



E-PROCEEDINGS

INTERNATIONAL TINKER INNOVATION & ENTREPRENEURSHIP CHALLENGE (i-TIEC 2025)

"Fostering a Culture of Innovation and Entrepreneurial Excellence"



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23 January 2025
PTDI, UiTM Cawangan Johor
Kampus Pasir Gudang

ORGANIZED BY:

Electrical Engineering Studies, College of Engineering
Universiti Teknologi MARA (UiTM) Cawangan Johor
Kampus Pasir Gudang
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PREFACE

It is with great pleasure that we present the e-proceedings of International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), which compiles the extended abstracts submitted to the International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), held on 23 January 2025 at **PTDI, Universiti Teknologi MARA (UiTM) Cawangan Johor, Kampus Pasir Gudang**. This publication serves as a valuable resource, showcasing the intellectual contributions on the invention and innovation among students, academics, researchers, and professionals.

The International Tinker Innovation & Entrepreneurship Challenge (i-TIEC 2025), organized under the theme "Fostering a Culture of Innovation and Entrepreneurial Excellence," is designed to inspire participants at various academic levels, from secondary students to higher education students and professionals. The competition emphasizes both innovation and entrepreneurship, encouraging the development of product prototypes that address real-world problems and have clear commercialization potential. By focusing on technological and social innovations, i-TIEC 2025 highlights the importance of turning creative ideas into viable, market-ready solutions that can benefit users and society. The extended abstracts in this e-proceedings book showcase the diverse perspectives and depth of research presented during the event, reflecting the strong entrepreneurial element at its core.

We extend our sincere gratitude to the contributors for their dedication in sharing their innovation and the organizing committee for their hard work in ensuring the success of the event and this publication. We also appreciate the support of our collaborators; Mass Rapid Transit Corporation Sdn. Bhd. (MRT Corp), Universitas Labuhanbatu, Indonesia (ULB), Universitas Riau Kepulauan, Indonesia (UNRIKA) and IEEE Young Professionals Malaysia, whose contributions have been instrumental in making this event and publication possible.

We hope that this e-proceedings book will serve as a valuable reference for researchers, educators, and practitioners, inspiring further studies and collaborations in both innovation and entrepreneurship. May the knowledge shared here continue to spark new ideas and market-ready solutions, advancing our collective expertise and fostering the growth of entrepreneurial ventures.

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B-SS041: JD-HRM: A SCENARIO-BASED APPROACH

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ABSTRACT

This project introduces an innovative teaching method that integrates theoretical knowledge with practical HRM applications through interactive, scenario-based modules. Focusing on job descriptions (JDs), recruitment, and selection, it addresses gaps in students' comprehension and skills while enhancing critical thinking, problem-solving, and workforce optimization. By bridging academic learning with real-world HR challenges, this approach fosters both confidence and competence in future HR professionals. JDs and job specifications are foundational to effective HR functions, particularly recruitment and selection. They provide clarity on roles, responsibilities, and qualifications, ensuring alignment between organizational needs and candidate profiles. Updated and relevant JDs are vital as they reflect current job demands and market trends, enabling HR processes like onboarding, training, and performance management to remain effective. Outdated documents, by contrast, risk inefficiencies and misalignments, negatively impacting employee satisfaction and productivity. This method's socio-economic impact includes preparing a skilled workforce aligned with organizational goals, improving hiring quality, reducing turnover, and enhancing organizational efficiency. With its adaptability to diverse HR contexts and strong potential for scalability, this innovation offers promising commercialization opportunities in academic and corporate training environments, driving sustainable workforce development and economic productivity.

Keywords: Teaching Innovation, Human Resource Management, Workforce Optimization, Scenario-Based Learning, Recruitment Process

1. Product Description

This innovation revolutionizes HRM education by integrating three experiential modules—job descriptions, recruitment, and selection—into a cohesive learning platform. Module 1 teaches students to analyze roles, identify requirements, and collaboratively update job descriptions (JDs) and job specifications to meet organizational needs. As shown in **Figure 1**, this module employs a structured process where students define positions, create JDs and specifications, and present their work through collaborative and peer-reviewed activities. Module 2 builds on this by focusing on recruitment. Using the updated JDs and specifications, students develop candidate profiles and align recruitment strategies with job requirements.

