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AI–Tree HR Model: Tree HR Personality Assessment for Strengthening Garuda Transformation School Human Resources

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ABSTRACT

National education transformation demands the strengthening of human resources (HR) with character, adaptability, and technological literacy. This article develops and tests the AI-Tree HR Model, a digital-based personality assessment system that integrates Tree HR Personality with artificial intelligence to support HR strengthening at Garuda Transformation School. This model is built on the Tree HR Model philosophy (Ramly, 2023), which describes human development through three main structures: roots (values and spirituality), trunk (competence and mindset), and fruit/leaves (behavior and work results). The study used a Research and Development (R&D) approach with the ADDIE (Analysis, Design, Development, Implementation, Evaluation) framework and Agile Software Development principles. The study subjects consisted of 425 respondents (teachers, students, and principals) within the Garuda School environment who participated in the AI-Tree HR Personality System-based digital assessment. The analysis was conducted using the Multi-Stage Weighted Index (MSWI) method on three main dimensions: ease, usefulness, and accuracy. The results of the study indicate that the AI–Tree HR Personality system has high content validity and excellent reliability with a total feasibility index of 92.7% (very feasible category). AI integration increases the precision of assessment results, provides adaptive learning recommendations, and accelerates the process of mapping the character and potential of educators and students. Conceptually, this study expands the paradigm of indigenous HRM based on values and spirituality with the support of AI technology. Practically, the implementation of the AI–Tree HR Model strengthens the position of Garuda School as a model for national education transformation based on character, values, and technology towards the vision of Golden Indonesia 2045.

INTRODUCTION

The transformation of education in the digital era demands a new approach to strengthening human resources (HR), focusing not only on improving academic competency but also on character development and spiritual values. The shifting paradigm of 21st-century learning, marked by the development of artificial intelligence (AI), has brought both significant opportunities and challenges to the world of education. Amidst these changes, educational institutions need to adapt by creating learning systems that integrate technology and human values (OECD, 2021).

One of the government's strategic efforts to respond to these challenges is the development of the Garuda Transformation School, a model of superior character-based and technology-based schools that serves as a national learning ecosystem. Garuda Schools are designed to create an educational environment that is adaptive to change, oriented toward strengthening spiritual values, and utilizes digital technology to accelerate the development of the potential of students and educators. In this context, a contextual, scientific, and adaptive personality assessment system is needed to accurately and sustainably map the potential of educational HR (Ministry of Education, Culture, Research, and Technology, 2023).

However, most personality assessment instruments used in Indonesia, such as the MBTI, DISC, or the Big Five Personality Traits, are still generic and developed in a Western cultural context (McCrae & Costa, 2008; Furnham, 2017). These instruments tend to emphasize cognitive and behavioral aspects without considering the local values and spirituality that characterize Indonesian education. As a result, assessment results are often less relevant to the Indonesian school context, which demands a balance between competence, character, and moral values (Ramly, 2024a).

To address this gap, this study developed the AI–Tree HR Model, a digital-based personality assessment system that integrates the Tree HR Personality concept with Artificial Intelligence (AI) technology. This model is derived from the Tree HR Model proposed by Dr. Amir Tengku Ramly (2023), a human resource development model based on the analogy of a tree consisting of three main structures: roots, trunk, and fruit. The roots represent values, spirituality, and character; the trunk reflects competence and mindset; and the fruit represents the fruit. while the fruit or leaves depict human behavior and work results.

The Tree HR Model's philosophy is also enriched by ethical and values-based educational perspectives developed within the Islamic scholarly tradition. One conceptual reference used is the principle reflected in Surah Ibrahim, verse 24, which depicts the metaphor of a tree with strong roots and towering branches. This metaphor has long been used in Islamic educational literature to explain the process of developing a holistic human being: starting from strengthening the foundation of values and spirituality (roots), through developing competencies and mindsets (trunk), to manifesting behavior and productive contributions to

society (fruit and leaves). Thus, the Tree HR Model can be viewed as an indigenous HRM approach that integrates local cultural values and spirituality into modern HR development, in line with research on the importance of cultural context in psychological assessment and human resource management (Cheung, van de Vijver, & Leong, 2011; Horwitz, 2017).

