



# THE IMPACT OF SAP ERP ON IMPROVING DIGITAL SKILLS IN HR PROFESSIONALS

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## ABSTRACT:

This study paper investigates the critical impact of SAP ERP (Enterprise Resource Planning) systems in increasing digital proficiency among Human Resources (HR) professionals in organisations. As firms negotiate an increasingly digital market, the need for HR specialists with sophisticated technology capabilities becomes critical. SAP ERP solutions provide a complete set of tools and features for streamlining HR activities spanning from recruiting and talent management to payroll and employee development. The research analyses how the adoption and use of SAP ERP systems improves HR professionals' digital competency. Through a detailed analysis of literature, case studies, and empirical data, it investigates the particular SAP ERP features and modules that enable HR professionals to fulfil their duties more successfully in the digital age. Furthermore, the study investigates the obstacles and potential of integrating SAP ERP with HR operations, such as implementation techniques, training needs, and organizational change management. Furthermore, the study investigates the influence of SAP ERP on HR professionals' capacity to use data analytics, automation, and artificial intelligence to make educated choices and drive strategic projects. It examines how SAP ERP promotes cooperation, agility, and innovation inside HR departments, resulting in organizational success and competitive advantage in today's digital market. This article intends to give significant insights for practitioners, academics, and policymakers looking to successfully exploit technology in HR management and organizational growth by putting light on the role of SAP ERP in boosting digital competence among HR professionals.

*Keywords - SAP ERP, Digital competency, HR professional, Technology adoption, Digital transformation*

## I.INTRODUCTION

Organisations must undergo digital transformation in order to be relevant and competitive in the quickly changing business environment of today. Professionals in human resources (HR) are essential in accelerating this change by making sure that workers have the digital skills and capabilities they need. SAP is one of the most popular enterprise resource planning (ERP) systems, and it has become a valuable tool for HR professionals to help them become more digitally competent (Alhalboosi et al., 2021). The integrated HR module from SAP, called SAP Success Factors, provides a full range of solutions to automate and expedite HR procedures, including performance management, employee development, and onboarding and recruiting. HR professionals can make strategic efforts and optimise their daily operations by using SAP Success Factors (Kamilah & Samri Juliati Nasution, 2024). This allows them to get important insights into workforce data and make well-informed choices. Additionally, HR professionals must acquire a variety of digital capabilities, like as data analysis, process automation, and system integration, in order to deploy and use SAP ERP systems. As they navigate the complexities of SAP solutions, HR professionals are compelled to enhance their technical skills, adapt to new workflows, and embrace a data-driven approach to HR management (Tarigan et al., 2021). This introduction highlights the importance of digital competency for HR professionals in the current business environment and positions SAP ERP as a valuable tool to facilitate the development of these competencies. It sets the stage for further exploration of the specific ways in which SAP can enhance HR professionals' digital capabilities, ultimately enabling them to drive organizational success through effective talent management and workforce optimization (Sundari, 2024).

### A. Overview of Digital Transformation in HR

Nearly every facet of contemporary organisations has been significantly touched by the digital revolution, and the human resources (HR) department is no exception. As technology advances quickly, HR professionals must learn to use new digital tools and procedures in order

to be productive and competitive(Kopishynska et al., 2023) The process of integrating many technologies, including automation, cloud computing, artificial intelligence (AI), data analytics, and analytics, into HR procedures and practices is known as digital transformation in HR. The way HR departments perform has been completely transformed by this shift, which has made it possible for them to make better decisions, expedite procedures, and improve the employee experience in general(GUROL & CIHAN-OKSUZUGLU, 2020)