Figure 2 demonstrates how students analyze JDs, identify key candidate attributes, refine profiles collaboratively, and present ideal profiles for recruitment purposes.

Module 3 further develops these skills by guiding students to design selection tools, such as interview questions and assessment criteria, aligned with job specifications. **Figure 3** shows the process where students draft, categorize, refine, and present interview questions as finalized selection tools. The approach's effectiveness is highlighted in **Figure 4**, which shows substantial improvements in post-evaluation scores across all modules. This innovative framework bridges academic theory and HR practice, equipping students with industry-relevant skills for workforce optimization.

2. Flow Charts and Class Activity Templates for Modules 1, 2, and 3

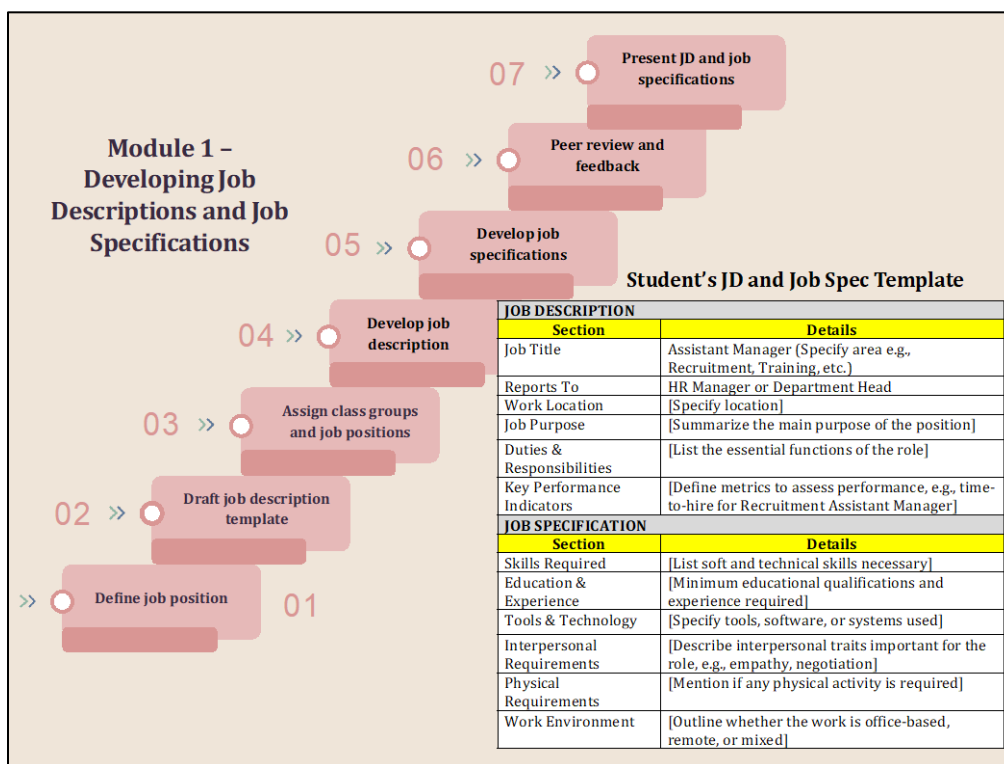


Figure 1. Module 1 - Developing Job Descriptions and Job Specifications

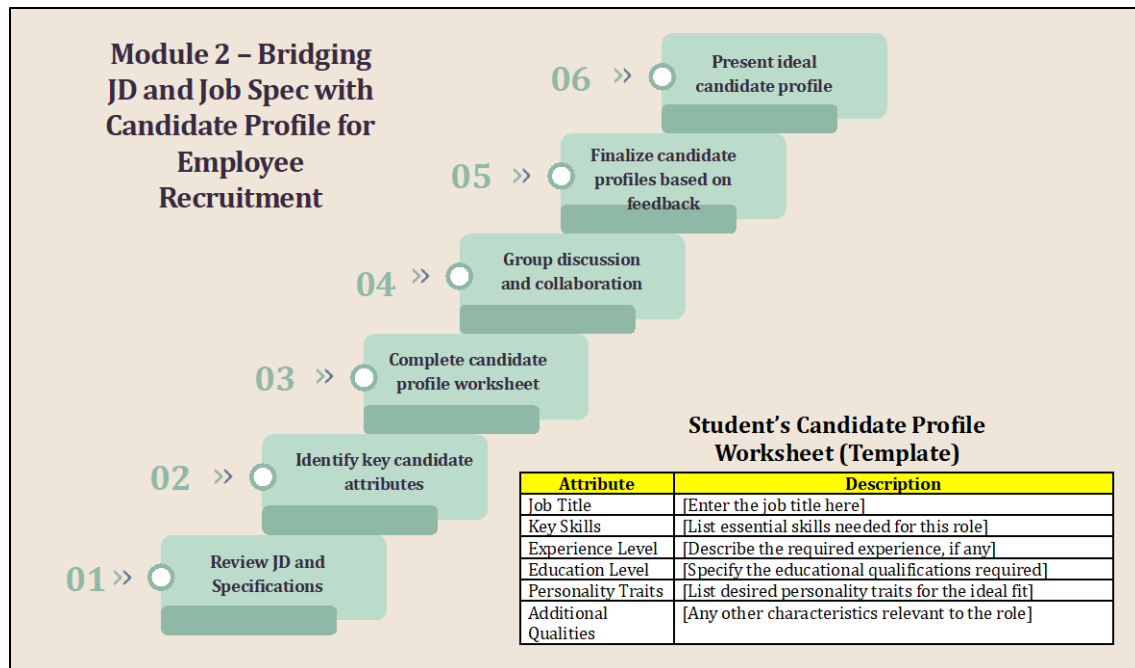


Figure 2. Module 2 - Bridging Job Descriptions and Specifications with Candidate Profiles for Employee Recruitment

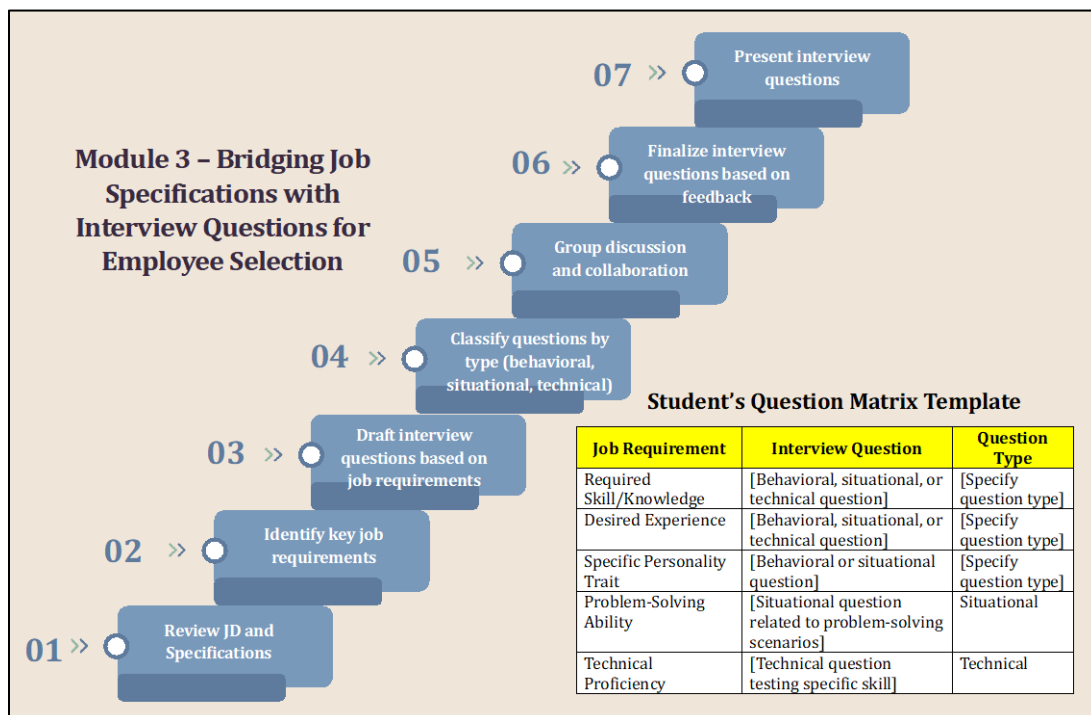


Figure 3. Module 3 - Bridging Job Specifications with Interview Questions for Employee Selection