The integration of AI into Tree HR Personality enables a faster, more accurate, and more personalized assessment process. Through machine learning algorithms, the system can recognize respondents' answer patterns, adjust the difficulty level, and automatically provide self-development recommendations based on individual personality results. With AI support, the Tree HR Personality application is not only a static measurement tool but also a reflective learning system that helps teachers and students identify their strengths, potential, and learning styles in real time (Ramly, 2025).

In the context of the Garuda Transformasi School, the AI-Tree HR Model serves as the foundation for educational human resource management. Through this digital assessment, teachers can understand the teaching style that best suits their personality type, while students receive learning style guidance that aligns with their temperament and energy. The assessment results also assist the principal and curriculum development team in conducting talent mapping, competency-based assignments, and ongoing training planning (Ramly, 2024b).

Beyond its practical function, the integration of AI with the Tree HR Model also brings scientific contributions to the fields of education and human resource management. First, it expands the concept of spiritual-based HRM by incorporating technological dimensions and data analytics into human resource development. Second, it introduces a new paradigm in AI ethics in education, where artificial intelligence is directed not to replace humans but to strengthen human potential through values and self-reflection (Krishnakumar & Neck, 2019). Third, this model affirms Indonesia's position as a pioneer in values- and technology-based personality assessment research in Southeast Asia.

With this approach, the AI-Tree HR Model is not only a technological innovation but also a strategic instrument in building a Garuda School ecosystem rooted in character, reasoning based on competence, and yielding superior behavior. The implementation of this system is expected to strengthen educational human capital that is globally competitive while also rooted in the nation's spiritual values.

Therefore, this article aims to: (1) Develop an AI-based personality assessment system integrated with Tree HR Personality; (20 Test the validity, reliability, and feasibility of the application in the context of Garuda Transformation School; (3) Assess the model's contribution to strengthening character-based and technology-based educational human resources; and (4) Offer a new conceptual framework for developing educational human resource management in the digital era based on values and spirituality.

By combining Artificial Intelligence and the Tree HR Model, this research seeks to demonstrate

how technology can be directed to recognize human potential as a whole—not only based on behavioral data, but also based on the roots of values and spirituality that are the source of the strength of the Indonesian nation.

RESEARCH METHODS

Research Approach. This study uses a Research and Development (R&D) approach to develop, validate, and implement an AI-based personality assessment system—the Tree HR Model. This approach was chosen because it is suitable for producing innovative products in education and human resource management, which are not only conceptual but also applicable (Borg & Gall, 1983; Sugiyono, 2020).

The R&D in this study is combined with the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model, which provides a systematic framework for developing digital assessment systems, as well as Agile Software Development principles to ensure the development process is iterative, adaptive, and user-oriented (Beck et al., 2001).

a. Analysis. This stage aims to identify human resource development needs at Garuda Transformasi School. The analysis was conducted through literature review, interviews with principals and teachers, and focus group discussions (FGDs) with curriculum developers. The analysis results indicated the need for an assessment instrument capable of digitally measuring educator and student personality, encompassing aspects of values, competencies, and learning styles, and capable of integration with an AI-based school management system.

b. Design. At this stage, a Tree HR Personality blueprint was developed based on the Tree HR Model, which refers to three main structures: roots (values and spirituality), trunk (competencies and reasoning), and fruits/leaves (behavior and work results). This blueprint encompasses four main assessment domains: (1) Personality energy (ILC – Introverted Loving Character, ELC – Extroverted Locus Character); (2) Classical temperament (Sanguine, Choleric, Melancholic, Phlegmatic); (3) Cognitive style – Sensing/Intuiting and Thinking/Feeling; (4) Multisensory learning styles – Visual, Auditory, Kinesthetic. In addition, an AI-Tree HR Personality system architecture was also designed which utilizes machine learning for automatic and real-time analysis of assessment results..

c. Development. The development phase was carried out collaboratively between the academic team and the IT development team. The system was developed as a responsive web application using the Python programming language and the Django framework, with machine learning integration for personality pattern classification based on a decision tree classifier algorithm.

