DOI: https://doi.org/10.61841/aj5te950 Publication URL: https://jarbma.com/index.php/BMA/article/view/16

DIGITAL TRANSFORMATION IN HUMAN RESOURCE MANAGEMENT AND ITS EFFECTS ON EMPLOYEE ENGAGEMENT: A CROSS-CULTURAL COMPARISON BETWEEN CHINA AND MALAYSIA

[1]Fan Wenxue, [2]Sreemoy Kanti Das, [3]Mrutyunjay Sisugoswami
[123]Lincoln University College, Petaling Jaya, Malaysia

Corresponding Author:

To Cite This Article: DIGITAL TRANSFORMATION IN HUMAN RESOURCE MANAGEMENT AND ITS EFFECTS ON EMPLOYEE ENGAGEMENT: A CROSS-CULTURAL COMPARISON BETWEEN CHINA AND MALAYSIA. (2025). Journal of Advance Research in Business, Management and Accounting (ISSN: 2456-3544), 11(5), 66-73. https://doi.org/10.61841/aj5te950

ABSTRACT

This study examined how the digital revolution in human resource management affected employee engagement in China and Malaysia. This study examined how technological advances like artificial intelligence, big data, and cloud computing have affected human resource practices, motivation, and performance across cultures. A quantitative research method was used to collect the data. Questionnaires were sent to 850 people. The study was ended after assessing 778 valid responses using SPSS 25. Statisticians used methods like ANOVA and factor analysis to look at how the variables were related to each other. Digital technology made things more open, easier to talk about, and more efficient. The results demonstrated a clear link between digital transformation and human resource management. Digital human resource management made China more accountable and productive, but it faced resistance at first because people were worried about data privacy and rigid organisational structures. Malaysia's shift promoted flexibility, inclusion, and collaboration via cloud computing and participatory management. Cultural values shaped employee reactions to technical advancements. The adoption of digital transformation significantly influenced employee involvement in both nations; nevertheless, the success of this transition depended on cultural adaptation, leadership support, and ongoing training. The study's findings indicated that the transition of digital human resource management was not merely a technological progress but also a cultural and managerial evolution necessitating a balance between innovation and human needs. These observations had significant implications for multinational businesses aiming to formulate culturally attuned and sustainable digital human resource strategies.

KEYWORDS: *Digital transformation; Human resource management; Employee engagement; Artificial intelligence; Cloud computing*

1. INTRODUCTION

Technology's new techniques to train, appraise, and hire people are changing how companies see human resources. Staff engagement has dropped due to this move, hurting productivity and retention. Companies must understand how digital human resources procedures affect cross-cultural interaction to succeed in global and digital markets. Organisations have to efficiently manage their knowledge assets if they want to be competitive in the information-based economy of today. High-tech companies that depend on innovation must use knowledge management to stay ahead. Companies must balance employee and business needs throughout digital transformation. They must also apply scientific management to encourage and satisfy workers, which boosts production. For a digital transformation to work, employees need to be able to do their jobs well while using digital tools. Employers who know how to use computers are skilled at managing data, thinking freely, solving issues, and producing innovative ways to do things (Wu & Kao, 2022). Artificial intelligence, big data, and cloud computing platforms simplify hiring, managing, and evaluating employees. Digital technology has made individuals more open and communicative, which has increased work and engagement. Change is tougher due to data protection, bureaucracy, and worker adaptation. Digital human resource management in China has increased involvement by creating an atmosphere that encourages imaginative thinking, lifelong learning, and better communication between company goals and possibilities for employees to move forward in the firm. Malaysia's digital human resource management revolution has transformed how companies prepare and manage employees. Artificial intelligence-driven hiring, cloud computing human resources, and online learning enhance transparency, cooperation, and efficiency. These improvements have increased staff participation by fostering adaptation, variation, and growth. Malaysian companies value digital human resources solutions for remote work, performance tracking, and employee well-being. Workplaces are more engaging, flexible, and supportive due to the digital revolution. This has helped Malaysia fulfil the changing needs of its workforce (Cui, 2025).

