

The Role of ERP in Enhancing Human Resource Accounting and Internal Auditor: A Systematic Literature Review

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ABSTRACT

The role of ERP systems in the fields of Human Resource Accounting (HRA) and Internal Auditing is increasingly crucial in the era of digitization and the demand for company efficiency. The implementation of ERP systems in HRA can provide benefits in measuring the costs and value of employees and assist management in making strategic decisions. On the other hand, in the context of Internal Auditing, ERP becomes an essential tool that can support the performance of internal auditors in obtaining the data and information needed to carry out audit tasks. This article review is conducted using a systematic literature review, resulting in 37 published articles identified through five stages. From the 37 articles, three journals each discussing the role of ERP in HRA and the role of ERP in internal auditing were obtained. This indicates that discussions related to the role of ERP in HRA and the role of ERP in internal auditing are still relatively low compared to the role of ERP in HRM. Additionally, there is a gap in the reviewed articles between HRA and internal auditing. Fifteen articles were obtained for HRA and eight articles for internal auditing. This creates an information imbalance for readers. This article review does not focus on ERP systems or modules but rather on the roles or outcomes of ERP systems that assist human resource accounting and internal auditors respectively in carrying out their duties and responsibilities in the company.

Keywords: *Enterprise Resource Planning, Human Resource Accounting, Internal auditor, systematic literature review*

INTRODUCTION

Technology is an integral part of the ongoing development of the era, which has now reached the 4.0 era (Kumar et al., 2021; Toorajipour et al., 2021). Artificial Intelligence, Blockchain, IoT, Cloud Computing are a set of technologies commonly used in business environments, including the use of Enterprise Resource Planning (ERP) systems (Toorajipour et al., 2021). According to Yang, Wu, Tsai (cited in Alaskari et al., 2021), ERP systems are considered the backbone of information systems within a company. If a company's goal is to improve performance and maintain its existence in the economy, then it is imperative to use ERP systems (Silva et al., 2023). Despite being one of the most expensive digital technology investments made by companies (Hustad & Stensholt, 2023; Alaskari et al., 2021), companies will make various efforts to maintain business stability in a competitive business world (Lee & Seo, 2021).

ERP system is the core software used to integrate and coordinate information across every business area (Alaskari et al., 2021). ERP systems emerged in the 1960s and are considered Information Systems (IS) designed to provide useful information to drive changes in organizational structure, enhance the quality of accounting information, aid management analysis, and facilitate decision-making processes (Dalveren, 2014; Matende & Ogao, 2013; Silva et al., 2023; Alaskari et al., 2021). Until ERP systems are established as the best-integrated software solutions based on best practices from various industries (Hustad & Stensholt, 2023). ERP provides a series of integrated business processes with operational functions across company departments such as marketing and sales, supply chain management, accounting and finance, as well as human resources (Aires & Abrantes,

2022). The system handles each department and ensures smooth data integration according to their respective functions (Hustad & Stensholt, 2023).

Every company, factory, or institution requires human resources, which are considered the main role in the success of the company in increasing profitability and maintaining its existence (Al-Tahat & Al-Zoubi, 2020). Strong competition in markets and institutions has made human resources a vital and effective factor leading to competitive competition among companies (Tuswoyo & Hartanti, 2020). Over the past decade, interest in Human Resources (HR), particularly human resource accounting as an organizational resource, has grown (Daddau et al., 2020). Human Resource Accounting (HRA) is defined as the process of identifying and measuring human resource information and providing information to stakeholders (Islam et al., 2013). This indicates that HRA is a tool used to report organizational assets in management accounting and financial accounting (Asfahani, 2021).

The rapid development of technology presents significant challenges and opportunities for companies and stakeholders, including the accounting profession (Silva et al., 2023). Emerging technologies such as automation, machine learning, and data analytics also impact the accounting profession. Specifically, in the areas of audit and assurance, data analytics and machine learning will bring about many changes in the future (Huang et al., 2022). Nevertheless, auditing, particularly internal auditing, is considered to bring added value to businesses by offering assurances regarding operational internal control systems and delivering transparency when associated with corporate governance compliance (Silviu, 2014).

Currently, the majority of medium and large companies utilize some form of ERP system for their operations. According to Leon (2008) and O'Leary (2000) cited in (Walek et al., 2015), ERP is a company information system that integrates and automates a vast number of processes related to company activities. Enterprise Resource Planning (ERP) systems have become increasingly popular in recent years due to their ability to integrate various business functions and streamline organizational processes (Farhangnia et al., 2021). Although ERP systems have been studied for years, it continues to be an interesting topic for the academic community in information technology, as there is a need to adapt and develop approaches to these systems, from traditional processes and business lifecycle to the current digital transformation of dynamic processes and organizations (Silva et al., 2023).

