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# 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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**23<sup>rd</sup> JANUARY 2025  
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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-SS003: EXPLORING SUPERVISORY SUPPORT AS A MODERATOR IN THE LINK BETWEEN EMOTIONAL INTELLIGENCE AND LEARNING MOTIVATION**

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### **ABSTRACT**

This study explores the moderating effect of supervisory support in the relationship between emotional intelligence (EI) and learning motivation (LM) among doctoral students in Malaysian public universities. Addressing the critical gap of low supervisory support, the framework integrates EI strategies with structured guidance to enhance academic motivation and resilience. The findings reveal that supervisory support acts as a partial moderator, with a stronger EI impact under low support conditions ( $\beta=1.040$ ) and a reduced effect under high support ( $\beta=0.607$ ). This innovation emphasizes the dual role of leveraging EI for emotional self-regulation and fostering effective supervisor-student relationships. Programs like those offered by 2MW Sdn. Bhd., including mentoring systems and supervisory training, showcase real-world solutions to improve supervisory practices, bridging the identified gap. Unlike traditional approaches, the framework combines emotional and academic dimensions through interactive EI training modules, supervisory support portals, and performance monitoring dashboards. These tools address the global challenge of doctoral attrition by fostering emotional well-being and creating a supportive academic ecosystem. With significant commercialization potential, this model offers scalable applications for universities worldwide, targeting reduced dropout rates and improved educational experiences. Aligning with global goals for quality education and mental health, this framework paves the way for sustainable and inclusive academic advancements.

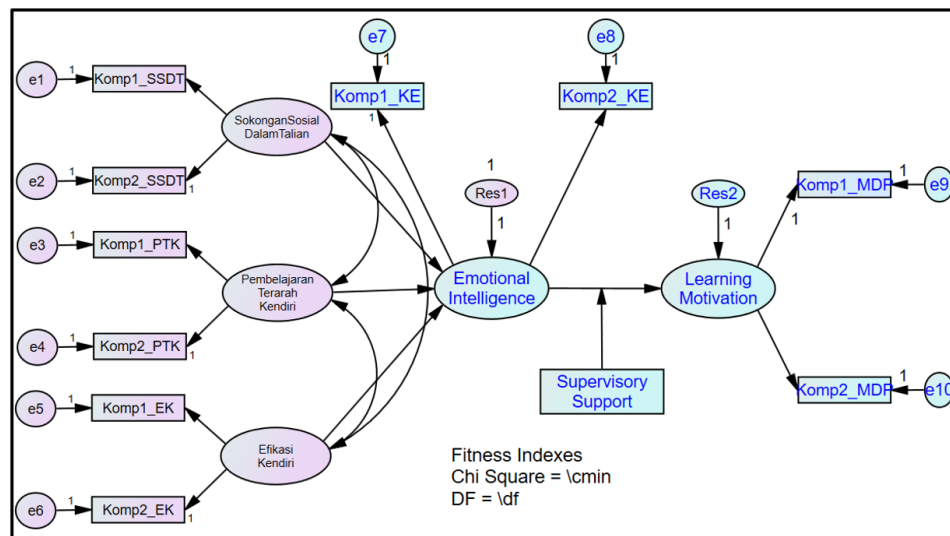
**Keywords:** Emotional Intelligence, Learning Motivation, Supervisory Support, Doctoral Students, Higher Education

### **1. Product Description**

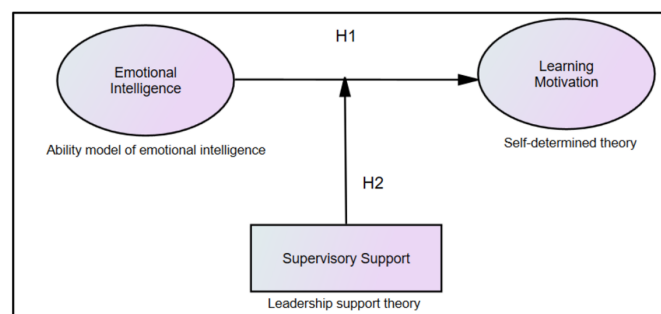
This framework examines the moderating role of supervisory support in the relationship between emotional intelligence (EI) and learning motivation among doctoral students in Malaysian public universities. In Malaysia, supervisory support is frequently limited, as demonstrated by this study's findings of partial moderation. The results indicate a stronger impact of EI on motivation under low supervisory support ( $\beta=1.040$ ) and a reduced effect under high support ( $\beta=0.607$ ), as shown in **Table 1** and **Table 2**. **Figure 1** validates the moderating role of supervisory support on learning motivation, which demonstrates the relationships among key variables. Additionally, **Figure 2** provides a visual representation of the theoretical framework, enriching understanding of the interactions between EI,

supervisory support, and learning motivation. To address these gaps, programs offered by 2MW Sdn. Bhd. provide a transformative solution (refer **Table 3**). These initiatives include comprehensive supervisor training and structured mentoring systems, designed to enhance the quality of supervisory practices. By fostering a supportive academic environment, 2MW's programs have the potential to shift supervisory practices from partial to full moderation in future studies. This innovative framework holds the promise of redefining supervisory practices and improving the educational experience of doctoral candidates.