2. BACKGROUND OF THE STUDY

Digital technologies have brought quite a rapid change in the way human resources management is managed by organisations worldwide. Human resources departments are increasingly using digital tools to facilitate processes such as recruitment, training, communicating with employees, and performance appraisals. On account of cultural and organisational differences, the transition to digital has resulted in different consequences for staff engagement, motivation, and productivity in China and Malaysia. The cultural value placed on speed and novelty helps to explain how and why the transition to digital human resource management influences employee engagement in China. Similarly, cultural values of openness and flexibility in Malaysia, an extension of Asian cultures, have translated into benefits for its employees as well. To ensure that human resource policies are effective within a digital framework but sensitive to culture, there is a need to understand variations in how the transition to digital human resource management influences employee engagement within these two cultures. With the rapid advancement of technology and the shifting economy, digital transformation in human resource management has become an integral part of the growth of Chinese firms. Cloud computing, big data analytics, and artificial intelligence have revolutionised traditional methods of recruitment, training, and performance-based evaluation. In addition to gains in efficiency and transparency, such changes have also brought about changes in levels of employee engagement (Yang & Xu, 2021). Different technological capacities, administrative procedures, and cultural standards have made these shifts difficult for workers. Researching how digital human resource management affects engagement might help Chinese companies improve employee engagement, productivity, and success. Companies in Malaysia face recent problems with worker diversity and quickly expanding technology. If companies want to stay, they need to reconsider digital human resource management. Adding data to cloud computing resource software, e-learning, and predictive analytics can help a business work better, be more adaptable, and talk to each other better. Because of these changes, employees are more engaged, which has been good for diversity, liberty, and ongoing learning. Slower growth is also attributed to technology illiteracy and reluctance to change. Malaysian organisations must understand how digital human resource management affects employee engagement to grow in a new, profitable, and sustainable way (Wang et al., 2024).

3. PURPOSE OF THE RESEARCH

This study aimed to investigate the impact of digital transformation in human resource management on employee engagement across several cultural contexts, focusing primarily on Malaysia and China. This study aimed to find out how much technology, platforms, and human resources have changed how employees feel about, are motivated by, and are involved in events that the company puts on. Part of the plan was to measure how employees responded to digital human resources efforts to find out what role cultural factors played in shaping engagement results. The main goal of the study was to find out how the two countries' human resource management digitisation processes were similar and different, as well as how these processes affected how employees behaved and how much work got done.

This study set out to find the process by which businesses build digital human resource strategies that were culturally sensitive to increase participation, efficiency, and job satisfaction in today's diverse and increasingly digital workplaces by looking at a variety of approaches.

4. LITERATURE REVIEW

The use of digital technology in human resource management has made people worry about how motivated, engaged, and connected individuals feel at work. As a result, online human resources solutions may help employees communicate better and provide them with more freedom. China has fully adopted technological advances in human resource management and numerous other parts of its quickly rising digital economy. Chinese businesses may be using a lot of digital technology because of the development of regional tech giants and government efforts to improve internet infrastructure. As part of its growing digital economy, China has quickly integrated digital technology in many areas of its economy, including human resource management. One reason Chinese businesses are so eager to use digital technology is the rise of regional tech giants and government programmes aimed at improving digital infrastructure (Zhang et al., 2025). Malaysia has a unique circumstance. Public and private sectors in Malaysia have both struggled, to varying degrees of skill, to keep up with the country's rapid digital adoption. The use of digital human resource management could lead to a range of experiences and outcomes because of its diverse workforce, short executive distance, and improved sensitivity to participative management in specific industries. Digital human resource strategies may be impacted by the degree to which employees in Malaysia value human ties with technology. Public and private sectors in Malaysia have both struggled, to varying degrees of skill, to keep up with the country's rapid digital adoption. The use of digital human resource management could lead to a range of experiences and outcomes because of its diverse workforce, short executive distance, and improved sensitivity to participative management in specific industries. Digital human resource strategies may be impacted by the degree to which employees in Malaysia value human ties with technology (Parabakarana & Lasib, 2021). The digital performance of small and medium-sized enterprises and the dynamic skills of their employees were both enhanced when human resource management policies in China promoted elevated levels of worker involvement, according to the study's authors. This research shows that employee involvement, flexibility, and feeling competent at work are all related. The amount of job engagement among employees serves as a mediator between their perceptions of the transition to digital human resource management and their degree of initiative. A 2023 journal study also found that digital technology raised participation in Malaysian organisations by 75%, by giving people chances to share expertise and advance in their jobs. Even though they have a lot of potential, studies that compare and contrast civilisations are still new. Recent empirical research and publications have emphasised the necessity for more direct cross-national comparisons. They propose conducting trials to assess the influence of attributes like unity, consensus, and separation of powers on employees' perceptions of human resource software. Everybody can tell if people see digitisation as a tremendous opportunity or a scary threat based on these perceptions (Cui, 2025).

