



Hris In Developing Economies: Adoption, Challenges, And Future Directions"

¹Rutwik Potale, ²Irfan Shaikh, ³Urvashi Yadav, ⁴Dr.Datta Taware,
¹Research Student, ²Research Student, ³Research Student, ⁴Assistant Professor
¹Business Management,
¹JSPM University, Pune, India

Abstract: This paper explores the evolution, application, and challenges of Human Resource Information Systems (HRIS) in the context of developing economies. As organizations shift from manual to digital HR processes, HRIS emerges as a vital tool that enhances efficiency, transparency, and strategic alignment in human resource management. The study outlines key HRIS applications, including recruitment, payroll, training, performance management, and employee self-service. It also identifies major barriers to adoption such as lack of leadership support, insufficient training, financial constraints, and inadequate infrastructure. The scope of HRIS varies by organizational size and sector, with larger enterprises utilizing advanced modules and smaller firms often limited to basic functions. Despite the numerous benefits, adoption remains uneven. The paper concludes by emphasizing the need for leadership commitment, continuous training, and supportive policy frameworks to maximize HRIS potential. It calls for further research through case studies to support region-specific and industry-specific implementation strategies.

Keywords - HRIS, Adoption in industries, Future perspectives- (technological advancements, business)

I. INTRODUCTION

Human Resource Management (HRM) practices have undergone significant transformation over the past two decades due to globalization, technological advancements, and the rise of knowledge-driven economies. Traditional HR systems reliant on manual processes are no longer adequate. In this context, Human Resource Information Systems (HRIS) have emerged as essential tools for integrating technology with HR functions. These systems support strategic decision-making, improve service delivery, and align HR activities with organizational goals. While private sector adoption is increasing, public sector implementation remains limited, particularly in functions like payroll, recruitment, performance management, and training.

2. Literature Review

HR technology traces its roots back to the 1940s, but its strategic value has only been recognized in recent decades. By the 1990s, businesses began using HRIS for both record-keeping and strategic purposes. HRIS was defined as an integrated system for managing HR data involving people, software, policies, and procedures. Initially viewed as a cost-control tool, HRIS evolved into a performance enabler. It supports strategic HR functions, but adoption remains uneven due to organizational resistance and lack of awareness, particularly in developing nations.

3. HRIS Applications

HRIS plays a pivotal role across various HR functions:

- **Recruitment and Selection:** Streamlines job postings, applicant tracking, and evaluation through e-recruitment platforms.
- **Training and Development:** Identifies skill gaps, recommends programs, and tracks progress using Learning Management Systems (LMS).
- **Payroll Administration:** Automates salary calculations, tax deductions, and report generation, enhancing accuracy and efficiency.
- **Benefits and Compensation:** Manages complex compensation structures and provides transparent access to employee benefits data.
- **Performance Appraisal:** Enables real-time performance tracking and fair evaluations through standardized templates and feedback systems.
- **HR Planning:** Facilitates workforce analytics, succession planning, and labor forecasting to align HR with business needs.
- **Internal and External Communication:** Enhances collaboration and information sharing via integrated communication tools.
- **Employee Self-Service (ESS):** Empowers employees to manage personal records, view pay slips, apply for leave, and access training schedules online.

4. Barriers to HRIS Adoption

Despite its benefits, several challenges hinder HRIS adoption:

1. **Lack of Leadership Support:** Top management often underestimates HRIS's strategic potential.
2. **Inadequate Training:** Without proper technical support and training, systems remain underutilized.
3. **Resource Constraints:** Financial limitations and lack of infrastructure deter especially small and medium-sized enterprises.
4. **Skill Gaps:** A shortage of HR and IT expertise limits effective implementation.
5. **Size Limitations:** Larger firms adopt HRIS more readily, while smaller firms struggle with scale.
6. **Policy Gaps:** Inconsistent regulations and weak cybersecurity frameworks reduce confidence in digital systems.

5. Scope of HRIS

In many developing regions, HRIS usage is confined to basic functions like payroll and employee records. To derive greater value, organizations must embrace advanced features such as performance management, recruitment, and training modules. Larger companies are increasingly integrating HRIS with enterprise resource planning (ERP) systems for enhanced analytics and real-time data. Successful implementation depends on a combination of leadership support, infrastructure, skilled users, and continuous system updates.