One function facilitated by ERP systems is human resource accounting and audit, which plays a crucial role in maintaining accurate and transparent financial reporting, meeting regulatory requirements, and optimizing HR management. Nowadays, companies are well aware that the key factor giving them sustainable competitive advantage is their employees. However, their financial reporting has always been devoid of any data related to human resources in projects, in terms of efficiency levels or the evolution of this efficiency from one period to another (Haddad, 2014). The positive impact on business performance resulting from the adoption of ERP systems continues to be observed and empirically studied. An organization can enhance the operational performance of its internal audit department by utilizing an effective integrated ERP system (Bender et al., 2021).

There are at least two reasons why this topic is being further studied. Firstly, ERP systems have become an integral part of many organizations in managing human resources, finances, and company operations. Additionally, ERP systems continue to evolve and offer various new features that can assist organizations in enhancing the efficiency and effectiveness of managing their human resources, as well as their internal auditors. Secondly, this discussion is considered relevant and significant because it has significant implications in the fields of human resource accounting and internal auditing within companies. By understanding the role of ERP in these areas, organizations can improve their business performance and efficiency, as well as enhance compliance with accounting and auditing regulations and standards.

Therefore, based on previous research, the research questions (RQ) of this article are as follows:

RQ1: Can the implementation of ERP improve the efficiency and effectiveness of human resource accounting in an organization?

RQ2: Can the implementation of ERP improve the efficiency and effectiveness of internal auditors in an organization?

Therefore, this article will first elaborate on the role of ERP systems in human resource accounting. In this regard, the article will discuss the role of ERP in the performance of HRA employees, which can enhance efficiency and effectiveness, particularly in the preparation of financial reports that facilitate integrated and real-time financial data collection and processing. Second, the article will analyze the role of ERP systems in internal auditing. The article will discuss how ERP can assist the internal auditing process in companies by managing financial and operational data.

Third, this article will reorganize previous study findings conducted in the fields of ERP, human resource accounting, and internal auditing. The article will critically analyze these findings and compile them into a more comprehensive conclusion. Finally, this article will provide new insights into the role of ERP systems in the fields of human resource accounting and internal auditing for organizations. By conducting this article review, it is hoped to provide fresh insights into the benefits and important role of ERP systems in enhancing efficiency and effectiveness for HRA employees and internal auditors in companies. Overall, this article aims to benefit organizations and researchers in the fields of ERP, human resource accounting, and internal auditing in improving company performance and efficiency.

In a structured manner, this article's second section discusses enterprise resource planning, human resource accounting, and internal auditors. The third section addresses the methodology of the article, utilizing a systematic literature review with five stages from Denyer & Tranfield (2009), as also employed by Toorajipour et al. (2021). It then presents the analysis results of the collected articles, followed by a discussion section where the implementation of ERP is separated, focusing on human resource accounting and internal auditors respectively, and concludes with a summary. It is important to note that this article review does not focus on ERP systems or modules but rather on the roles or outcomes of ERP systems that assist human resource accounting and internal auditors respectively in carrying out their duties and responsibilities within the company.

LITERATURE REVIEW

Enterprise Resource Planning

Over the past two decades, ERP systems have become the most important and highly valued implementation in a company's use of Information Technology (IT) (Alaskari et al., 2021). ERP is a standard software package that integrates processes from various business functions by leveraging integrated databases and standardized shared workflows (Hietala & Paivarinta, 2021). ERP systems are represented as the backbone of a company, encompassing finance, human resources, value chain, logistics, and customers (Hustad & Stensholt, 2023). The characteristics of ERP systems, according to Davenport (1998) and Rasyid, Hossain, Patrick (2002) cited in (Dalveren, 2014), include: 1) direct impact on the company; 2) modular design covering various business modules such as manufacturing, accounting, and others; 3) using a relational database system, namely Database Management System (DBMS); 4) being a complex system (with high costs and risks); 5) flexibility of ERP systems; 6) allowing real-time access to data; 7) integrated modules within ERP systems and uninterrupted data flow.

ERP systems offer a number of advantages to companies to enhance organizational performance in various fields. According to the article by Martins & Belfo (2022), major concerns regarding the use of ERP systems can be seen in implementation, integration approaches, user participation, decision making, and risk management. In terms of Business Model (BM) innovation, research by Molina-Castillo et al. (2022) indicates that companies perform better when using ERP systems. Regarding auditing, especially internal auditors, a study by Silva et al. (2023) concludes that internal auditors agree on the use of SAP ERP, which affects the effectiveness and efficiency of their work. In terms of taxation, research by Akrong et al. (2022) states that ERP systems used for tax payments have a positive impact on service quality and user satisfaction. Furthermore, in terms of e-learning, Dalveren (2014) proposes that the use of ERP-based e-learning can provide innovative and effective

education in Turkey, maximizing learning outcomes for students compared to traditional learning methods.

