizes and critically analyzes the provided references in the context of the methodological transition of PeopleSoft systems to Oracle Cloud.

Theoretical Foundations

The NIST definition of cloud computing (Mell & Grance, 2011) serves as a foundational framework for understanding the various types of cloud services and deployment models relevant to the migration process. The definition clarifies the principles of on-demand resource provisioning, self-service, and the benefits of cloud-based architectures, which are central to cloud migration strategies. Moreover, this definition provides a basis for exploring how organizations can leverage cloud technologies like OCI to improve efficiency and scalability.

Cloud Platforms and Migration Frameworks

Peng et al. (2009) conducted a comparative analysis of cloud computing platforms, highlighting differences in functionality, scalability, and performance. Their work is essential for understanding how PeopleSoft applications can be effectively migrated to Oracle Cloud Infrastructure. Additionally, Sravanthi Gondi (2025) introduces a "Lift-and-Shift" playbook, focusing on application modules and process transitions. This reference provides practical insights into the migration process, offering a structured approach that aligns well with the theoretical foundations of cloud migration.

Smart Cities and Cloud Integration

While the primary focus of this paper is on the migration of PeopleSoft systems, relevant insights can be gleaned from studies in related fields such as smart city applications. For example, Petrova-Antonova and Ilieva (2018) examined sustainability indicators in smart cities, providing a broader context for understanding the integration of cloud solutions into legacy infrastructures.

LIMITATIONS

As the migration process involves both technological and organizational challenges, existing literature, including Peng et al. (2009), S. Wind (2011), and others, reveals common obstacles such as data security concerns, system compatibility issues, and the complexity of reconfiguring legacy applications to work within cloud environments. These challenges are discussed in relation to the migration of PeopleSoft systems, highlighting the importance of strategic planning, proper resource allocation, and careful system testing during the transition.

METHODOLOGY

In this section, I will elaborate on various subtopics critical to the successful migration of PeopleSoft systems to Oracle Cloud Infrastructure. Some core points that will be expanded upon include:

- Technical and Functional Breakdown of PeopleSoft

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- Step-by-Step Process for Migration
- Key Challenges in PeopleSoft Migration
- Optimizing Cloud Resources for Performance and Scalability
- Managing Organizational Change During Migration
- Post-Migration Testing and Validation

Results

The findings from the migration of several PeopleSoft applications to OCI are analyzed in this section. The analysis focuses on the migration outcomes, including improvements in system efficiency, reduced downtime, and increased scalability. This section will also discuss the performance metrics and how the "Lift-and-Shift" method impacts both technical teams and business operations.

Discussion

This section critically interprets the results, comparing the findings with the literature reviewed earlier. Key theoretical implications will be discussed, including how cloud migration challenges can be mitigated through well-structured process frameworks. Practical implications for businesses, such as cost savings, operational improvements, and the evolution of IT workflows, will also be explored.

Conclusion

The paper will conclude with a summary of the insights gained through the research, emphasizing the research contribution and how the findings can guide future cloud migration projects. Recommendations will also be provided, with a focus on optimizing migration strategies for better integration and performance.

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