

# Knowledge-Based System for Higher Education Institutions

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**Abstract:** *This study developed and implemented a knowledge-based system tailored for higher for higher education institutions. With the need for automation and computerization, this system leverages advanced technologies by integrating data sources on the academic content and administrative processes. The research includes the design, implementation challenges, and the potential benefits of an innovative approach for higher education institutions.*

**Keywords:** Automated System, Database System, Knowledge-based Approach, Visual Basic

## REFERENCES

- [1]. Memon, K.R. et al (2022). Management of Knowledge and Competence through Human Resource Information System – A Structured Review. *Frontiers in Psychology*. Vol. 32. <https://doi.org/10.3389/fpsyg.2022.944276>
- [2]. Sarker, I.H. Data Science and Analytics: An Overview from Data-Driven Smart Computing, Decision-Making and Applications Perspective. *SN COMPUT. SCI.* 2, 377 (2021). <https://doi.org/10.1007/s42979-021-00765-8>
- [3]. Haleem, A., et al. (2022). Understanding the Role of Digital Technologies in Education: a Review. *Sustainable Operations and Computers*, vol. 3 pp 275-285. <https://doi.org/10.1016/j.susoc.2022.05.004>
- [4]. Verhoef, P.C. et al., (2021). Digital Transformation: A Multidisciplinary Reflection and Research Agenda. *Journal of Business Research*, vol. 122, pp 889-901. <https://doi.org/10.1016/j.jbusres.2019.09.022>
- [5]. Prokopiadou, G, Papatheodorou, C., and Moschopoulos, D. (2004). Integrating Knowledge Management Tools for Government Information. *Government Information Quarterly*, vol. 21 pp 170-198
- [6]. <https://doi.org/10.1016/j.giq.2004.02.001>
- [7]. Lee, J.-w.; Park, J. An Approach to Constructing a Knowledge Graph Based on Korean Open-Government Data. *Appl. Sci.* 2019, 9, 4095. <https://doi.org/10.3390/app9194095>
- [8]. Laudon, Kenneth C., and Jane P. Laudon. "Management information systems: managing the digital firm." New Jersey 8 (2004).
- [9]. Watson, R. T., Boudreau, et.al (2010). Information systems and environmentally sustainable development: energy informatics and new directions for the IS community. *Management Information Systems Quarterly*, 34(1), 4.
- [10]. Motro, A., &Smets, P. (Eds.). (2012).Uncertainty management in information systems: from needs to solutions. Springer Science & Business Media.
- [11]. Lacity, M. C., &Hirschheim, R. (2012).The information systems outsourcing bandwagon.Sloan management review, 34.
- [12]. Lim, S., Kang, et.al (2011).Improved glycemic control without hypoglycemia in elderly diabetic patients using the ubiquitous healthcare service, a new medical information system.*Diabetes care*, 34(2), 308-313.
- [13]. Forecasting and Social Change, 78(4), 650-660.