Human Resource Accounting

Human resource accounting is a branch of various research studies conducted in the fields of accounting and finance (Akintoye et al., 2018). The HRA approach was first developed in the United States in 1961, and according to Flamholz (1971) cited in (Osanyinbi & Oyekanmi, 2018), HRA involves the measurement and reporting of the costs and value of people as organizational resources. When associated with a company, human value is considered irrelevant or not of significant importance if human aspects are not considered in financial decision-making or the results of company operations (Farhangnia et al., 2021). Hence, there is a need for HRA to identify quantitative and practical aspects according to Lengnick-Hall (2002) cited in (Farhangnia et al., 2021), including: 1) recording the economic value of humans in financial reports; 2) calculating an organization's investment in human resources; 3) enhancing human resource management efficiency and creating facilities to evaluate personnel policies such as training programs and justifications; 4) evaluating an organization's human resources in terms of maintenance, analysis, or development; 5) identifying non-operational profits and productivity generated by investing in human resources; 6) calculating the value created by human resources in the financial and physical resources of an organization.

The implementation of HRA in various fields and companies across countries certainly varies. Research by Al-Tahat & Al-Zoubi (2020) found challenges in implementing HRA in audit firms in Jordan, including humanitarian and accounting challenges. Regarding human resource accounting disclosure, a study by Enofe et al. (2013) on quoted firms in Nigeria found that company profitability positively influences companies to report HRA information in their annual reports. Similar findings were presented by Oluwatoyin (2014), where the use of HRA is crucial in assisting management in making informed decisions, as these decisions are not solely based on conventional accounting information or financial reports but also on management accounting information specifically designed to meet specific business needs. Moreover, in terms of using ERP systems, research by Sadrzadehrafiei et al. (2013) categorizes the benefits of ERP for HR in strategic, tactical, and operational aspects, where ERP system implementation can facilitate employee compensation processes, streamline company activities, and integrate all data and information from the HR department into the entire dry food packaging company's departments.

Internal auditor

Internal auditors are defined by the Institute of Internal Auditors (IIA) as independent and objective activities that provide organizations with assurance regarding their operations (Silviu, 2014). Internal auditors offer companies a comprehensive perspective on their operations, adding value to the business and ensuring management that their activities and decisions are adequate (Lucan et al., 2015). Essentially, auditing, according to Petrascu (2012) cited in (Daniela & Attila, 2013), involves: 1) gathering sufficient audit evidence (the quality of evidence refers to the quality and effectiveness of the types of evidence collected, while adequacy refers to the amount of evidence collected) necessary to express an opinion or make recommendations; 2) evaluating the consistency or inconsistency among different types of evidence collected; 3) determining deviations from established criteria.

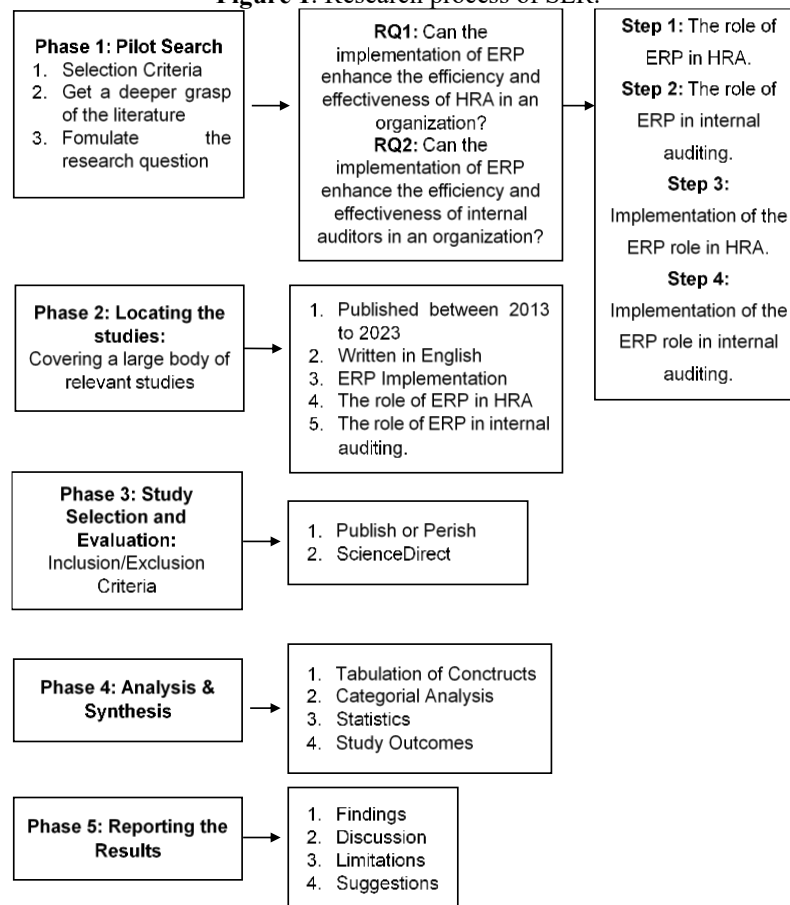
When associated with ERP systems, according to Mosweu et al. (2020), ERP can have a positive impact on auditing, including: 1) the erp environment can enhance auditors' ability to identify suspicious activities and determine fraud; facilitate more efficient and faster audit processes; 2) erp systems help reduce audit report latency; 3) reduction of fraud due to continuous audit function; 4) compatibility with international audit standards; 5) integrated audits rather than separate audits because one of the advantages of erp is that it is an integrated system that consolidates all company divisions into one. Research by Barros & Marques (2022) indicates that digital records created in ERP, such as digital accounting implementation, remain authentic to facilitate financial audit processes and achieve audit performance. Their study in 2021 and research by Alsurrayi & Alsughayer (2021) state that ERP systems are also considered important for providing sustainable assurance services to organizations. This includes monitoring operations in real-time, identifying