5. RESEARCH QUESTION

- How does digital transformation influence human resource management?

6. RESEARCH METHODOLOGY

6.1 RESEARCH DESIGN

The study's methodology was based on quantitative data analysis. To analyse the numerical data, the researcher relied on SPSS version 25. To determine the direction and intensity of the statistical association, the odds ratio and 95% confidence interval were used. The data is considered statistically significant when the p-value is less than 0.05. Descriptive analysis helped shed light on the underlying nature of the collected data.

6.2 SAMPLING

Important insights were gleaned by the researcher by employing a simple random sampling technique. The researcher confirmed that 675 individuals were part of the sample using the Rao-soft tool. The researcher circulated 850 questionnaires to collect data for this investigation. There were 809 full questionnaire sets; 31 of those were excluded from the final tally because they were deemed incomplete. A total of 778 individuals were included in the sample, with 405 being female and 373 being male.

6.3 DATA AND MEASUREMENT

Quantitative data analysis was found to be the primary source of information for the investigation. In order to get quantifiable data, the researcher used questionnaires that asked respondents to rate their opinions on a Likert scale ranging from 1 to 5. The researcher that was in charge of collecting secondary data focused most of their efforts on online resources.

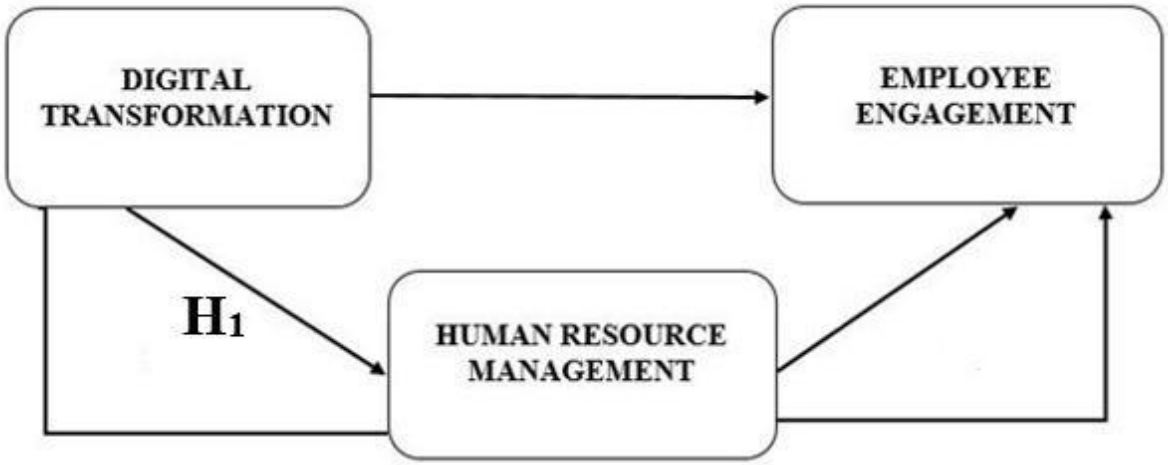
6.4 STATISTICAL SOFTWARE

The statistical analysis of the study was conducted using SPSS 25 in conjunction with Microsoft Excel.