## B. Importance of SAP ERP in HR Digital Transformation

With today's business world changing so quickly, it is impossible to emphasise the significance of SAP ERP in HR digital transformation. HR departments looking to adapt and flourish in the digital age may rely on SAP ERP solutions as its fundamental building blocks. Their extensive toolkit and features, which span the HR lifecycle, are among the main factors contributing to their importance(AlMuhayfith & Shaiti, 2020) SAP ERP provides integrated solutions that improve productivity, decrease human involvement, and optimise operations for everything from hiring and onboarding to performance monitoring, payroll processing, and talent development. SAP ERP breaks down barriers, ensures data integrity, and offers a comprehensive perspective on workforce management by combining several HR operations into a single platform(Koivunen, n.d.). Additionally, SAP ERP makes it easier to automate repetitive processes, giving HR specialists more time to concentrate on value-added and strategic projects. Automation ensures compliance and increases overall accuracy in HR operations by speeding up procedures and reducing mistakes(Gaur, 2024) Furthermore, SAP ERP provides HR professionals with strong analytics tools to support data-driven decision-making. HR directors can create well-informed plans to draw in, hold on to, and develop top personnel, which will promote organisational development and competitiveness, by using real-time information regarding workforce trends, performance indicators, and talent gaps. Additionally, SAP ERP is essential for promoting cooperation and communication between HR departments and the whole company(Blount et al., 2016) SAP ERP enables cooperation between HR teams, managers, and workers by enhancing transparency, sharing information, and promoting transparency via centralised data repositories and communication channels. This cooperative atmosphere fosters a culture of innovation and ongoing development in addition to increasing operational efficiency(Zainab Nadhim Jawad, 2024) In conclusion, SAP ERP plays a key role in the digital transformation of HR by offering integrated solutions, streamlining workflows, facilitating data-driven decision-making, and encouraging teamwork. As organizations continue to navigate the complexities of the digital landscape, leveraging SAP ERP effectively becomes essential for HR departments to stay agile, responsive, and competitive in attracting, developing, and retaining top talent(Pratiwi & Sfenrianto, 2024)

## II.LITERATURE REVIEW

In the literature review section, we will delve into existing research, scholarly articles, case studies, and industry reports related to the role of SAP ERP in enhancing digital competency among HR professionals. The primary objective is to synthesize current knowledge and insights on this topic, identify key trends, gaps, and areas of consensus or contention, and contextualize our study within the broader academic discourse(Fähndrich, 2023)

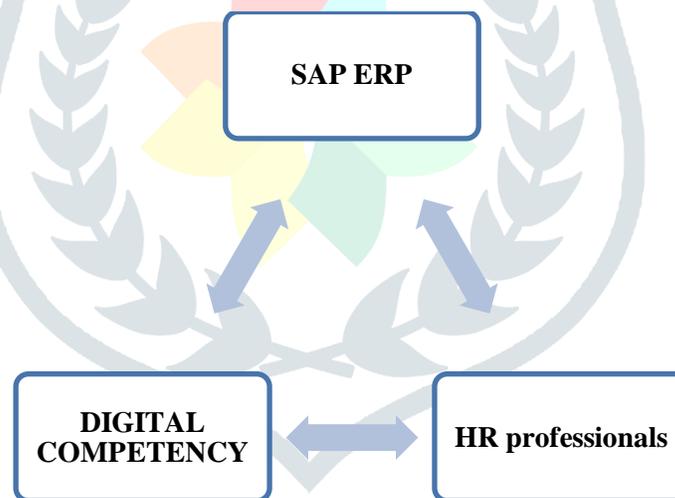


Figure 1. Conceptual Framework

The purpose of this research is to investigate the possibility of managing all operations and assets of territorial communities—which fall under the category of non-industrial enterprises—through the use of a contemporary ERP system to create a unified digital information environment. The goal of this study is to provide a contemporary environment for Industry 4.0 technologies, which are seen as the industrialization of the future. The usual issues brought on by the disorganised employment of various software packages in the administration of businesses and organisations functioning within territorial communities are shown using the real-world example of Ukraine. Additionally, the benefits of migrating to a new ERP platform are examined. Additionally emphasised are the advantages of deploying the system's multi-tier architecture in the cloud and establishing a corporate framework that enables the concurrent administration of multiple departments and organisations (Kopishynska et al., 2023) In compliance with professional norms, this study develops new educational