irregular transactions, ensuring rule compliance, and detecting processing errors, which are deemed critical for internal auditor improvement.

METHODOLOGY

To answer the research question regarding the implementation of ERP in enhancing the efficiency and effectiveness of human resource accounting and internal auditors in an organization, this article employs a Systematic Literature Review (SLR). SLR is a process conducted to gather, evaluate, and synthesize all information related to a specific topic or issue from various relevant literature sources. This article's study follows five phases or stages outlined by Denyer & Tranfield (2009) and utilized by Toorajipour et al. (2021), including a pilot search employed in the initial phase.

Figure 1. Research process of SLR.



Source: Toorajipour et al. (2021)

Pilot Search and The Research Question

In this stage, identifying the article topic to be reviewed involves conducting a pilot search related to the role of ERP in enhancing the performance of human resource accounting and the performance of internal auditors in an organization. Next, determining relevant keywords for the article topic, such as ERP system, human resource accounting, and internal auditor. Then, developing a systematic search strategy to identify relevant studies to be included in the article. Subsequently, conducting searches on several electronic databases, such as Scopus and Google Scholar, through applications like Publish or Perish and ScienceDirect. To address the research question, "How does the implementation of ERP systems impact human resource accounting and internal auditing in an organization?" this article divides into 4 main topics: 1) analysis of the role of ERP in HRA; 2) analysis of the role of ERP in internal auditing; 3) implementation of the ERP role in HRA; 4) implementation of the ERP role in internal auditing.

Table 1 Search Protocol for Selected Literature Sources

Database	Article parts Searched	Keyword	Time Span
Publish or Perish	Title, Keyword, Abstract	ERP, Human Resource Accounting, ERP Human Resource, Internal auditor, ERP Internal auditor	2013 - 2023
ScienceDirect	Title, Keyword, Abstract	ERP, Internal auditor, ERP Internal auditor	

Locating the studies

Literature searches were conducted across various databases, such as Scopus and Google Scholar, using the Publish or Perish and ScienceDirect applications, utilizing predetermined keywords. These databases were explored using search strings specifically designed to identify relevant contributions to the topic. For this article review, searches were conducted based on titles and keywords. In the Publish or Perish application, the keywords used included ERP, human resource accounting, ERP human resource, internal auditor, and ERP internal auditor, with searches conducted in both Google Scholar and Scopus databases. Additionally, in the ScienceDirect database, the keywords used were ERP, internal auditor, and ERP internal auditor.

Study Selection and Evaluation

In the third stage, relevant studies for the article topic are selected and the methodological quality of the chosen studies is evaluated. The purpose of this stage is to ensure that only high-quality studies are used to construct arguments in the review. In the study selection stage, a systematic search of literature relevant to the article topic is conducted. Subsequently, each article is screened based on predefined inclusion and exclusion criteria. Considering the inclusion and exclusion criteria from the pilot search, 344 articles were identified. The first criterion pertains to the publication timeframe of articles from 2013 to 2023, the second criterion requires articles to be written in English, the third criterion relates to the role of ERP in HR, the fourth criterion concerns the role of ERP in internal auditing, and the fifth criterion is related to ERP implementation.

