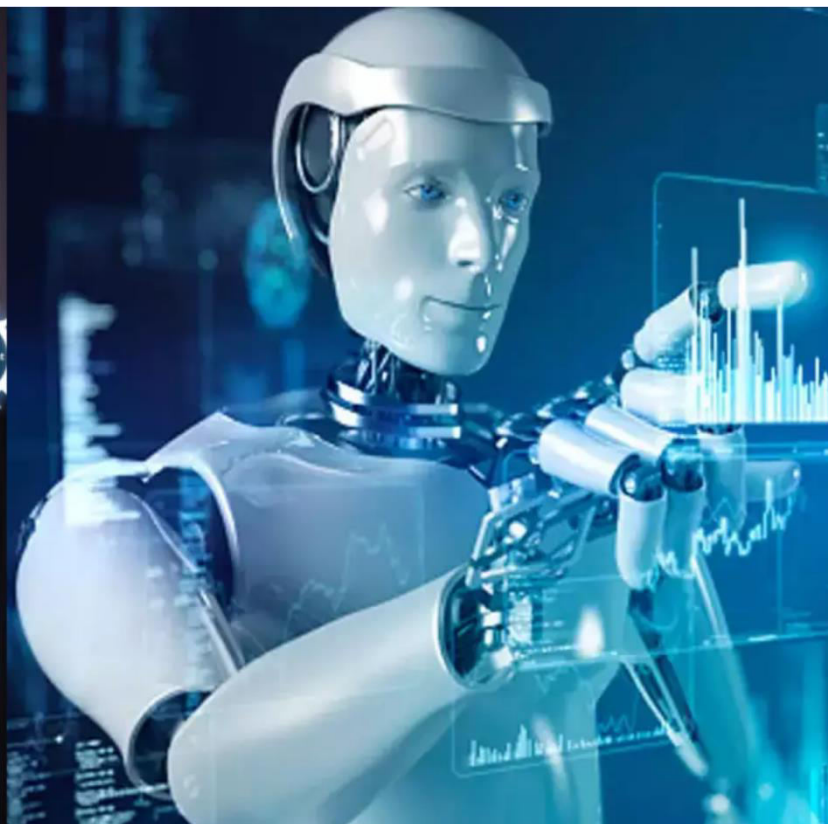




# International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

*(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)*



**Impact Factor: 8.699**

**Volume 15, Issue 3, March 2026**

# **A Study on Effectiveness of AI-Integrated Payroll Systems in Swissway Overseas Pvt.Ltd. Chennai**

**Saranya.P, Ramanan.S, Dr. Reyya Pawani**

Student, Department of MBA ,School of Management Studies, Sathyabama Institute of Science and Technology,  
Chennai, Tamil Nadu, India

Student, , Department of MBA School of Management Studies, Sathyabama Institute of Science and Technology,  
Chennai, Tamil Nadu, India

Assistant Professor, School of Management Studies, Sathyabama Institute of Science and Technology, Chennai,  
Tamil Nadu, India

**ABSTRACT:** Payroll is associated with several meanings and is interchangeably used as an umbrella term for a group of people employed by an organization depicting their earnings. Managing payroll efficiently is a crucial aspect of any company's operations, and integrating artificial intelligence (AI) into payroll systems has transformed the way businesses handle employee compensation. AI-powered payroll systems offer automation, accuracy, and compliance, reducing human errors and streamlining complex calculations. The objective of the study is to analyse on effectiveness of AI-integrated payroll systems in Swissway Overseas Pvt.Ltd., Chennai. The sample of the study is 120. Descriptive research design and convenience sampling method has been used. Questionnaire has been used as a primary data. Simple percentage analysis, chi-square analysis and correlation statistical tools have been applied to reach the findings of the study. It is found that there is significant relationship between educational qualification of the respondents and accuracy of payroll processing. There is positive relationship between experience of the respondents and processing efficiency. It is suggested that to make payroll information easily accessible and user-friendly, the company must improve the user interface. To prevent unwanted access to payroll data, the company must constantly update its AI-driven security procedures. It is concluded that determined that AI-driven automation lessens administrative workloads and improves the system's capacity to efficiently manage substantial amounts of payroll data. Faster query resolution and overall operational excellence are the results of increased payroll processing efficiency.