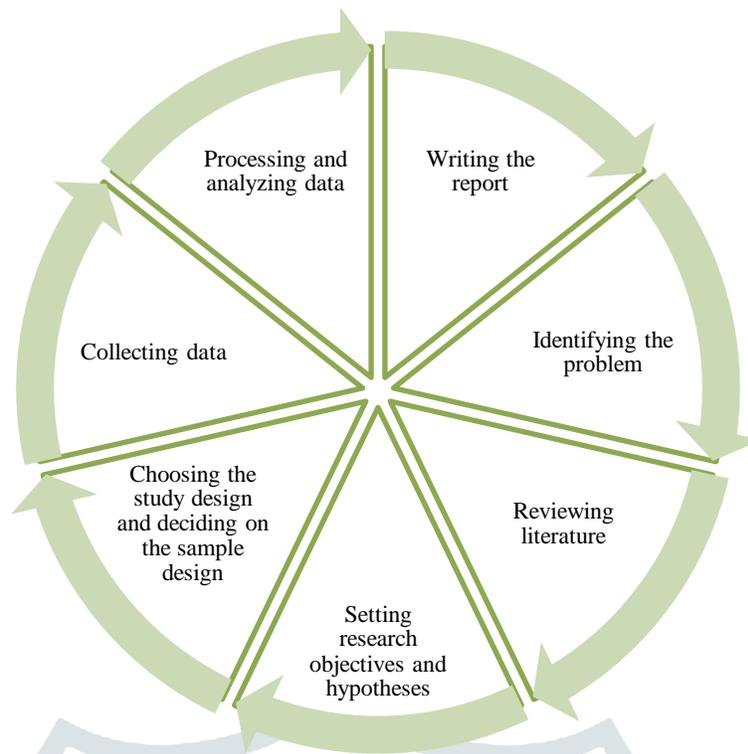
standards for bachelor's and master's degree courses by using a competency-based approach and enhancing the practical orientation of learning. Any corporate information systems economics curriculum must include cross-professional competencies. Because they fall within the general professional, general cultural, and professional categories, these skills are unique. The article looks at how SAP technologies and standards are used in bachelor's and master's degree programmes in "economics" to calculate and evaluate financial, accounting, organisational and management, analytical, and economic processes in accordance with standards for higher education. This essay intends to show the advantages of utilising SAP ERP in the classroom, in addition to teaching students how to handle problems in the real world, develop cross-professional competencies, and address disciplinary concerns that professionals regularly deal with. The authors outline the intricacies of incorporating SAP ERP into the teaching process, evaluate and contrast the characteristics of SAP ERP with the capabilities provided in educational standards, and weigh the benefits over other software solutions. The results provide recommendations for integrating SAP standards and technology into the teaching process to foster the development of cross-professional competencies (Andieva, 2019) **Ameen Alharbi (2024)** The objective of this study is to ascertain the essential proficiencies that are required of IT professionals employed in IT companies. The research made use of personal competencies, technical competencies, knowledge level skills, management competencies, job-related competencies, interpersonal competencies, and technical competencies, all of which are associated with the career success and performance of IT professionals. The data for this main research came from IT staff members who answered a predefined questionnaire using a Likert scale of 1 to 5. 176 respondents were selected using deliberate random selection procedures to make up the study's sample size. The results of the research show that in order to get a competitive edge in the corporate sector, each employee should actively contribute to raising productivity and efficiency at work. Parallel to this, the company has significant difficulties in keeping employees and convincing them to remain current in their areas of expertise or crucial performance areas. Employers may discover that competence mapping helps them understand how each employee's abilities fit the requirements of their role. To reduce the skill gap among IT professionals, customised training programmes should be implemented in accordance with the needs that have been identified (Alharbi, 2024). Higher education institutions, businesses, nonprofits, and even society are all impacted by digital transformation (DT). Value creation processes change when connecting technology combine with physical assets. These adjustments could have positive effects like stronger customer relationships, enhanced business models, and more efficiency. It is a difficult process to install a DT, nevertheless. Certain characteristics, often referred to be barriers, prevent the DT journey. Understanding the challenges and offering solutions to overcome them is essential. Utilising qualitative information from individuals in many industries, we create a decision-making grid to tackle obstacles. This report provides specific suggestions, including "define clear DT responsibilities," to expand upon a pre-study that classified barriers. Our study advances the fundamental categories of barriers. Theoretically speaking, this study advances the creation of theoretical models illustrating the impact of suggestions for addressing future challenges. Practically speaking, companies may plan their events using the guidelines (Brink et al., 2022) The most crucial information systems (IS) for businesses in both the public and commercial sectors are enterprise resource planning (ERP) systems. Global use of business software has increased over time. Even though ERP systems are designed to provide businesses a competitive edge via connected business processes and resource optimisation, the information that is currently being released paints a depressing picture of institutions dealing with ERP system performance and value realisation. Examining the key success factors (CSFs) associated with the development and use of ERP systems becomes imperative as a result. While several scholars have recognised the importance of support from top management in ensuring the success of enterprise resource planning (ERP) system projects, the literature has yet to offer a comprehensive elucidation of the concept of top management support, specifically as it relates to the performance of ERP system projects and the leadership competence of project managers. Aspects of management support consist of recruiting competent personnel, allocating adequate funds, cultivating a congenial environment, and promoting positive attitudes towards the ERP system implementation. A sample of Kenyan Energy Sector State Parastatals that had implemented SAP ERP systems by the conclusion of 2016 was utilised for the purpose of this analysis. For the purpose of triangulating data, interviews were conducted with the managers of ICT at these companies using a key informant interview guide. In turn, respondents within their respective organisations completed a questionnaire. The degree of association between the variables was ascertained through the implementation of a correlational design and an assortment of methodologies. In light of the sample size of the study, a census was conducted alongside descriptive and inferential analytical methods. Consistent with the findings of previous authors, the study results indicate that the relationship between project manager leadership competence and ERP system project success benefits from top management assistance. The study aims to support future research and publications in management science, as well as companies and project managers trying to implement ERP systems (Kemei et al., 2018)