These criteria were obtained from the Publish or Perish application using the Google Scholar search engine, yielding 236 article links, and 67 article links from Scopus, and 41 articles from ScienceDirect. For the third and fifth criteria, using the Publish or Perish database resulted in 61 articles, and 41 articles from ScienceDirect. For the fourth criterion, the role of ERP in HRA was searched using the Publish or Perish application, resulting in 242 articles. To achieve an acceptable level of accuracy in applying selection criteria, a review of 97 articles out of the 344 identified was conducted. The application of these criteria reduced the number of selected articles for analysis and synthesis to 37 articles. This was also caused by some articles being not open access. This process is outlined in Table 2, where the numbers without parentheses indicate the initial results of the database search and the application of inclusion or exclusion criteria from the pilot search, while the numbers in parentheses represent the articles selected after applying the third, fourth, and fifth criteria.

Table 2 Search Result

Keyword	Publish or Perish	ScienceDirect	Total
Enterprise Resource Planning	39 (3)	12 (5)	51 (8)
Human Resource Accounting	227 (15)	-	227 (15)
ERP Human Resource	15 (3)	-	15 (3)
Internal auditor	9 (2)	23 (6)	32 (8)
ERP Internal auditor	13 (2)	6 (1)	19 (3)
Total	303 (25)	41 (12)	344 (37)

Analysis and Synthesis

To analyze the 37 articles, data synthesis was conducted to identify common themes or patterns related to the role of ERP in HRA and the role of ERP in internal auditing. To perform this analysis, the articles were divided into several sections based on predefined characteristics related to the research questions. In the context of ERP and HRA, the use of ERP can assist HR accounting personnel in enhancing their performance by facilitating the collection and processing of financial data, monitoring and controlling HR budgets, and improving the efficiency and effectiveness of human resource management.

In terms of internal auditors, ERP can assist in ensuring compliance with organizational policies and procedures, as well as providing real-time access to relevant data for analysis and decision-making. Additionally, ERP can also aid in ensuring the security of organizational data and transactions through access controls and audit trails. With the integration and user-friendliness of ERP, both HRA personnel and internal auditors can generate more accurate, timely, and efficient reports, thus enhancing decision-making effectiveness. By synthesizing the results of the analysis, a better understanding can be obtained of how the use of ERP can improve the efficiency and effectiveness of human resource management, as well as how the relationships between different characteristics can affect the outcomes of previous research. In this way, the article review can provide more precise recommendations and suggestions for the use of ERP to enhance the performance of HRA and internal auditors in companies.

Reporting the Results

The results of the article review are presented in the form of tabulations, statistics, and discussions according to the research methodology outlined by Denyer & Tranfield (2009), as utilized by Toorajipour et al. (2021). This involves providing detailed information about the search strategy, inclusion and exclusion criteria, study selection process, quality assessment, data extraction, and data synthesis. The presentation of the analysis results is in the form of a report or scholarly article containing comprehensive and structured information about the researched topic. At this stage, the analysis results will be presented in the form of a report or scholarly article containing comprehensive and structured information about the implementation of ERP in enhancing the efficiency and effectiveness of human resource accounting, as well as its implementation on the internal auditor of an organization.

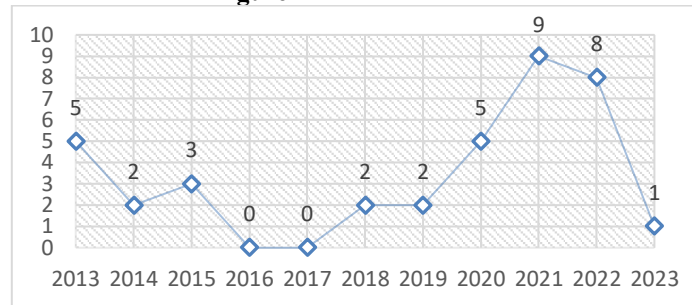
RESULTS

After gathering relevant articles, the analysis and synthesis of data begin. The purpose of analysis is to break down each study into its constituent parts and explain the overall relationships and connections, while the purpose of synthesis is to identify relationships between the different parts of the studies (Denyer & Tranfield, 2009).

Distribution and Statistics

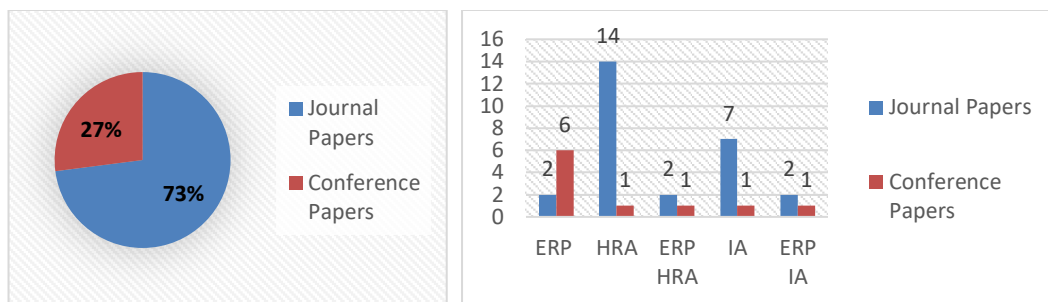
Out of the 37 articles identified for further review, 8 articles discuss ERP implementation, 15 articles cover human resource accounting, 3 articles are related to the role of ERP in human resource, 8 articles discuss internal auditors, and 3 articles are related to the role of ERP in internal auditing. As depicted in Figure 2, the timeframe of these articles ranges from 2013 to 2023, with literature obtained from relevant journals and conference proceedings through previous database searches. A total of 75% (27 articles) of the literature originates from journal papers and 25% (10 articles) from conference papers (figure 3).