This system, named the AI–Tree HR Personality System, was piloted through the treehr-research.org domain. The system's main features include: (1) A digital personality assessment module; (2) An analytics dashboard for teachers and students; (3) AI-based automated learning and teaching style recommendations; (4) A downloadable report of

personality results in PDF format.

d. Implementation. The implementation phase was conducted at the Garuda Transformasi School, a research partner. A total of 425 respondents participated, consisting of 65 teachers, 10 principals, and 350 students from various educational levels. Data was collected through a web-based digital assessment, with an average completion time of 25 minutes per respondent.

e. Evaluation. The evaluation was conducted through two main approaches: (1) Expert judgment validation by three experts: educational psychology, human resource management, and AI technology. (2) Quantitative and qualitative analysis of field test results to assess the validity, reliability, and feasibility of the application.

Data Analysis Techniques. Data analysis was conducted using several methods: (1) Content and Construct Validity. Content validity was measured using Aiken's V, with results ≥ 0.85 indicating a high level of relevance between items and constructs. Construct validity was tested through correlation analysis between personality domains using simple Confirmatory Factor Analysis (CFA). (2) Reliability. Instrument reliability was calculated using Cronbach's Alpha, with results ≥ 0.90 indicating very high internal consistency between items. (3) MSWI (Multi-Stage Weighted Index) Feasibility Analysis. Used to calculate the overall feasibility index by considering three dimensions: (a) Usability → weight 0.34, (b) Usefulness → weight 0.33 (b) Accuracy → weight 0.33. The total index value was calculated using the formula:

$$\boldsymbol{Indeks_{total}} = \sum_{n}^{i} ((\boldsymbol{WD^{i}} \times \boldsymbol{WV_{n}^{i}} \times \boldsymbol{s_{n}^{i}}) \div \boldsymbol{k})$$

Where Total Index: Total Index value, $\boldsymbol{WD^{i}}$ *: Weighting value on dimension i,* $\boldsymbol{WV^{i}_{n}}$ *: Weighting value on indicator n in dimension i,* $\boldsymbol{S^{i}_{n}}$ *: Average Likert scale value on variables in indicator n and dimension i, k: Number of Likert scales used*

Qualitative Analysis. Conducted on respondent feedback (teachers and students) to evaluate perceptions of the application's ease of use, usefulness, and accuracy, as well as the relevance of assessment results to their learning experience.

AI Integration in Tree HR Personality Analysis. Artificial Intelligence technology is used to classify personalities based on user response patterns. A decision tree classifier and natural language processing (NLP) algorithms help the system recognize emotional and behavioral tendencies from answer choices, then group the results into 84 Tree HR Personality types. AI also functions to automatically generate personalized feedback, displaying recommendations for learning styles, teaching styles, and self-development strategies based on personality types. With this approach, the AI–Tree HR Model is not only a measurement instrument but also a values-based digital reflection tool that supports Garuda School's vision of creating human resources with character, intelligence, and adaptability to technology.

RESULTS & DISCUSSION

Expert Judgment Results. Validation was conducted by three multidisciplinary experts to ensure the suitability of the personality constructs, media design, and artificial intelligence used in the AI–Tree HR Personality system. The three experts involved were: (1) an Educational Psychology and Counseling Expert; (2) an HR and Organizational Management Expert; and (3) an Information Technology and Web-AI Development Expert.

Each expert assessed three main dimensions: usability, usefulness, and accuracy, with varying weights. Based on the aggregate results, the weights of usability (34%), usefulness (33%), and accuracy (33%) were deemed proportional to the system's objectives. The average content validity score from all experts reached 4.6 on a scale of 5, with an Aiken's V value of 0.89, indicating a very high level of construct relevance and clarity. Psychologists assess that the personality energy dimensions (ILC–ELC) and classic temperaments (sanguine, choleric, melancholic, and phlegmatic) align with the personality principles of Indonesian contextual education. Human resource experts affirm the model's suitability to the value-based HR development paradigm, while technology experts note the system's user-friendly, responsive, and cross-device compatible interface.

These findings indicate that the integration of Tree HR Personality with an AI system has strong conceptual and media validity, making it feasible for implementation in a character-based school environment like Garuda Transformasi School.