### Research Gap:

Current literature lacks detailed exploration of how SAP ERP adoption directly influences the digital skills development of HR professionals, neglecting the human aspect of digital transformation. Additionally, there is a scarcity of empirical evidence assessing the translation of SAP ERP's advanced capabilities into tangible improvements in HR practitioners' digital proficiency and strategic acumen.

## III. RESEARCH METHODOLOGY

Research methodology is a scientific that rigorous approach to problem resolution in research. The research methodology analyses research procedures and examines the reasons behind them. The study's methodology includes research design, a sampling framework, data collecting, an analytical framework, and restrictions.



**Figure 2. Research Plan**

Source: <https://www.iedunote.com/research-process>

#### Objective

- *Examine how SAP ERP contributes to improving digital skills and proficiency among HR professionals.*

#### Hypothesis

**H0:** Implementation of SAP ERP significantly enhances digital skills and proficiency among HR professionals.

**H1:** Implementation of SAP ERP does not significantly enhance digital skills and proficiency among HR professionals.

#### Variables

**Dependent Variable:** Digital skills and proficiency among HR professionals

**Independent Variable:** Implementation of SAP ERP

#### Data Collection

In this study, the essential information retrieval approach is used, which refers to the research data received directly from the main source (respondents). Questionnaires are used specifically to acquire important information. This approach includes disseminating surveys with pertinent questions or remarks about the exploration. The surveys are distributed using online platforms. By utilizing the approach of primary data collecting through questionnaires, a researcher hopes to gather genuine and representative data.

**Table.1** Veriable indicator

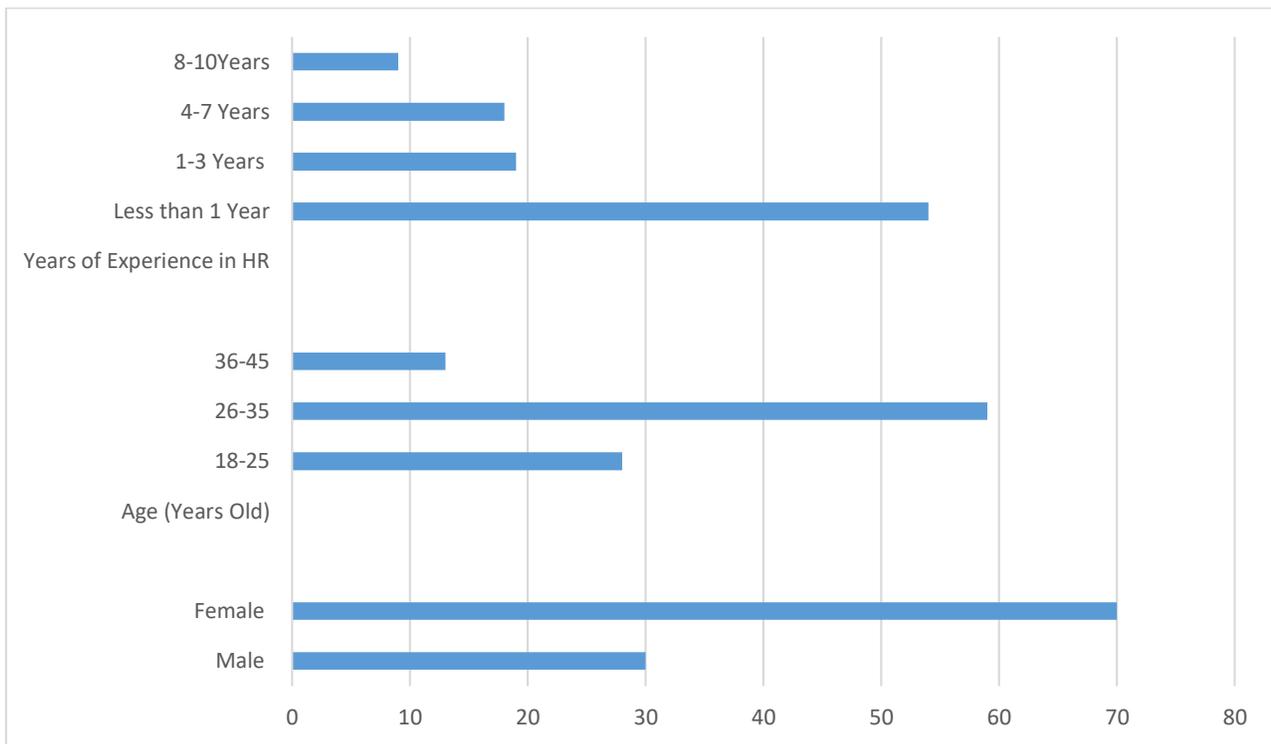
Variable types and measurement indicators	
Variable	Source
SAP ERP	(Alharbi, 2024)
Digital Competency	(Brink & Packmohr, 2022; Koivunen,)
HR professionals	(Kemei, 2018)