6.5 STATISTICAL TOOLS

Descriptive data analysis has shed light on many programme-specific demographic and level features. Factor analysis to evaluate theoretical validity and dependability, analysis of variance (ANOVA) to establish odds ratios with 95% confidence intervals, and a plethora of other statistical approaches are used in inference-based research.

7. CONCEPTUAL FRAMEWORK



8. RESULT

- **FACTOR ANALYSIS**

When doing factor analysis (FA), it is occasionally necessary to check the validity of the items used for measurement. It is often believed that unseen variables have an outsized impact on the outcomes of more obvious ones. Precision analysis (FA) is a method that is built on frameworks. Error measurement and the establishment of causal relationships between observable events are central to this research.

Kaiser-Meyer-Olkin (KMO) factor analysis could reveal it if the data is suitable for it. To guarantee that there is an enough sample size overall, the researchers verify that each model component has a sample size. The findings reveal a shared variation among multiple components. When using the factor estimations, data with smaller percentages yield better results.

The output of the KMO algorithm might be anything from zero to one. If the KMO number falls somewhere between 0.8 and 1, testing becomes essential.

Researchers need to take immediate action to address the issue of insufficient sampling when the KMO is less than 0.6. Considering the consensus among writers, 0.5 is a common choice, with values typically falling within the range of 0.5 to 0.6.

Assuming partial encounters constitute a statistically considerable proportion of total contacts, the KMO score approaches zero. It is more difficult to evaluate components when important linkages are present.

Extreme variation is observed in the frequency range from 0.050 to 0.059.

• A range of 0.60–0.69 is completely sufficient.

A rating in the middle falls somewhere between 0.70 and 0.79.

Point values often fall between the range of 0.80 to 0.89.

An extremely improbable occurrence occurs when the value falls somewhere between 0.90 and 1.00.

Using Table 1 to Evaluate KMO and Bartlett's Sampling Appropriateness:

The Kaiser-Meyer-Olkin scale placed it at 0.978.

This is what Bartlett's sphericity test produced: With 190 degrees of freedom (df) and a significance level of.000, the estimated chi-square value is 6850.175.

Table 1: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.978
Bartlett's Test of Sphericity	Approx. Chi-Square	6850.175
	df	190
	Sig.	.000

A robust correlation between the matrix topologies was revealed using Bartlett's sphericity test. A sample adequacy level of 0.978 has been attained by Kaiser-Meyer-Olkin. A p-value of 0.00 was obtained by the researchers using Bartlett's sphericity test. The connection matrix was proven to be incorrect by applying Bartlett's sphericity analysis.

❖ INDEPENDENT VARIABLE

• DIGITAL TRANSFORMATION:

The goal of digital transformation is to improve society by boosting efficiency, wealth generation, and productivity through the use of innovative technology. To support their strategies for the future, some national governments, international organisations, and trade groups have conducted strategic foresight studies. High yearly growth and rapid penetration are predicted for digital transformation. However, its spread is being hindered by obstacles such as firm structures or cultures that are either too diverse or insufficient, a lack of visibility into return on investment and digital transformation initiatives, and the fear of business extinction. Not everyone sees the big picture of how technological advancement will improve everyone's lives. Other external factors include things like a lack of trained workers, outdated or non-existent infrastructure, loose or non-existent consumer protection laws, and difficult access to capital, especially for small and growing industries (Oliveira & De Souza, 2022). There has been a recent shift in the corporate world towards more holistic models, which include reimagining products and services from the ground up, forging stronger relationships with suppliers, and forming lasting collaborations with consumers. Better supply-chain integration and fresh market capture, together with competitive advantage gains, are only two examples of how the industry's marketplace will be significantly altered by the broad adoption of digital transformation. Digital transformation is fuelled by a surge in software technologies. Ubiquity is made possible by IoT-connected microdevices equipped with sensors and actuators. Analysis of data, cloud computing and facilities, convergent contact and cognition, virtual reality with representation and simulated recognition of patterns, machine learning, and artificial intelligence are all contributing factors to the convergence of IT and embedded systems. These include microservices and open application programming interfaces for programming architectures, blockchains and Hyperledger platforms for decentralised transaction assurance and confidence, and agile development for adaptable systems (Nadkarni & Prügl, 2021).