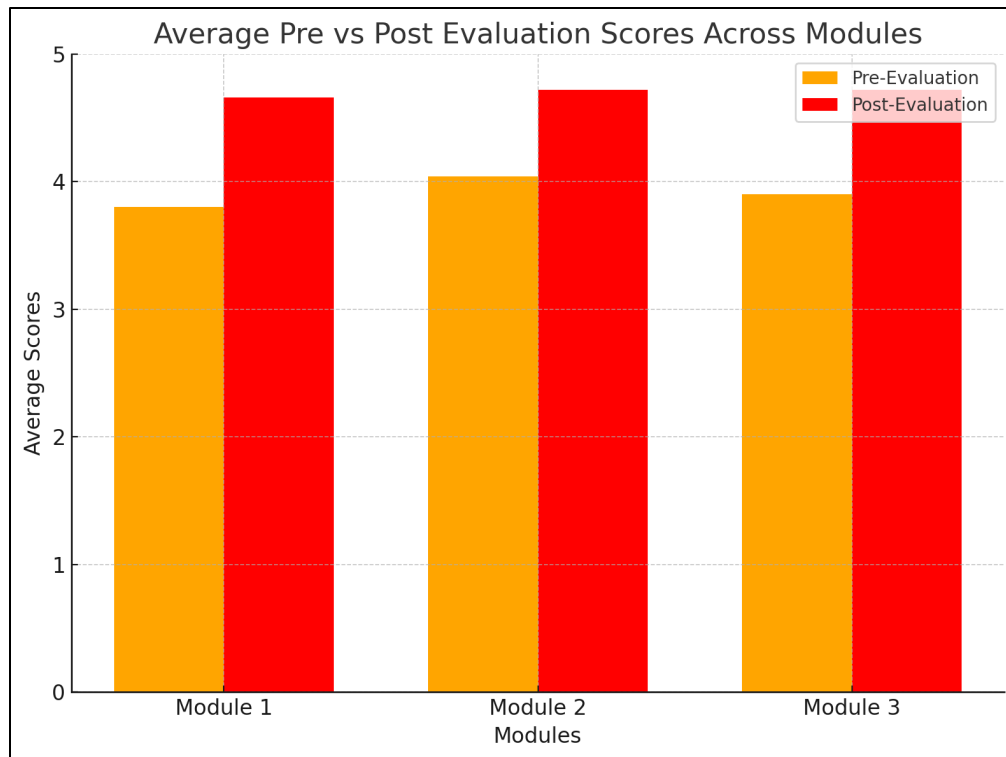


Figure 4. Average Pre vs Post Evaluation Scores Across Modules 1, 2, and 3

3. Novelty and Uniqueness

This project revolutionizes HRM education by integrating scenario-based, experiential learning modules that bridge theory with practical application. It focuses on teaching students to update job descriptions (JDs) and job specifications, addressing gaps in traditional HRM education. Module 1 develops skills in revising JDs and specifications to align with organizational needs, while Modules 2 and 3 apply these tools to recruitment and selection processes, ensuring a holistic understanding of HRM functions.

The project's uniqueness lies in its real-world applicability and hands-on methodology. Scenario-based exercises and simulations immerse students in the complexities of HR functions, enhancing critical thinking, problem-solving, and confidence in executing HR tasks. Structured pre- and post-evaluation surveys ensure measurable learning outcomes and guide continuous improvement. Its modular design is adaptable, making it suitable for various educational levels and industries. By directly linking academic learning to workforce demands, this project bridges the gap between theory and practice. It equips students with job-ready skills, fosters innovative HR solutions, and aligns education with evolving organizational needs, ensuring students are prepared to meet the demands of modern HR roles effectively.

4. Benefit to Mankind

This project benefits mankind by addressing the critical need for skill-based HRM education, equipping students with the knowledge and practical skills necessary to meet workforce demands effectively. By teaching students how to update and apply job descriptions (JDs) and job specifications, it ensures better alignment between organizational needs and employee capabilities, leading to improved hiring quality and reduced turnover.