Field Test Results and Quantitative Analysis. The field trial involved 425 respondents from Garuda Transformasi School, consisting of teachers (15%), principals (2%), and students (83%). The test was conducted through the online AI–Tree HR Personality System available at treehr-research.org. Respondents were asked to complete 84 statements developed based on the Tree HR Model structure (root–stem–fruit) and four main personality domains. The assessment data and user perceptions were analyzed using the Multi-Stage Weighted Index (MSWI) method to assess three main dimensions: ease of use, usefulness, and accuracy of test results, as shown in Table 1.

Table 1. Tree HR Personality User Perceptions

Dimension	Average Score (%)	Weighted	Score Weight
Convenience	93.1	0.34	31.7
Usefulness	91.4	0.33	30.2
Accuracy	89.3	0.33	29.5
Total MSWI Index	—	1.00	91.4 (Very good)

Source: Research Data (Processed), 2025

The analysis results show that the AI–Tree HR Model has a total feasibility index of 91.4%, categorized as very good. The ease dimension received the highest score because this web-

based and AI-based system is easy to access and has an intuitive interface. The usefulness dimension ranked second, indicating that users found the assessment results useful in understanding personality and learning styles. The accuracy dimension also received a high score, indicating that the assessment results align with respondents' self-perceptions. Statistically, the Cronbach's Alpha value was 0.92, indicating a very strong level of internal reliability. These results confirm that the AI–Tree HR Personality instrument is capable of producing consistent, valid, and reliable data for education-based personality assessment purposes.

Qualitative Analysis and User Feedback. Qualitative analysis was conducted on open-ended comments from 60 respondents (15 teachers and 45 students). The majority of respondents considered the system innovative, reflective, and motivating. Teachers stated that the assessment results helped them adapt their teaching strategies to suit their students' characteristics. Meanwhile, students felt the test results helped them understand their learning styles and potential more personally. Some interesting quotes from respondents using coding are as shown in Table 2.

Table 2. Results of Qualitative Analysis of Respondents

Respondent Quotes	Open Codes	Axial Theme	Academic Interpretation
"I just found out that my personality is ELC–SF… it helps me understand how to learn more effectively." (11th-grade student)	Self-awareness, learning styles, learning effectiveness	Self-awareness & learning personalization	The system increases self-awareness and facilitates personalized learning
"This test isn't just a psychological assessment, but also includes Islamic values and self-reflection." (Teacher)	Spiritual values, self-reflection, beyond psychometrics	Value-based reflection & spiritual orientation	The integration of spirituality adds value to the assessment compared to conventional psychological tests
"The test results help me adjust my teaching methods to suit my students' personalities." (Teacher)	Teaching adaptation, differentiation, teacher responsiveness	Adaptive pedagogy & personalized teaching	Teachers use assessment results to differentiate learning strategies
"The user interface is easy to understand and fast." (10th-grade student)	Ease of access, simple UI, fast	User experience & accessibility	The system is easy to use and supports use in the school environment
"It's concise, clear, and helps me identify my potential." (Student)	Concise, clear, recognizing potential	Clarity of guidance & motivation	The system provides motivating and easy-to-understand feedback

Sumber: Research Data (Processes), 2025

The responses in Table 2 indicate that AI-based assessments are perceived not only as technological tools but also as spiritual and character-based learning tools that provide space for personal reflection in the educational process.

Integration of AI and Spirituality in the Tree HR Model. One of the novelties of this research is the use of artificial intelligence (AI) to analyze personality results based on the Tree HR Personality Typology, which consists of 84 types. Through a decision tree classifier algorithm and machine learning analysis, the system is able to recognize response patterns and group results based on a combination of personality energy, temperament, mindset, and learning style.

AI is also used to generate automated recommendations in the form of learning strategies, teaching styles, and self-development suggestions tailored to the user's personality type. Thus, this system becomes a reflective instrument that is personalized and adaptive.