**KEYWORDS:** AI-integrated payroll systems, payroll automation, payroll accuracy, payroll efficiency.

## **I. INTRODUCTION**

Artificial Intelligence is defined as a science and a set of computational technologies that are inspired by but commonly operate quite differently from the ways people utilize their nervous systems and bodies to detect, learn, reason, and take action. The computer scientist John McCarthy coined the term Artificial Intelligence in 1956, and characterizes the field of artificial intelligence as "the science and engineering of making intelligent machines." Artificial Intelligence is a branch of computer science that endeavours to replicate or simulate human intelligence in a machine, so machines can perform tasks that typically require human intelligence. Some programmable functions of AI systems include planning, learning, reasoning, problem solving, and decision making. Artificial intelligence systems are powered by algorithms, using techniques such as machine learning, deep learning and rules. Machine learning algorithms feed computer data to AI systems, using statistical techniques to enable AI systems to learn. Through machine learning, AI systems get progressively better at tasks, without having to be specifically programmed to do Computer science defines Artificial Intelligence research as the investigation of "intelligent agents. Any gadget that perceives its environment and takes actions accordingly to augment its chance of successfully achieving its goals". A more elaborate definition portrays Artificial Intelligence as "a system's ability to correctly interpret external data, to learn from such data, and to use those learning to achieve specific goals and tasks through flexible adaptation."

### OBJECTIVES OF THE STUDY

- To evaluate the accuracy of payroll processing in the company
- To analyze the user experience & ease of use of AI-integrated payroll systems in the company
- To assess the data security & compliance of the AI-integrated payroll systems in the company
- To examine the processing efficiency of the AI-integrated payroll systems in the company

### II. REVIEW OF LITERATURE

**Saputra, A.A., Ratnasari, C.I., Rahayu, N.W. (2024).** E-government in Indonesia is ranked 77th out of 193 countries in the 2022 EGDI (E-Government Development Index). Government-to-Employee (G2E) is one sort of e-government. This paper discusses the digital transformation in civil servant payroll management at the social service in one of the provinces in Indonesia. This study begins with problem identification, which is part of the requirements analysis, which is achieved through interviews with the social service office's salary treasurer and the analysis of employee and payroll data. The many provisions and components in salary calculations are prone to human error. The waterfall approach is used in developing a web-based payroll system. Employees are experiencing the effects of digital transformation, namely greater salary transparency, which previously required requesting a payslip from the payroll treasurer. Aside from that, the salary treasurer may easily process payroll, which was formerly done using Microsoft Excel. The black-box test results show that the system works as intended, and the usability test results show that the system is simple to use.

**Sasi Kiran Parasa(2023).** Artificial Intelligence (AI) is revolutionizing payroll management by enhancing accuracy, efficiency, and compliance. This paper explores the significant impact of AI on payroll systems, focusing on automation, error reduction, real-time processing, and compliance with regulatory requirements. Through a comprehensive review of current literature and practical case studies, we analyze how AI-driven payroll systems streamline processes, reduce costs, and improve employee satisfaction. Our findings highlight the benefits of AI in transforming payroll operations while addressing challenges such as data privacy, integration with existing systems, and the need for upskilling payroll professionals. The study concludes with recommendations for organizations seeking to implement AI in their payroll processes to achieve optimal results.

**Ammar Ahmad Khizrai, Rashi Agrawal (2022),** Management of payroll system is the main region of the business. Payroll system includes everything that has to do with the salary of employees and filling of employment taxes. In this they keep tracking the working hours, hold on to taxes and others. The base of salary depends upon certain factors that involves condition of market and paying ability of the company and legal provision.

### III. RESEARCH METHODOLOGY

This study adopts a descriptive research design and convenience sampling method. The study basically uses primary and secondary data. In this study, data was collected from 120 employees. Simple percentage analysis, chi square analysis and correlation have been used in this study.

#### Data analysis and interpretation

Table No. 1 EDUCATIONAL QUALIFICATION OF THE RESPONDENTS

Educational Qualification	No. of Respondents	Percentage
Upto HSC	30	25.00%
UG	42	35.00%
PG	28	23.30%
Diploma & Others	20	16.70%
<b>Total</b>	<b>120</b>	<b>100%</b>

Source: Primary data

**INTERPRETATION**

The data shows that 25.0% of respondents have qualifications up to HSC, 35.0% are undergraduates, 23.3% are postgraduates, and 16.7% hold diplomas or other qualifications, representing the educational distribution of the sample size of 120 respondents.

**Table No. 2 EXPERIENCE OF THE RESPONDENTS**

Experience Category	No. of Respondents	Percentage
Below 1 year	26	21.70%
1–3 years	38	31.70%
4–7 years	32	26.70%
Above 7 years	24	20.00%
<b>Total</b>	<b>120</b>	<b>100%</b>

Source: Primary data

**INTERPRETATION**

The data indicates that 21.7% of respondents have below 1 year of experience, 31.7% have 1–3 years of experience, 26.7% have 4–7 years of experience, and 20.0% have above 7 years of experience, representing the overall work experience distribution of the respondents in the sample size of 120.