6. Contributions and Conclusion

This paper highlights the role of HRIS in transitioning HR from administrative support to strategic partnership. It underscores how HRIS enables informed decision-making, enhances employee engagement, and aligns HR functions with organizational objectives. Despite infrastructural, financial, and skill-based challenges, HRIS remains a powerful tool for modernizing HR practices. To overcome adoption barriers, organizations need strong leadership, regular training, and policy-level support. Future studies should focus on region- and industry-specific case analyses to guide better implementation strategies.

References

1. Al-Adawi, Z., Yousafzai, S., & Pallister, J. (2005). Conceptual Model of Citizen Adoption of E-Government. Proceedings of the Second International Conference on Innovations in Information Technology (IIT'05), Dubai, 26-28 September 2005, 1-10.
2. Andaregie, A., & Astatkie, T. (2021). Determinants of Technology Adoption by Micro and Small Enterprises (MSEs) in Awi Zone, Northwest Ethiopia. African Journal of Science, Technology, Innovation and Development, 1-10. <https://doi.org/10.1080/20421338.2021.1923385>
3. Anthony, W. P., Kacmar, K. M., & Perrewe, P. L. (2002). Human Resource Management: A Strategic Approach (4th ed.). Prentice Hall.
4. Bala, H., & Venkatesh, V. (2013). Changes in Employees' Job Characteristics during an Enterprise System Implementation: A Latent Growth Modeling Perspective. MIS Quarterly, 37, 1113-1140. <https://doi.org/10.25300/MISQ/2013/37.4.06>
5. Ball, K. S. (2001). The Use of Human Resource Information Systems a Survey. Personnel Review, 30, 677-693. <https://doi.org/10.1108/EUM0000000005979>
6. Baloh, P., & Trkman, P. (2003). Influence of Internet and Information Technology on Work and Human Resource Management. Informing Science, June, 498-505. <https://doi.org/10.28945/2642>
7. Bamel, N., Bamel, U. K., Sahay, V., & Thite, M. (2014). Usage, Benefits and Barriers of Human Resource Information System in Universities. The Journal of Information and Knowledge Management Systems, 44, 519-536. <https://doi.org/10.1108/VINE-04-2013-0024>
8. Beckers, A. M., & Bsat, M. Z. (2002). A Dss Classification Model for Research in Human Resource Information Systems. Information Systems Management, 19, 1-10. <https://doi.org/10.1201/1078/43201.19.3.20020601/37169.6>
9. Cascio, W. F. (1984). Costing Human Resources: The Financial Impact of Behavior in Organization. PWS-Kent.
10. Cascio, W. F. (1991). Costing Human Resources (Vol. 21). South-Western Educational Publishing.
11. Cascio, W. F. (2000). Costing Human Resources: The Financial Impact of Behavior in Organizations (4th ed.). South-Western College.
12. Cedar Crestone, C. (2009). Cedar Crestone 2009-2010 HR Systems Survey: HR Technologies, Deployment Approaches, Value, and Metrics: USA.
13. Damanpour, F. (1992). Organizational Size and Innovation. Organization Studies, 13, 375-402. <https://doi.org/10.1177/017084069201300304>
14. DeSanctis, G. (1986). Human Resource Information Systems: A Current Assessment. MIS Quarterly, 10, 15-27. <https://doi.org/10.2307/248875>
15. Elliott, R. H., & Tevavichulada, S. (1999). Computer Literacy and Human Resource Management: A Public/Private Sector Comparison. Public Personnel Management, 28, 259-274. <https://doi.org/10.1177/009102609902800207>
16. Fitz-Enz, J. (1979). Quantifying the Human Resources Function. Personnel, 57, 41-52.
17. Gupta, B. (2013). Human Resource Information System (HRIS): Important Element of Current Scenario. IOSR Journal of Business and Management, 13, 41-46. <https://doi.org/10.9790/487X-1364146>.
18. Haines, V. Y., & Petit, A. (1997). Conditions for Successful Human Resource Information Systems. Human Resource Management, 36, 261-275. [https://doi.org/10.1002/\(SICI\)1099-050X\(199722\)36:23.0.CO;2-V](https://doi.org/10.1002/(SICI)1099-050X(199722)36:23.0.CO;2-V).
19. Hartono, E., Li, X., Na, K.-S., & Simpson, J. T. (2010). The Role of the Quality of Shared Information in Interorganizational Systems Use. International Journal of Information Management, 30, 399-407. <https://doi.org/10.1016/j.ijinfomgt.2010.02.007>.
20. Hashim, J. (2015). Information Communication Technology (ICT) Adoption among SME Owners in Malaysia. International Journal of Business and Information, 2, 221-240.
21. Hawking, P., Stein, A., & Foster, S. (2004). E-HR and Employee Self Service: A Case Study of a Victorian Public Sector Organisation. Journal of Issues in Informing Science and Information Technology, 1, 1019-1026. <https://doi.org/10.28945/2757>
22. Hendrickson, A. R. (2003). Human Resource Information Systems: Backbone Technology of Contemporary Human Resources. Journal of Labor Research, 24, 381-394. <https://doi.org/10.1007/s12122-003-1002-5>
23. Hosnavi, R., & Ramezan, M. (2010). Measuring the Effectiveness of a Human Resource Information System in National Iranian Oil Company: An Empirical Assessment. Education,