Figure 2. Time distribution



Source; Microsoft Excel, 2023.

Figure 3. Paper type distribution



Source; Microsoft Excel, 2023.

Categorical Analysis of the Literature

Table 3 contains articles grouped into five categories along with the number of articles obtained from each category. Human resource accounting has 15 articles with various discussions. Several studies on HRA have been conducted in different locations. These studies include recognition and disclosure of accounting methods, HRA as a financial solution, the relationship between HRA and organizational performance, challenges of HRA in Nigeria, HRA disclosure in Nigerian companies, a case study at Hindustan Petroleum Corporation Ltd, and challenges of HRA in audit firms in Jordan. The ERP human resource category has 3 articles with different discussions. These studies discuss the role of ERP systems in enhancing HRM, analysis of HRA implementation in ERP HRM modules of companies, and testing the impact of ERP HRA systems on employee performance assessment in Jordan. The internal auditor category has 8 articles. These studies include analyses of internal auditor practices in FTSE100, narrative approaches to internal auditors, the impact and outcomes of internal auditors in the public sector in Romania, recommendations for developing the country's internal auditor system with digital technology, quality evaluation index of internal auditors in companies in Jiangsu Province, China, qualitative studies on transparency of internal auditor outcomes, comparison of internal auditors, internal controls, and mentoring, as well as the use of continuous assurance for internal auditor digital transformation. The ERP internal auditor category has 3 articles. These studies discuss the impact of ERP systems on internal auditors in Portugal, the impact of ERP on audits in the context of emerging technology, and the relationship between corporate governance and company performance with a focus on the influence of internal auditors and ERP. And the ERP category has 8 articles. These studies cover topics of ERP implementation and influence in various contexts. There are empirical studies on the impact of financial constraints on ERP success in improving SME performance, user participation in ERP implementation, a systematic review of major concerns related to ERP, post-implementation ERP benefit realization, research agenda for future ERP, ERP implementation in the United Arab Emirates (Musnada Corporation case), ERP implementation framework in SMEs, and requirement gathering in ERP implementation processes.

Table 3 Summary of the categorisation of the literature

Category	Paper	Amount
Enterprise Resource Planning	(Aires & Abrantes, 2022); (Alaskari et al., 2021); (Alsharari, 2022); (Bender et al., 2021); (Hietala & Paivarinta, 2021); (Martins & Belfo, 2022); (Matende & Ogao, 2013); (Subanidja & Mercurius, 2019)	8
Human Resource Accounting	(Abderraouf, 2020); (Akintoye et al., 2018); (Al-Tahat & Al-Zoubi, 2020); (Asfahani, 2021); (Chima, 2022); (Daddau et al., 2020); (Enofe et al., 2013); (Farhangnia et al., 2021); (Habiburrochman & Irawati, 2021); (Haddad, 2014); (Islam et al., 2013); (Jacob & Farouq, 2013); (Ogenyi & Oladele, 2015); (Peng, 2019); (Shreelatha & Sinha, 2018)	15
ERP Human Resource	(Aljarrah, 2021); (Alhalboosi et al., 2021); (Dong, 2015)	3
Internal auditor	(Barros & Marques, 2022); (Daniela & Attila, 2013); (Hanskamp-Sebregts et al., 2020); (Kai et al., 2022); (Korol et al., 2022); (Lucan et al., 2015); (Nordin, 2022); (Silviu, 2014)	8
ERP Internal auditor	(Alsurayyi & Alsughayer, 2021); (Salur & Kattar, 2021); (Silva et al., 2023)	3

DISCUSSION

The Role of ERP in HRA

ERP systems have played an increasingly important role in HRA. ERP provides an integrated framework for managing various aspects of HR such as performance management, employee development, and time management. By linking HR data to the organization's accounting system, ERP enables more effective calculation of human asset costs and values. Research by Abderraouf (2020) found that HRA collects all HR operational costs and records them as organizational assets, thus enhancing HR loyalty. This is supported by Akintoye et al. (2018), Daddau et al. (2020), and Peng (2019), who emphasize the importance of including human assets in financial reports. On the other hand, research by Asfahani (2021) found a complementary relationship between HRA and HRIS (Human Resource Information System), where HRIS supports HRA activities by providing necessary tools, while HRA ensures HRIS can integrate accounting information to produce accurate information. Therefore, research by Aljarrah (2021) concludes that ERP systems can enhance system quality, information quality, and play a crucial role in performance evaluation, thus contributing to the performance evaluation process of employees at NEPCO company.