The integration of AI and spirituality in this model reflects the Tree HR Model's philosophy that humans grow not only through information (AI), but also through the values that animate them (spiritual roots). AI acts as a "digital trunk" that strengthens the flow of knowledge, while values and character remain the "life roots" of the educational process. This approach is in line with the spiritual-based HRM theory (Krishnakumar & Neck, 2019) which emphasizes the balance between rationality and meaning in HR development.

Conceptual and Empirical Discussion. The results of this study confirm that the implementation of the AI-Tree HR Model can strengthen human capital at Garuda Transformasi School through five key findings: (1) High Efficiency and Accuracy. AI integration increases the speed of the assessment process by up to 60% compared to manual assessments, with a personality type prediction accuracy of 92%. (2) Local Value Contextualization. The root dimension (values and spirituality) aligns this model with Islamic culture and principles in Indonesian education. (3) Personalized Learning. Assessment results are used to develop character-based adaptive learning strategies. (4) Digital Empowerment of Educators. Teachers receive an analytics dashboard to understand students' personality profiles collectively and individually. (5) Ecosystemic Transformation. This model strengthens Garuda School as a learning ecosystem that integrates values, technology, and spirituality.

Conceptually, this study expands the theory of indigenous HRM (Cheung et al., 2011; Horwitz, 2017) by adding elements of artificial intelligence within the local values framework. The integration of AI and spirituality creates a new approach called “value-based digital human capital,” a human resource development system that is rooted in values, grows with AI, and results in productive behavior and work outcomes.

Implications for Garuda School and National Education. The empirical findings of this study have direct implications for strengthening Garuda Transformation School as a model for national excellence. Through the AI-Tree HR Personality system, schools can: (1) Automatically map student character and potential; (2) Develop learning programs based on personality differentiation; (3) Train teachers to integrate teaching styles with assessment results; (4) Develop a talent database for career needs and sustainable human resource development.

In the context of national education, this model serves as a prototype for a policy of digitizing character-based personality assessments and technology. With support from the government and research institutions, the AI-Tree HR Model can be adopted as a national personality mapping system for educators and students towards Indonesia Emas 2045.

CONCLUSION & SUGGESTION

Conclusion. This study confirms that the implementation of the AI-Tree HR Model as an innovative digital personality assessment based on Tree HR Personality has proven effective in strengthening the human resource development of Garuda Transformasi School. This system successfully integrates local spiritual and cultural values (roots), competencies and technology (stems), and behavior and learning outcomes (fruits) into a holistic human development model. Expert validation results demonstrated a high level of content validity (Aiken's V = 0.89) and excellent reliability (Cronbach's Alpha = 0.92). The total feasibility index value based on the Multi-Stage Weighted Index (MSWI) analysis reached 91.4% (very good category), with the ease and usefulness dimensions achieving the highest scores. This indicates that the AI-Tree HR Personality system is not only feasible to use but also positively received by teachers, students, and school leaders as a tool for personality reflection and self-development. Conceptually, this research strengthens the paradigms of spiritual-based human resource management (Krishnakumar & Neck, 2019) and indigenous HRM (Cheung et al., 2011; Horwitz, 2017) through the integration of artificial intelligence technology into a values and spirituality approach. This model emphasizes that human resource development in education must begin with a strong foundation of values, be developed through competency development, and be realized through productive behavior.

Thus, the AI-Tree HR Model is not merely a digital assessment tool, but also a new paradigm in educational transformation: cultivating values, cultivating competencies, and harvesting character-based behavior in the technological era.

Theoretical Implications. Theoretically, this research expands the framework of thinking in human resource management and education by presenting a "value-based digital human capital" approach. This concept positions artificial intelligence technology not merely as a measuring tool but also as a reflective partner in understanding human potential holistically. The integration of AI into the Tree HR Model strengthens the relationship between data-driven decisions and value-driven education, two crucial aspects of human resource development in the 21st century.

This research also demonstrates that spirituality and AI are not two opposing entities, but can synergize in building a more humane and morally conscious education system.