Business and Society: Contemporary Middle Eastern Issues, 3, 28-39.

<https://doi.org/10.1108/17537981011022797>

24. Hsu, H.-Y., Liu, F.-H., Tsou, H.-T., & Chen, L.-J. (2019). Openness of Technology Adoption, Top Management Support and Service Innovation: A Social Innovation Perspective. *Journal of Business & Industrial Marketing*, 34, 575-590. <https://doi.org/10.1108/JBIM-03-2017-0068>
25. Huselid, M. A., & Becker, B. E. (2005). *The Workforce Scorecard: Managing Human Capital to Execute Strategy*. Harvard Business Review Press.
26. Hussain, Z., Wallace, J., & Cornelius, N. E. (2007). The Use and Impact of Human Resource Information Systems on Human Resource Management Professionals. *Information & Management*, 44, 74-89. <https://doi.org/10.1016/j.im.2006.10.006>
27. Jahan, S. S. (2014). Human Resources Information System (HRIS): A Theoretical Perspective. *Journal of Human Resource and Sustainability Studies*, 2, 33-39.
28. Jenkins, M. L., & Lloyd, G. (1985). How Corporate Philosophy and Strategy Shape the Use of HR Information Systems. *Personnel*, 62, 28-38.
29. Karakanian, M. (2000). Are Human Resources Departments Ready for e-HR? *Information Systems Management*, 17, 35-39. <https://doi.org/10.1201/1078/43193.17.4.20000901/31250.6>
30. Karim, H. N. (2010). India IT Industry Going Global. *The Daily Star*, 6.
31. Kassim, N. M., Ramayah, T., & Kurnia, S. (2012). Antecedents and Outcomes of Human Resource Information System (HRIS) Use. *International Journal of Productivity and Management*, 61, 603-623. <https://doi.org/10.1108/17410401211249184>
32. Katz, D., & Kahn, R. L. (1978). *The Social Psychology of Organizations* (2nd ed.). Wiley.
33. Kavanagh, M. L., Gueutal, H. G., & Tannenbaum, S. I. (1990). *Human Resource Information Systems: Development and Application*. PWS-Kent Publishing Company.
34. Kimberly, J. R., & Evanisko, M. J. (1981). Organizational Innovation: The Influence of Individual, Organizational, and Contextual Factors on Hospital Adoption of Technological and Administrative Innovations. *Academy of Management Journal*, 24, 689-713. <https://doi.org/10.5465/256170>
35. Kinnie, N. J., & Arthurs, A. J. (1996). Personnel Specialists' Advanced Use of Information Technology Evidence and Explanations. *Personnel Review*, 25, 3-19. <https://doi.org/10.1108/00483489610147933>
36. Kovach, D. K. A., & Cathcart, C. E. (1999). Human Resource Information Systems (HRIS): Providing Business with Rapid Data Access, Information Exchange and Strategic Advantage. *Public Personnel Management*, 28, 275-281. <https://doi.org/10.1177/009102609902800208>
37. Kumar Bhardwaj, A., Garg, A., & Gajpal, Y. (2021). Determinants of Blockchain Technology Adoption in Supply Chains by Small and Medium Enterprises (SMEs) in India. *Mathematical Problems in Engineering*, 2021, Article ID: 5537395. <https://doi.org/10.1155/2021/5537395>
38. Laval, F., & Diallo, A. T. (2007). L'e-RH: Un processus de modernisation de la gestion des ressources humaines à la mairie de Paris. *Management Avenir*, 3, 124-148. <https://doi.org/10.3917/mav.013.0124>
39. Lederer, A. L. (1984). Planning and Developing a Human Resource Information System. The Logic of a Step-by-Step Approach. *The Personnel Administrator*, 29, 27-39.
40. Lin, C. Y.-Y. (1997). Human Resource Information Systems: Implementation in Taiwan. *Research and Practice in Human Resource Management*, 5, 57-72.
41. Lippert, S. K., & Govindarajulu, C. (2015). Technological, Organizational, and Environmental Antecedents to Web Services Adoption. *Communications of the IIMA*, 6, 14.
42. Madhuchanda, M., & Tripathy, S. (2009). HRIS of Indian Scenario: Case Study of Large Organizations. *South Asian Journal of Management*, 16, 137-168.
43. Maier, C., Laumer, S., Eckhardt, A., & Weitzel, T. (2013). Analyzing the Impact of HRIS Implementations on HR Personnel's Job Satisfaction and Turnover Intention. *The Journal of Strategic Information Systems*, 22, 193-207. <https://doi.org/10.1016/j.jsis.2012.09.001>
44. Manasa, K., & Reddy, N. (2009). Role of Training in Improving Performance.
45. Marler, J. H., & Dulebohn, J. H. (2005). A Model of Employee Self-Service Technology Acceptance. In *Research in Personnel and Human Resources Management* (pp. 137-180). Emerald Group Publishing Limited. [https://doi.org/10.1016/S0742-7301\(05\)24004-5](https://doi.org/10.1016/S0742-7301(05)24004-5)
46. Martinsons, M. G. (1994). Benchmarking Human Resource Information Systems in Canada and Hong Kong. *Information & Management*, 26, 305-316. [https://doi.org/10.1016/0378-7206\(94\)90028-0](https://doi.org/10.1016/0378-7206(94)90028-0)