Through the ERP system, relevant information about employees such as recruitment costs, training, and employee benefits can be easily collected and integrated into financial reports. According to research by Habiburrochman & Irawati (2021) in Indonesia, HRA is only implemented in sustainability reports. Enofe et al. (2013) also state that financial companies such as banks and insurance companies in Nigeria tend to disclose more HRA information than non-financial companies. The implementation of HRA can accommodate the developments of the fourth industrial revolution, where the knowledge provided by human resources becomes the main capital in the company. Chima (2022) found that AI is taking over some aspects of human resource management, but it has not been properly acknowledged in the financial reports of organizations. Therefore, research by Dong (2015) highlights the implementation of HRA in enterprise HRM, emphasizing the need to formulate a scientific and rational human resource accounting system to ensure that companies can carry out work with practical plans and focus.

The study by Islam et al. (2013) highlights the gap between the implementation and disclosure of HRA in companies. This is evidenced by the research of Al-Tahat & Al-Zoubi (2020), which found humanitarian challenges and accounting challenges in implementing HRA in audit firms in Jordan. Jacob & Farouq (2013) add that many companies are reluctant to implement HRA because of the uncertainty of the benefits of implementing HRA. On the other hand, Ogenyi & Oladele (2015)

found that the criteria for asset recognition and disclosure have a negative impact on HRA practices in Nigeria. Shreelatha & Sinha (2018) indicate a gap in the measurement of HR value in HRA reports at Hindustan Petroleum Corporation Ltd. Therefore, there is a need for HRA that can provide more comprehensive information, and HRA can enrich the dimension of financial reporting information by incorporating HR-related data (Haddad, 2014).

The Role of ERP in Internal Auditor

Companies today are increasingly using ERP systems and applications compared to before. Many of these systems create and process information used in preparing company financial reports. Auditors rely on the data and reports generated by these systems. In this context, there is a direct relationship between ERP systems and the audit process, and it is crucial to understand the impact of ERP systems on audits. Research by Salur & Kattar (2021) found that the use of ERP systems affects audit performance, and many shortcomings can be avoided by involving auditors in the ERP implementation process. The participation of internal auditors in the ERP implementation process can impact the performance of the internal audit department because the participation of internal auditors, their experience, requirements, and ability to use information technology are usually considered useful for controlling risks, maintenance costs, and audit work. Regarding the use of technology by internal auditors, research by Barros & Marques (2022) found that several continuous assurance services have been implemented in medium and large public sector companies by internal auditors. Then, research by Korol et al. (2022) yielded an understanding of the components of the country's internal audit system that its development in a digital technology condition can be illustrated as a graph with various steps or development lines. Not only that, Hanskamp-Sebregts et al. (2020) found that the use of information generated by internal auditors more effectively can help reduce administrative burdens in the healthcare sector while still maintaining the quality of audit reports.

Similarly, the study by (Alsurayyi & Alsughayer, 2021) found that good corporate governance has a positive influence on company performance in Saudi Arabia. In this context, effective internal auditors and the implementation of ERP systems are crucial factors in achieving good corporate governance. However, research by (Lucan et al., 2015) found that internal auditors face discrepancies between regulations and economic realities. To ensure efficiency, particularly in the public sector, modern legal governance and good international audit standards are needed. Research by (Kai et al., 2022) in companies in Jiangsu Province, China, provides a solution to this issue by developing the IAQE index, combining literature reviews, initial analysis, and reviews of company internal auditor guidelines, BSC, Delphi Process, and AHP methodology. This results in a multilevel IAQE index consisting of five dimensions and 36 indicators that are important in evaluating the effectiveness of the internal auditor system. Similar findings were presented in the study by (Silviu, 2014), which provides an understanding of internal auditor practices by observing working methods, positions and organizational structures, and processes related to the internal auditor function in 40 companies listed on the FTSE 100 index, London Stock Exchange.

Research by Silva et al. (2023) found that the use of SAP ERP systems tends to be prevalent among internal auditors in Portugal. The most commonly used functions include consulting reports, checking balances, and accounting documents. The majority of respondents agreed that using ERP systems contributes to the effectiveness and efficiency of audit work. This was also conveyed in the study by Daniela & Attila (2013) regarding decision-making, where internal auditors can assist in decision-making and evaluate management resolutions to ensure normal and efficient operations, as well as create added value.