❖ MEDIATING VARIABLE

• HUMAN RESOURCE MANAGEMENT:

This quick overview of human resource management is designed to educate individuals on the issues and concerns that they may face during their career in human resources. It considers the global aspect of the workplace and goes above a prescriptive, how-to approach. Adds latest content on topics such as the impact of human resources, the impacts of COVID-19 on hiring and the mental health of workers, and immigration based on points. Some of the elements that are included in this category are "Ethical Insights", "Research Insights", and "Human Resource

Management in Practice" (Garg et al., 2022). A growing body of research on artificial intelligence in human resource management has emerged in the last five years. Using artificial intelligence machine learning techniques to promote inclusion and diversity in the workplace has many benefits. But there are drawbacks as well, such as the requirement to make artificial intelligence algorithms transparent and the potential of bots to enhance workers' working conditions. Lastly, there is the question of how artificial intelligence will affect job roles, responsibilities, tasks, and the significance of work. On the other hand, it may trigger unethical managerial decision-making and has been associated with the deskilling of professionals (Madanchian et al., 2023).

- **RELATIONSHIP BETWEEN DIGITAL TRANSFORMATION AND HUMAN RESOURCE MANAGEMENT:**

People management and digital transformation benefit each other. Human resource management adapts to new methods, improves operations, and uses data analytics to arrive at better decisions when organisations use digital tools. Cloud computing platforms, artificial intelligence, and technology for communication can help human resources with hiring, training, and engagement. Human resources are also crucial to cultural transformation, digital skills, and staff adaptability. Human resources management makes digital transformation feasible and accelerates it up by aligning human capital planning with technology advancements and business goals. The research suggests that the digital transformation of human resource management is driven by five factors: the demands of the digital era, digital innovation in the industry, challenges from competitors, digital innovation governance, and the digital needs of internal customers (Purwanto et al., 2023). Digital workplaces, human resource management procedures, and employee services are the core elements of the human resource management digital transformations that are examined. Digital human resource management procedures are defined in the study as those that use innovative digital technology to conduct selection, development, and assessment activities. Despite the fact that digital transformation is good for company growth, it does have certain unavoidable consequences, such as the conversion of old and new human resource management systems and the new system's negative effects. Modern enterprises must automate and digitalise to compete in the global economy. Rapid technological advancement, the speed of change, and the compelled restructuring of company models and work styles require enormous feature changes and expanded human resources management processes. Human resources executives and professionals must shift and gain new skills to motivate future organisational performance. Human resources, intellectual capital, and expertise are essential to an effective digital transformation approach (Nicolás-Agustín et al., 2022).

The researcher developed the hypothesis that follows to assess the effect of digital transformation on human resource management in light of the first discussion:

- *"H_{01}: There is no significant relationship between digital transformation and human resource management."*
- *"H_1: There is a significant relationship between digital transformation and human resource management."*

Table 2: H_1 ANOVA Test

ANOVA					
Sum					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	69588.620	287	242.469	239.585	.000
Within Groups	492.770	490	1.006		
Total	70081.390	777			

This study produces significant results. A statistically significant difference exists, with a p-value of .000, which is below the .05 alpha threshold; the coefficient of determination (F) statistic is 239.585. Researchers deny the null hypothesis and approve the alternative, ***"H_1: There is a significant relationship between digital transformation and human resource management"*** as real.