46. Mauro, T. G., & Borges-Andrade, J. E. (2020). Human Resource System as Innovation for Organisations. *Innovation & Management Review*. <https://doi.org/10.1108/INMR-03-2019-0037>

47. Meade, J. (2000). Web-Based HRIS Meets Multiple Needs. *HR Magazine*, August, 129-133

48. Moussa, N. B., & El Arbi, R. (2020). The Impact of Human Resources Information Systems on Individual Innovation Capability in Tunisian Companies: The Moderating Role of Affective Commitment. *European Research on Management and Business Economics*, 26, 18-25. <https://doi.org/10.1016/j.iedeen.2019.12.001>.

49. Mursalin, J. A. (2015). Adoption of Human Resource Information System: An Exploratory Study of India Journal of System and Management Sciences, 5, 48-62

50. Nagendra, A., & Deshpande, M. (2014). Human Resource Information Systems (HRIS) in HR Planning and Development in Mid to Large Sized Organizations. *Procedia-Social and Behavioral Sciences*, 133, 61-67. <https://doi.org/10.1016/j.sbspro.2014.04.169>

51. Nam, T. (2019). Determinants of Local Public Employee Attitudes toward Government Innovation. *International Journal of Public Sector Management*, 32, 418-434. <https://doi.org/10.1108/IJPSM-06-2018-0134>

52. Nardi, B. A., & O'Day, V. (1999). Information Ecologies: Using Technology with Heart. MIT Press. <https://doi.org/10.7551/mitpress/3767.001.0001>

53. Ngai, E. W. T., & Wat, F. K. T. (2006). Human Resource Information Systems a Review and Empirical Analysis. *Personnel Review*, 35, 297-314. <https://doi.org/10.1108/00483480610656702>

54. Park, H. J., Gardner, T. M., & Wright, P. M. (2004). HR Practices or HR Capabilities: Which Matters? Insights from the Asia Pacific Region. *Asia Pacific Journal of Human Resources*, 42, 260-273. <https://doi.org/10.1177/1038411104045394>

55. Premkumar, G., & Roberts, M. (1999). Adoption of New Information Technologies in Rural Small Businesses. *Omega*, 27, 467-484. [https://doi.org/10.1016/S0305-0483\(98\)00071-1](https://doi.org/10.1016/S0305-0483(98)00071-1)

56. Purce, J. (2014). The Impact of Corporate Strategy on Human Resource Management. In *New Perspectives on Human Resource Management* (p. 67). Routledge.