Implementation of ERP Role in HRA

The implementation of ERP system in HRA can provide several benefits. Firstly, it can enhance transparency and accuracy in measuring employee costs and value, aiding management in making strategic decisions related to human resources. Secondly, by integrating HR data into the accounting system, companies can obtain more comprehensive and up-to-date information about the overall organizational performance, including employees' contributions to the company's financial outcomes. Research (Alaskari et al., 2021) covers aspects related to clear implementation

procedures, appropriate project planning, and minimizing obstacles in implementing ERP systems in SMEs. Furthermore, the study (Alhalboosi et al., 2021) also found that ERP system implementation can improve human resource management processes. (Subanidja & Mercurius, 2019) also add that the success of ERP depends on the implementation of the system to achieve organizational goals.

However, the implementation of ERP systems in HRA may also face several challenges. Significant investment in hardware, software, and employee training is required to adopt this system. Research (Farhangnia et al., 2021) found that current accounting practices and reporting do not provide complete information about company investments, leading to investor misunderstanding. Additionally, changes in business processes associated with ERP use can pose organizational barriers and resistance from employees unfamiliar with these changes. Overall, implementing ERP systems in HRA can provide significant benefits to companies in managing human resources and improving financial reporting. However, careful efforts are required in planning, implementation, and change management to ensure the success and acceptance of this system throughout the organization.

The implementation of ERP in internal auditing

ERP plays a significant role in supporting the internal auditing process of a company. In this context, the use of ERP systems by companies affects audit performance by providing several benefits. ERP systems create and process information necessary for preparing financial reports, which serve as vital data sources for auditors. With ERP systems in place, auditors can rely on the data and reports generated by these systems to carry out their audit tasks (Alsharari, 2022). One advantage of using ERP in internal auditing is the opportunity to avoid potential pitfalls (Bender et al., 2021; Hietala & Paivarinta, 2021). Involving auditors in the ERP implementation process is crucial because the participation of internal auditors, their experience, requirements, and ability to use information technology can help control risks, reduce maintenance costs, and enhance audit work effectiveness (Martins & Belfo, 2022; Matende & Ogao, 2013). Additionally, research also indicates that the use of technology, including ERP, by internal auditors can play a significant role in achieving good corporate governance. The implementation of ERP systems and effective internal auditors contribute to improving company performance. In this regard, internal auditors can aid decision-making and evaluate management resolutions, thereby creating added value (Subanidja & Mercurius, 2019).

However, there are also challenges that must be overcome in using ERP within internal auditing. For example, internal auditors must ensure compliance with relevant regulations and audit standards, as well as navigate discrepancies between regulations and economic realities. Therefore, research and development efforts continue to improve the effectiveness of internal audit systems, such as the development of the IAQE index and understanding internal audit practices across various companies. Overall, the use of ERP systems within internal auditing contributes positively to enhancing effectiveness, efficiency, and the quality of audit work. ERP serves as a valuable tool that internal auditors can utilize to ensure smooth company operations, support decision-making, and create added value.

CONCLUSIONS

The role of ERP systems in the fields of HRA and Internal Audit is becoming increasingly important in the era of digitization and the demand for corporate efficiency. The implementation of ERP systems in HRA can provide benefits in measuring the costs and value of employees and assist management in strategic decision-making. On the other hand, in the context of Internal Audit, ERP systems serve as crucial tools that can support the performance of internal auditors in acquiring the data and information needed to carry out audit tasks.

This article is structured using a systematic literature review, which resulted in 37 published articles identified through five stages. The article only obtained three journals each discussing the role of ERP in HRA and the role of ERP in the internal auditor. This poses a constraint regarding the main discussion of this article. It indicates that the discussion regarding the role of ERP in HRA and the role of ERP in the internal auditor is still relatively low compared to the role of ERP in HRM.

Additionally, there is a gap in the reviewed articles between HRA and internal auditor articles. Fifteen articles were obtained for HRA and eight articles for the internal auditor. This creates an imbalance of information that readers will obtain.

The implications of this study are that companies need to consider implementing ERP in HRA and pay attention to the role of internal auditors within it. In adopting ERP systems, companies must be prepared to invest in hardware, software, and employee training. Additionally, it is important for companies to plan carefully, involve internal auditors, and address changes in business processes related to ERP use. The use of ERP systems by internal auditors should also align with relevant regulations and audit standards. Therefore, companies need to maintain compliance and continually monitor and improve the effectiveness of their internal audit systems. However, further articles or even subsequent research could delve deeper into the implementation of ERP in the fields of HRA and internal auditing in various countries and different companies. This can be achieved by involving more data sources and conducting case studies in various organizations to understand differences in ERP implementation and the factors influencing it.

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