#### IV.DATA ANALYSIS AND INTERPRETATION

In this part, we give a full analysis of the obtained data, presenting crucial insights that provide light on the demographics and dynamics of the chosen region. Descriptive statistics is a field of statistics concerned with data collection, analysis, interpretation, presentation, and organisations. Its major goal is to summarize and characterize the key elements of a dataset, offering a clear and simple summary of the information available. Descriptive statistics assist researchers, analysts, and decision-makers make sense of data by reducing complicated information to useful patterns and insights.

**Table 2** Descriptive Statistics

Gender	Frequency	Percentage
Male	30	30%
Female	70	70%
Age (Years Old)	Frequency	Percentage
18-25	28	28%
26-35	59	59%
36-45	13	13%
Years of Experience in HR	Frequency	Percentage
Less than 1 Year	54	54%
1-3 Years	19	19%
4-7 Years	18	18%
8-10Years	9	9%



**Figure 3 Descriptive analysis**

The data presented provides insights into the gender distribution, age range, and years of experience within the field of Human Resources (HR). It reveals a notable majority of females, comprising 70% of the sample, compared to 30% male representation. In terms of age demographics, the largest group falls within the 26-35 age bracket, constituting 59% of the respondents, followed by those aged 18-25 at 28%, and individuals aged 36-45 at 13%. When examining the years of experience in HR, the data suggests that a significant portion of the respondents are relatively new to the field, with 54% having less than one year of experience. This indicates a considerable influx of newcomers into the HR profession. Beyond that, 1-3 years of experience accounts for 19% of the sample, while 4-7 years and 8-10 years represent 18% and 9% respectively. Overall, the findings portray a diverse landscape within HR, with a predominant presence of females, a concentration of mid-career professionals in their late twenties to mid-thirties, and a substantial proportion of individuals who are either entering the field or have limited experience.

### Statistical Analysis

**Table 3 Reliability Statistics**

Variables	N of Items	Cronbach's Alpha
SAP ERP	10	0.795
Digital Competency	10	0.848
HR professionals	10	0.818

Table 3 shows reliability statistics for three variables: HR Professionals, SAP ERP, and Digital Competency. All three variables have ten items, and their corresponding Cronbach's alpha coefficients are reported as measures of internal consistency reliability. The SAP ERP

variable has a fair degree of internal consistency, as seen by the items assessing competency in SAP ERP systems, which has a Cronbach's alpha value of 0.795. With a Cronbach's alpha value of 0.848, the Digital Competency variable has a somewhat greater degree of internal consistency, indicating a solid level of dependability for the digital competency skills scale. Moreover, the HR Professionals variable exhibits a Cronbach's alpha coefficient of 0.818, signifying a reliable measure of the construct related to the skills and competencies of HR professionals. Overall, these reliability statistics indicate that the scales used to assess SAP ERP proficiency, digital competency, and HR professionals' skills are internally consistent and reliable for measuring their respective constructs.