**Table No. 3 ACCURACY OF PAYROLL PROCESSING.**

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
The payroll system calculates salaries and deductions without errors	38 (31.7%)	44 (36.7%)	16 (13.3%)	14 (11.7%)	8 (6.7%)	120 (100%)
Overtime and bonuses are accurately reflected in payroll processing	35 (29.2%)	42 (35.0%)	18 (15.0%)	15 (12.5%)	10 (8.3%)	120 (100%)
Salary disbursements occur without any miscalculations or delays	37 (30.8%)	45 (37.5%)	15 (12.5%)	13 (10.8%)	10 (8.3%)	120 (100%)
The payroll system effectively reduces manual intervention errors	34 (28.3%)	43 (35.8%)	20 (16.7%)	14 (11.7%)	9 (7.5%)	120 (100%)
Payslips generated by the system accurately reflect earnings and deductions	36 (30.0%)	44 (36.7%)	17 (14.2%)	13 (10.8%)	10 (8.3%)	120 (100%)

Source: Primary data

**INTERPRETATION**

31.7% strongly agree and 36.7% agree that the payroll system calculates salaries and deductions without errors, while 13.3% are neutral, 11.7% disagree, and 6.7% strongly disagree. 29.2% strongly agree and 35.0% agree that overtime and bonuses are accurately reflected in payroll processing, while 15.0% are neutral, 12.5% disagree, and 8.3% strongly disagree. 30.8% strongly agree and 37.5% agree that salary disbursements occur without any miscalculations or delays, while 12.5% are neutral, 10.8% disagree, and 8.3% strongly disagree. 28.3% strongly agree and 35.8% agree that the payroll system effectively reduces manual intervention errors, while 16.7% are neutral, 11.7% disagree, and 7.5%

strongly disagree. 30.0% strongly agree and 36.7% agree that payslips generated by the system accurately reflect earnings and deductions, while 14.2% are neutral, 10.8% disagree, and 8.3% strongly disagree.

**Table No. 4 PROCESSING EFFICIENCY**

Statements	Excellent	Good	Average	Bad	Poor	Total
Salary disbursements occur on time without delays	38 (31.7%)	42 (35.0%)	20 (16.7%)	12 (10.0%)	8 (6.6%)	120 (100%)
The system automates payroll tasks, reducing manual workload	36 (30.0%)	44 (36.7%)	18 (15.0%)	14 (11.7%)	8 (6.6%)	120 (100%)
The system efficiently handles large volumes of payroll data	37 (30.8%)	43 (35.8%)	19 (15.8%)	13 (10.8%)	8 (6.8%)	120 (100%)
The system reduces administrative burdens associated with payroll processing	35 (29.2%)	42 (35.0%)	20 (16.7%)	14 (11.7%)	9 (7.5%)	120 (100%)
Payroll-related queries are resolved faster due to AI automation	36 (30.0%)	44 (36.7%)	18 (15.0%)	13 (10.8%)	9 (7.5%)	120 (100%)

Source: Primary data

### INTERPRETATION

31.7% of respondents rated salary disbursements occur on time without delays as excellent and 35.0% as good, while 16.7% rated it average, 10.0% bad, and 6.6% poor. 30.0% rated the system automates payroll tasks as excellent and 36.7% as good, while 15.0% rated it average, 11.7% bad, and 6.6% poor. 30.8% rated the system handles large volumes efficiently as excellent and 35.8% as good, while 15.8% rated it average, 10.8% bad, and 6.8% poor. 29.2% rated the system reduces administrative burdens as excellent and 35.0% as good, while 16.7% rated it average, 11.7% bad, and 7.5% poor. 30.0% rated payroll-related queries resolved faster due to AI automation as excellent and 36.7% as good, while 15.0% rated it average, 10.8% bad, and 7.5% poor.

### IV. CHI SQUARE ANALYSIS

#### HYPOTHESIS TESTING

**Aim:** To test relation between the educational qualification of the respondents and accuracy of payroll processing

**Null hypothesis (H0):** There is no significance relation between educational qualification of the respondents and accuracy of payroll processing.

**Alternative hypothesis (H1):** There is some significance relation between educational qualification of the respondents and accuracy of payroll processing.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	261.756a	48	.000
Likelihood Ratio	221.363	48	.000
Linear-by-Linear Association	70.673	1	.000

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	261.756a	48	.000
Likelihood Ratio	221.363	48	.000
Linear-by-Linear Association	70.673	1	.000
N of Valid Cases	120		

a . 63 cells (92.6%) have expected count less than 5. The minimum expected count is .16.

Sample data

**INTERPRETATION**

As per the above table, it is inferred that the P value is .000; it is significant to 5% (0.05) significant level. The minimum expected count is .16. Thus null hypothesis is rejected and it is found that there is significant relationship between educational qualification of the respondents and accuracy of payroll processing.