9. DISCUSSION

Even though the results were different for the two countries, the presentation revealed that digitising human resource management had a big effect on employee engagement in both China and Malaysia. China's human resource management became more efficient and open since they had used a lot of digital tools, including performance administration software, online education platforms, and artificial intelligence-based hiring systems. These changes made employees more motivated by giving them chances to advance professionally and get feedback right away. However, a lot of employees did not want to apply because they were worried about data privacy and the way the organisation was set up. Over time, management's ongoing help and training made people more conscious and willing to participate. The main reason Malaysia adopted digital human resource management was that it needed a flexible and inclusive system for a multicultural workforce. Cloud computing resources platforms and online communication platforms made it easier for employees to work together and be happy at work by encouraging open communication and giving them the chance to work from home. Malaysian workers liked participative management styles and digital projects that encouraged independence and a good work-life balance. Cultural variations in technical views, management techniques, and communication methods led to varied results for employee engagement, even though digital transformation was beneficial for both nations. In Malaysia, the focus on being open and flexible helped people connect with each other more deeply. In China, on the other hand, the focus on control and speed could make it harder to be creative. It was clear from looking at the data that the switch to digital human resource management could not have been made without considering changes in technology as well as traditions, methods of leadership, employee expectations, the effectiveness of the organisation, and long-term engagement.

10. CONCLUSION

Researchers in China and Malaysia discovered that digital human resource management transformation made employees much more involved in their work, but the exact effect varied from company to company and culture to culture. It took staff a while to get used to technologically enabled processes, but online human resources practices in China made things more accountable and efficient. The digital revolution in Malaysia led to more people getting involved, which improved teamwork, flexibility, and diversity. Despite the fact that technology advancements propelled both forms of advancement, the comparison revealed that management style and cultural orientation significantly influenced how employees perceived and utilised digital human resources technologies. Given the circumstances, the study demonstrated that successful digital human resources management deployment required more than just the use of modern technologies. In order to establish an equitable and sustainable work environment for individuals from diverse backgrounds, it also needed to align with cultural values, backing from management, and employee development initiatives.

REFERENCES

1. Cui, J. (2025). The Knowledge Management Practices and Firm Performance: The Moderating Role of Digital Human-AI Interaction in High-Tech Enterprises of China and Malaysia.
2. Garg, S., Sinha, S., Kar, A., & Mani, M. (2022). A review of machine learning applications in human resource management. *International Journal of Productivity and Performance Management, 71*(5), 1590-1610.
3. Madanchian, M., Taherdoost, H., & Mohamed, N. (2023). AI-based human resource management tools and techniques; a systematic literature review. *Procedia Computer Science, 229*, 367-377.
4. Nadkarni, S., & Prügl, R. (2021). Digital transformation: a review, synthesis and opportunities for future research. *Management review quarterly, 71*(2), 233-341.
5. Nicolás-Agustín, Á., Jiménez-Jiménez, D., & Maeso-Fernandez, F. (2022). The role of human resource practices in the implementation of digital transformation. *International Journal of Manpower, 43*(2), 395-410.
6. Oliveira, K., & De Souza, R. (2022). Digital transformation towards education 4.0. *Informatics in Education, 21*(2), 283-309.
7. Parabakarana, D., & Lasib, M. (2021). Human resource management practices and its impact on employee engagement and performance in an organization a study on labour force in malaysia. *Malaysian E Commerce Journal, 5*(1), 29-35.
8. Purwanto, A., Purba, J., Bernarto, I., & Sijabat, R. (2023). Investigating the role digital transformation and human resource management on the performance of the universities. *International Journal of Data and Network Science, 7*.
9. Wang, G., Mansor, Z., & Leong, Y. (2024). Linking digital leadership and employee digital performance in SMEs in China: The chain-mediating role of high-involvement human resource management practice and employee dynamic capability. *Heliyon, 10*(16).

10. Wu, A., & Kao, D. (2022). Mapping the sustainable human-resource challenges in southeast Asia's FinTech sector. *Journal of Risk and Financial Management, 15*(7), 307.
11. Yang, M., & Xu, P. (2021). Understanding the antecedents of knowledge sharing behavior From the theory of planned behavior model: cross-cultural comparisons Between mainland China and Malaysia. *Frontiers in Psychology, 12*, 772764.
12. Zhang, M., Pu, H., Yu, T., & Qu, S. (2025). Digital transformation, management efficiency and excess employees− evidence from Chinese listed firms. *Chinese Management Studies, 19*(2), 440-460.