The scenario-based learning approach fosters critical thinking, problem-solving, and confidence, preparing future HR professionals to address real-world challenges. This enhances organizational efficiency, supports sustainable workforce management, and reduces recruitment and training costs. Additionally, by focusing on updated and relevant JDs, the project ensures HR processes remain aligned with dynamic industry needs, fostering employee satisfaction and productivity. Its adaptability amplifies its impact, contributing to socio-economic growth by creating a competent, adaptable, and sustainable workforce that drives organizational and societal progress.

5. Innovation and Entrepreneurial Impact

This project fosters innovation and entrepreneurship by transforming HRM education into a practical, scenario-based learning platform. By emphasizing the critical skill of updating and applying job descriptions (JDs) and job specifications, it equips students and professionals with tools to address dynamic workforce challenges creatively. This innovative approach bridges the gap between academic theory and industry practice, encouraging learners to think critically and adapt to evolving organizational needs.

Through its modular design, the project promotes scalable and customizable solutions, enabling its application across educational institutions and corporate training programs. By empowering individuals with job-ready skills, it nurtures entrepreneurial thinking, encouraging participants to identify HR inefficiencies and propose solutions that drive organizational success. Furthermore, its emphasis on real-world applicability fosters a culture of continuous improvement and innovation, positioning the community, institutions, and industries to adapt proactively to workforce demands and contribute to sustainable economic growth.

6. Potential Commercialization

This project holds significant commercialization potential by addressing a critical need for practical, skill-based HRM training in academic and corporate settings. Its modular design allows seamless integration into university curricula, executive education programs, and professional workshops, catering to a broad audience. The focus on updating and applying job descriptions (JDs) and job specifications provides a unique value proposition, enhancing recruitment and selection processes for organizations.

The structured scenario-based learning approach, coupled with measurable outcomes through pre- and post-evaluation surveys, adds credibility and appeal for adoption by institutions and industries. The inclusion of digital tools, such as SPSS for data analysis, makes it relevant for modern learning environments. Potential commercialization avenues include licensing the modules for educational use, developing e-learning platforms, or

offering bespoke corporate training packages. This adaptability ensures scalability, enabling sustainable revenue generation while addressing the evolving demands of HRM practices across various sectors.

7. Authors' Biography



Assoc. Prof. Dr. Shereen Noranee, Associate Professor at UiTM, specializes in Human Resource Management with a focus on employee development and organizational psychology. With over 30 years of experience, she has significantly contributed to workplace dynamics, talent retention, and organizational well-being. Her work includes the UiTM Happiness Index and studies on employee turnover intention. Dr. Shereen has published extensively on topics like work-life balance and burnout, bridging academia and industry. Her expertise advances HR practices and fosters organizational success.



Dr. Nursaadatun Nisak Ahmad, Senior Lecturer at UiTM, specializes in Social Sciences with a focus on managerial coaching, employee resilience, and sustainable workforce practices. With over 15 years of academic experience, she has led impactful projects, including developing Islamic managerial coaching models and studying coaching's effects on performance. Dr. Nursaadatun has published on technopreneurship, talent retention, and workplace sustainability. Her work bridges theory and practice, advancing HR development and social innovation. Her ongoing research explores leadership styles and their influence on employee behavior, emphasizing resilience and sustainability.



Dr. Nor Intan Adha Hafit, Senior Lecturer at UiTM, specializes in Human Resource Development with over 15 years of academic experience. Her research focuses on learning organizations, workforce diversity, and innovative HR practices. She has contributed to studies on technostress, motivation, and mentoring in career adaptability, publishing extensively in reputed journals. Dr. Nor Intan Adha's work addresses contemporary HRD challenges, emphasizing organizational learning, knowledge-sharing, and innovation. Her research reflects a commitment to advancing workplace practices and fostering sustainable organizational growth.



Dr. Zuhaina Mustapa, Senior Lecturer at UiTM Shah Alam, specializes in Human Resource Management with over 17 years of academic experience. Her research focuses on work-life balance, career development, and the impact of technology on employee well-being. She has developed models for graduate employability and innovative behavior, contributing to reputed journals. Dr. Zuhaina actively supervises postgraduate research and collaborates on projects addressing organizational culture and mental health. Her work reflects a commitment to advancing HR practices and fostering sustainable workforce innovation.