**V. CORRELATION ANALYSIS**

**Aim: To test relation between relationship between experience of the respondents and processing efficiency**

**HYPOTHESIS TESTING**

**Null hypothesis (H0):** There is no significance relation between experience of the respondents and processing efficiency.

**Alternative hypothesis (H1):** There is some significance relation between experience of the respondents and processing efficiency.

**Relation between experience of the respondents and processing efficiency**

Correlations			
		EXPERIENCE OF THE RESPONDENTS	PROCESSING EFFICIENCY
EXPERIENCE OF THE RESPONDENTS	Pearson Correlation	1	.346**
	Sig. (2-tailed)		.000
	N	120	120
PROCESSING EFFICIENCY	Pearson Correlation	.346**	1
	Sig. (2-tailed)	.000	
	N	120	120

**INTERPRETATION:**

The above table indicates that, co-efficient of correlation between experience of the respondents and processing efficiency conducted is 0.346. It is below 1. So there is positive relationship between experience of the respondents and processing efficiency.

**VI. SUGGESTIONS**

➤ To make sure the payroll system accurately computes wages and deductions, the company must do regular accuracy checks.

- Before processing payroll, the company should have validation procedures in place to confirm overtime and bonuses.
- Payroll processing operations must be optimized by the company to avoid errors or delays in salary payments.
- To reduce mistakes caused by manual involvement in payroll processing, the organization must improve AI-driven checks.
- The company should make sure that all profits and deductions are fully disclosed on paystubs.
- To minimize the need for training, the organization must create a system with an easy-to-use interface.
- For smooth operation, the company should provide easily understandable user instructions in the system.
- To make troubleshooting easier, the company must incorporate AI-based support.
- To guarantee seamless and error-free operations, the company should test system performance on a regular basis.
- To make payroll information easily accessible and user-friendly, the company must improve the user interface.
- To prevent unwanted access to payroll data, the company must constantly update its AI-driven security procedures.
- The company should make sure that all applicable data privacy laws and industry standards are followed.

## VII. CONCLUSION

It is determined that by increasing accuracy, efficiency, and security, AI-integrated payroll solutions greatly improve payroll administration. By automating pay computations, deductions, and disbursements, manual intervention is less necessary and processing is guaranteed to be prompt and error-free. The system's AI-powered troubleshooting capabilities and user-friendly interface make it easy to use, reducing the need for training and interruptions to operations. Additionally, including cutting-edge security features like audit trails and role-based access improves data privacy and adherence to industry standards, guaranteeing the privacy and openness of payroll operations.

Furthermore, it is determined that AI-driven automation lessens administrative workloads and improves the system's capacity to efficiently manage substantial amounts of payroll data. Faster query resolution and overall operational excellence are the results of increased payroll processing efficiency. Businesses may improve employee happiness and ensure safe and easy transactions by utilizing AI to streamline payroll operations. In the future, optimizing the performance of AI-integrated payroll systems will need constant system improvements and adherence to changing legal requirements.

## REFERENCES

1. Smith, A., & Brown, K. (2020). "The Impact of AI on Payroll Systems: An Efficiency Analysis." *Journal of Business and Technology*, 35(4), 112-128.
2. Wang, Y., & Patel, R. (2019). "AI-Driven Payroll Processing: Enhancing Accuracy and Compliance." *International Journal of Human Resource Information Systems*, 27(3), 54-72.
3. Gupta, S., & Verma, P. (2021). "Automation in Payroll Management: A Study on AI Integration." *Journal of HR Technology and Innovation*, 18(2), 89-105.
4. Davis, J., & Carter, L. (2020). "AI and Employee Payroll Management: A Strategic Approach." *Global Journal of HR and Technology*, 29(1), 45-67.
5. Kumar, R., & Sharma, T. (2022). "Artificial Intelligence in Payroll Systems: Challenges and Opportunities." *Human Resource Management Review*, 41(1), 22-39.
6. Saputra, A. A., Ratnasari, C. I., & Rahayu, N. W. (2024). "AI adoption in payroll systems: A modern approach." *Journal of Financial Technology*, 12(2), 45-60.
7. Parasa, S. K. (2023). "Artificial intelligence in payroll automation: Trends and challenges." *International Journal of Business Analytics*, 10(1), 22-38.
8. Khizrai, A. A., & Agrawal, R. (2022). "Smart payroll systems using AI: Improving efficiency and compliance." *Journal of Management Information Systems*, 15(3), 78-95.



INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 9940 572 462  6381 907 438  [ijirset@gmail.com](mailto:ijirset@gmail.com)



[www.ijirset.com](http://www.ijirset.com)

Scan to save the contact details