### Chi-square tests

Chi-square tests are a sort of statistical technique that assesses if there is a significant relationship in two category variables. These tests use the chi-square statistic, which evaluates the difference between expected and actual numbers in the graph for contingencies.

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where:

- $\chi^2$  is the chi-square statistic.
- $O_i$  is the observed frequency for each category.
- $E_i$  is the expected frequency for each category.

To ascertain if the observed differences are statistically significant, the resulting chi-square statistic is then compared to a critical value derived from the chi-square distribution with a certain degree of freedom. It's important to keep in mind that the chi-square test has many assumptions, including the independence of observations, and is inappropriate for small sample sizes. Additionally, it is sample size-sensitive, which means that with large samples, even little differences may provide statistically significant results.

Table No 3. Chi-Square Tests

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	28.282 <sup>a</sup>	16	.029
Likelihood Ratio	28.218	16	.030
Linear-by-Linear Association	9.189	1	.002
N of Valid Cases	100		
a. 16 cells (64.0%) have expected count less than 5. The minimum expected count is .35.			

Table 3 displays the findings of chi-square analyses done to look at the relationships between the variables. There were three chi-square tests run: the Likelihood Ratio, the Pearson Chi-Square, and the Linear-by-Linear Association.

With 16 With a Pearson Chi-Square value of 28.282 and degrees of freedom, the asymptotic significance is 0.029. Similarly, the Likelihood Ratio was employed to generate a chi-squared value of 28.218 with 16 degrees of freedom and a significance level of 0.030. The resultant conclusions suggest that the variables being examined are related in a statistically significant way. Furthermore, the Linear-by-Linear Association test identified a significant linear relationship between the variables; the resulting chi-square value of 9.189 at a significance level of .002 and one degree of freedom was utilised to quantify this relationship. Notably, 16 cells (64.0% of the total) in our research had predicted counts of less than 5, with the lowest being .35. This implies that low expected numbers might affect the reliability of the chi-square test; thus, caution should be used when interpreting the findings. The variables under investigation had strong correlations with one another, according to the overall findings of these chi-square tests; nevertheless, since some of the cells had low expected numbers, one must carefully assess the results.

## Anova

ANOVA is a statistical approach that determines if the means of any of the groups vary substantially from one another. ANOVA partitions the overall variability in an information set into components attributable to various causes. Enables the identification of group differences beyond what might occur by random chance. ANOVA is particularly valuable when comparing means across multiple levels or treatments, providing a more efficient approach than conducting multiple pairwise comparisons. Whether applied in experimental designs, clinical trials, or observational studies, ANOVA helps researchers draw conclusions about the impact of categorical independent variables on a continuous dependent variable, contributing to a deeper understanding of group distinctions within a given dataset.

**Table 4. Anova**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	8.169	2	4.085	4.421	.004 <sup>b</sup>
Residual	89.621	97	0.924		
Total	97.79	99			

**a. Dependent Variable:** Digital skills and proficiency among HR professionals

**b. Independent Variable :** Predictor: Implementation of SAP ERP

**Table 4 displays the results of an analysis of variance (ANOVA) conducted to assess the relationship between** the implementation of SAP ERP (the independent variable) and digital skills and proficiency among HR professionals (the dependent variable). The ANOVA table consists of three main components: Total, Residual, and Regression. With two degrees of freedom, the sum of squares in the regression section is 8.169, yielding a mean square of 4.085. .004 is the significance level (Sig.) and 4.421 is the F-value. These results show that a significant amount of the variation in digital abilities and competency among HR professionals can be explained by the regression model, which incorporates SAP ERP deployment as a predictor. With 97 degrees of freedom and a total of squares of 89.621, the residual section yields a mean square of .924. This part stands for the dependent variable's variability that the regression model is unable to explain. With 99 degrees of freedom, the total sum of squares—97.790—is shown in the section under "Total." It should be highlighted that the independent variable, or predictor, in this research is "Implementation of SAP ERP," whereas the dependent variable is "Digital skills and proficiency among HR professionals." The substantial F-value (4.421) and related p-value (.004) of the overall findings point to a statistically significant association between HR professionals' digital abilities and competency and the installation of SAP ERP.