57. Quaosar, G. M. A. A. (2017). Determinants of the Adoption of Human Resources Information Systems in a Developing Country: An Empirical Study. *The International Technology Management Review*, 6, 82-93. <https://doi.org/10.2991/itmr.2017.6.3.2>

58. Quaosar, G. M. A. A. (2018). Adoption of Human Resource Information Systems in Developing Countries: An Empirical Study. *International Business Research*, 11, 133. <https://doi.org/10.5539/ibr.v11n4p133>

59. Ram-rez, A. M. H., & López-Zapata, E. (2021). Analysis of the Factors Influencing Adoption of 3D Design Digital Technologies in Colombian Firms. *Journal of Enterprise Information Management*.

60. Razali, M. Z., & Vrontis, D. (2010). The Reactions of Employees toward the Implementation of Human Resources Information Systems (HRIS) as a Planned Change Program: A Case Study in Malaysia. *Journal of Transnational Management*, 15, 229-245. <https://doi.org/10.1080/15475778.2010.504497>

61. Reddick, C. G. (2009). Human Resources Information Systems in Texas City Governments: Scope and Perception of Its Effectiveness. *Public Personnel Management*, 38, 19-34. <https://doi.org/10.1177/009102600903800402>

62. Ruel, H. J. M., Bondarouk, T. V., & Velde, M. V. D. (2007). The Contribution of e-HRM to HRM Effectiveness Results from a Quantitative Study in a Dutch Ministry. *Employee Relations*, 29, 280-291. <https://doi.org/10.1108/01425450710741757>

63. Saharan, T., & Jafri, S. (2012). Valuation of HRIS Status an Insight of Indian Companies' Perspectives. In S. C. Kundu, B. K. Punia, K. P. Narwal, & D. Singh (Eds.), *Business Management: Key Research Issues* (pp. 113-127). Excel Books.

64. Schouten, A., Oostrom, K., Pestman, W., Peters, A., & Jennekens-Schinkel, A. (2002). Learning and Memory of School Children with Epilepsy: A Prospective Controlled Longitudinal Study. *Developmental Medicine and Child Neurology*, 44, 803-811. <https://doi.org/10.1111/j.1469-8749.2002.tb00770.x>

65. Tannenbaum, S. I. (1990). Human Resource Information Systems: User Group Implications. *Journal of Systems Management*, 41, 27.

66. Tansley, C., & Newell, S. (2007). A Knowledge-Based View of Agenda-Formation in the Development of Human Resource Information Systems. *Management Learning*, 38, 95-119. <https://doi.org/10.1177/1350507607073028>

67. Teo, T. S. H., Lim, G. S., & Fedric, S. A. (2007). The Adoption and Diffusion of Human Resources Information Systems in Singapore. *Asia Pacific Journal of Human Resources*, 45, 44-62. <https://doi.org/10.1177/103841107075402>

68. Teo, T. S., Soon, L. G., & Fedric, S. A. (2001). Adoption and Impact of Human Resource Information Systems (HRIS). *Research and Practice in Human Resource Management*, 9, 101-117.

69. Troshani, I., Jerram, C., & Hill, S. R. (2011). Exploring the Public Sector Adoption of HRIS. *Industrial Management & Data Systems*, 111, 470-488. <https://doi.org/10.1108/0263557111118314>

70. Weeks, K. O. (2013). An Analysis of Human Resource Information Systems Impact on Employees. *Journal of Management Policy and Practice*, 14, 35.

71. Winkler, S., König, C. J., & Kleinmann, M. (2013). What Makes Human Resource Information Successful? Managers' Perceptions of Attributes for Successful Human Resource Information. *The International Journal of Human Resource Management*, 24, 227-242. <https://doi.org/10.1080/09585192.2012.680068>

72. Zafar, H. (2013). Human Resource Information Systems: Information Security Concerns for Organizations. *Human Resource Management Review*, 23, 105-113. <https://doi.org/10.1016/j.hrmr.2012.06.010>

73. Zainol, Z., Fernandez, D., & Ahmad, H. (2017). Public Sector Accountants' Opinion on Impact of a New Enterprise System. *Procedia Computer Science*, 124, 247-254. <https://doi.org/10.1016/j.procs.2017.12.153>

74. Quaosar, G. M. A. A., & Rahman, Md. S. (2021). Human Resource Information Systems (HRIS) of Developing Countries in 21st Century: Review and Prospects. *Journal of Human Resource and Sustainability Studies*, 9, 470-483. <https://doi.org/10.4236/jhrss.2021.93030>