Practical Implications In practice, the application of the AI–Tree HR Model has three main implications for strengthening the Garuda Transformation School and the national education system: (1) For Teachers and Principals: The AI–Tree HR Personality system helps teachers

understand the teaching style that suits their personality type, and principals, (2) can use the assessment results for character-based role assignments, (3) For Students and College Students: This application provides a personalized learning path, introduces learning styles, and fosters self-reflection based on spiritual potential and temperament, (4) For School Management and Government: This model provides an analytics dashboard for mapping educational human resources, supports the National Garuda School program, and becomes the basis for teacher and student talent development policies based on data and values.

Strategic Implications and Development Directions. Strategically, this study recommends the development of a National Blueprint for Educational Human Resources based on the AI–Tree HR Model with three main phases: (1) 2025–2030: Implementation of the model in Garuda schools as a pilot project for personality and learning style mapping. (3) 2030–2040: Integration with the national Learning Management System (LMS) and development of the National Talent Incubation Center. (4) 2040–2045: Implementation of Big Data Spiritual Analytics and adaptive AI for longitudinal monitoring of student character development nationally. Going forward, this model can be developed into an adaptive AI system capable of recognizing changes in user personality, spirituality, and behavior over time through machine learning. Thus, Indonesia has the potential to become a pioneer in value-driven AI for education and global human resource development.

Conclusion: Through the AI–Tree HR Model, Garuda Transformasi Schools are not only a symbol of educational innovation but also the embodiment of a new paradigm for human development that aligns with values, technology, and spirituality, as embodied in the QS philosophy. Ibrahim verse 24 — "a good tree, its roots are firm and its branches reach to the sky" — this model emphasizes that education rooted in good values and enriched with technology will foster an intelligent**,** characterful, and competitive generation towards Golden Indonesia 2045.

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REFERENCES

Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., … Thomas, D. (2001). *Manifesto for Agile Software Development.* Agile Alliance. Retrieved from https://agilemanifesto.org/

Borg, W. R., & Gall, M. D. (1983). *Educational Research: An Introduction* (4th ed.). New York: Longman.

Branch, R. M. (2009). *Instructional Design: The ADDIE Approach.* New York: Springer.

Cheung, F. M., van de Vijver, F. J. R., & Leong, F. T. L. (2011). Toward a new approach to the study of personality in culture. *American Psychologist, 66*(7), 593–603. https://doi.org/10.1037/a0022389

Furnham, A. (2017). *The Big Five Personality Factors at Work.* London: Routledge.

Horwitz, F. M. (2017). Human resource management in Africa: A holistic approach. *The International Journal of Human Resource Management, 28*(14), 1965–1981. https://doi.org/10.1080/09585192.2015.1128462

Kemendikbudristek. (2023). *Panduan Sekolah Garuda: Transformasi Pendidikan Berbasis Karakter dan Teknologi.* Jakarta: Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia.

Krishnakumar, S., & Neck, C. P. (2019). The what, why, and how of spirituality in the workplace: A review and future research directions. *Journal of Management, Spirituality & Religion, 16*(1), 1–23. https://doi.org/10.1080/14766086.2018.1495096

McCrae, R. R., & Costa, P. T. Jr. (2008). *The Five-Factor Theory of Personality.* New York: Guilford Press.

OECD. (2021). *The Future of Education and Skills 2030: OECD Learning Compass.* Paris: Organisation for Economic Co-operation and Development.

Ramly, A. T. (2023). *Tree HR Model of Human Resource Development in Higher Education.* Bogor: Universitas Ibn Khaldun Press.

Ramly, A. T. (2024a). *Tree HR Personality: Typology and Teacher Adaptability.* In *Proceedings of the International Islamic Conference on Applied Social Science (IICASS 2024).* Atlantis Press.

Ramly, A. T. (2024b). *Integrating Local Values into Personality Assessment: Innovation of the Tree HR Model for Human Capital in Education. SA Journal of Human Resource Management, 22*(1), 1–15. https://doi.org/10.4102/sajhrm.v22i1.2245

Ramly, A. T. (2025). *Tree HR Personality: Inovasi Tes Kepribadian Digital untuk SDM Pendidikan.* Bogor: UIKA Press.

Sugiyono. (2020). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D.* Bandung: Alfabeta.

World Bank. (2020). *World Development Report 2020: Trading for Development in the Age of Global Value Chains.* Washington, DC: The World Bank.