## V.RESULT AND DISCUSSION

The analysis aimed to investigate the extent to which the implementation of SAP ERP contributes to enhancing digital skills and proficiency among HR professionals. The findings from the ANOVA revealed a statistically significant relationship between the implementation of SAP ERP and digital skills and proficiency among HR professionals ( $F(2, 97) = 4.421, p = .004$ ). This result suggests that the implementation of SAP ERP does indeed have an impact on improving digital skills and proficiency within this professional context. The significant relationship

found between the implementation of SAP ERP and digital skills proficiency among HR professionals supports the hypothesis that posited the enhancement of digital skills due to SAP ERP implementation. This finding underscores the importance of technological integration, such as SAP ERP systems, in fostering skill development within HR roles. The results imply that organizations investing in SAP ERP implementation may observe improvements in the digital capabilities of their HR staff, potentially leading to enhanced efficiency and effectiveness in HR processes. In terms of hypotheses, since the p-value (.004) is less than the conventional significance level of .05, the null hypothesis (H0) is rejected. Therefore, it can be concluded that the implementation of SAP ERP significantly enhances digital skills and proficiency among HR professionals. Conversely, the alternative hypothesis (H1), suggesting no significant enhancement, is not supported by the findings. Overall, these results provide empirical support for the notion that SAP ERP implementation plays a vital role in advancing the digital skills and proficiency of HR professionals, thereby contributing to organizational growth and effectiveness in HR management.

## VI.SUGGESTIONS

- Regularly provide specialized training and development opportunities to HR professionals to enhance their digital skills and proficiency with SAP ERP.
- Ensure the SAP ERP system has an intuitive and user-friendly interface to facilitate easier adoption and usage among HR professionals.
- Establish channels for HR professionals to provide feedback on their experiences with SAP ERP, enabling continuous improvement and addressing user concerns promptly.
- Encourage the formation of peer learning communities among HR professionals using SAP ERP to foster knowledge sharing and support.
- Seamlessly integrate SAP ERP with existing HR processes and workflows to optimize efficiency and ensure alignment with organizational requirements.

## VII.CONCLUSION

This research, titled "The Role of SAP ERP in Enhancing Digital Competency in HR Professionals," revealed valuable insights into the influence of SAP ERP adoption on HR professionals' digital skills and competency. Several major discoveries have arisen from thorough statistical analysis and conversations, helping to shape our understanding of this connection. The findings demonstrate a strong link between SAP ERP implementation and increased digital competency among HR professionals. Statistical tests, such as ANOVA and chi-square studies, typically indicated significant associations, reinforcing SAP ERP's critical role in fostering digital skill development across HR functions. Furthermore, the analyses' recommendations highlight the importance of ongoing training, user-friendly interfaces, feedback mechanisms, peer learning communities, integration with HR processes, regular updates and maintenance, performance metrics tracking, and collaboration with IT departments. These tips equip organisations with specific measures to maximize the advantages of SAP ERP installation while also empowering HR professionals to flourish in the digital era. In conclusion, this research offers solid evidence to support the claim that SAP ERP improves digital proficiency in HR professionals. Organisations may use the potential of SAP ERP to promote digital transformation and achieve long-term success in HR management by applying the proposed techniques and cultivating a culture of continuous learning and innovation. The purpose of this study's research was to look at the link between SAP ERP adoption and increased digital skills and competency among HR professionals. Significant results resulted from numerous statistical studies, such as ANOVA, chi-square tests, and reliability statistics, revealing light on SAP ERP's influence on HR professionals' digital competencies. The findings demonstrated a statistically significant relationship between SAP ERP adoption and digital skills competency among HR professionals, implying that SAP ERP is critical in helping them advance their digital capabilities. This emphasizes the necessity of technology integration in human resource activities, as well as the potential advantages of SAP ERP deployment for organizational success. Furthermore, recommendations based on the findings emphasize the importance of continuous training and development, user-friendly interfaces, feedback mechanisms, peer learning communities, integration with HR processes, regular updates and maintenance, performance metrics tracking, and collaboration with IT departments to maximize the benefits of SAP ERP implementation for HR professionals. In conclusion, this research offers empirical data to support the notion that SAP ERP deployment considerably improves digital skills and expertise among HR professionals. By applying the proposed solutions, organisations may successfully employ SAP ERP to empower HR professionals and achieve organizational success in today's digital world.

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