## 2. Research Framework and Statistical Analysis



**Figure 1.** The Structural Model shows the Path where Supervisory Support had been tested as a Moderator



**Figure 2.** The Framework shows the Path where Supervisory Support had been tested as a Moderator



**Table 1.** The effect of emotional intelligence on learning motivation is significant for the "high support" group.

| <i>Path</i>           | <i>Estimate</i> | <i>Standard Error</i> | <i>Critical Ratio</i> | <i>p-value</i> | <i>Result</i> |
|-----------------------|-----------------|-----------------------|-----------------------|----------------|---------------|
| <i>LM</i> ← <i>EI</i> | .607            | .085                  | 7.104                 | ***            | Significant   |

**Table 2.** The effect of emotional intelligence on learning motivation is significant for the "low support" group.

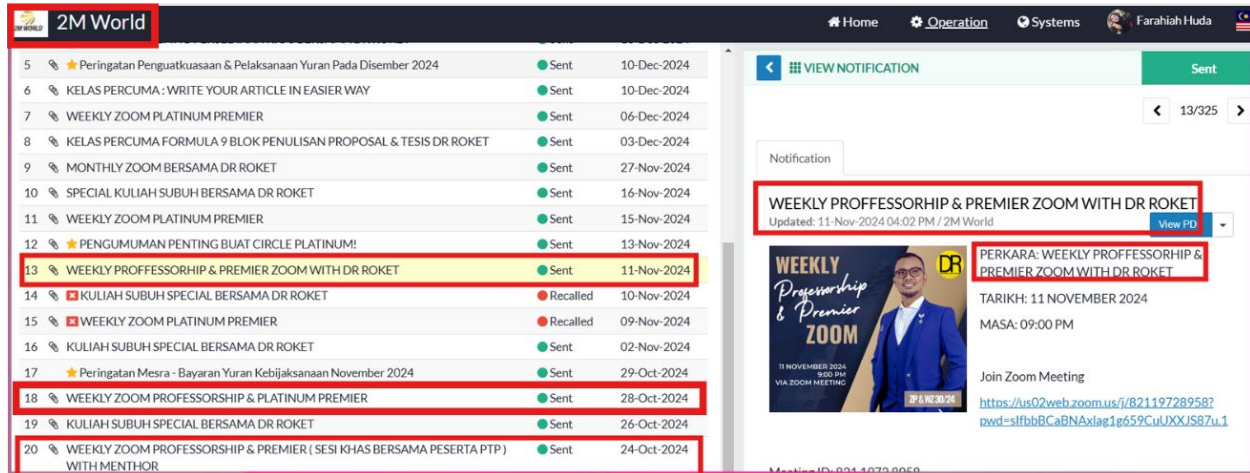
| <i>Path</i>           | <i>Estimate</i> | <i>Standard Error</i> | <i>Critical Ratio</i> | <i>p-value</i> | <i>Result</i> |
|-----------------------|-----------------|-----------------------|-----------------------|----------------|---------------|
| <i>LM</i> ← <i>EI</i> | 1.040           | .102                  | 10.147                | ***            | Significant   |

**Table 3.** Overall support program implementation framework

| <i>Stakeholder</i> | <i>Phase</i>               | <i>Programs/<br/>Actions</i>                                                                           | <i>Duration</i> | <i>Cost(RM)</i>    | <i>Expected<br/>Outcomes</i>                                   |
|--------------------|----------------------------|--------------------------------------------------------------------------------------------------------|-----------------|--------------------|----------------------------------------------------------------|
| <i>University</i>  | Phase 1:<br>Planning       | Strategic collaboration with 2MW Sdn. Bhd. (MoU)<br>Formation of a committee<br>Integration guidelines | 3 months        | Operational costs  | Strategic collaboration framework<br>Integrated support system |
|                    | Phase 2:<br>Implementation | RPC Platinum integration<br>Monitoring system<br>Staff training                                        | 6 months        | Operational costs  | Comprehensive support platform<br>Robust learning ecosystem    |
|                    | Phase 3:<br>Monitoring     | Program evaluation<br>Feedback collection<br>Continuous improvement                                    | Ongoing         | -                  | Sustainable support system<br>Legacy for 100 years             |
| <i>Supervisors</i> | Phase 1:<br>Development    | Platinum Professorship<br>DOVE Program<br>RICM                                                         | 2 months        | Subject to package | Enhanced supervisory skills<br>Mentor network                  |

|                 |                            |                            |                 |           |                              |
|-----------------|----------------------------|----------------------------|-----------------|-----------|------------------------------|
| <i>Students</i> | Phase 2:<br>Implementation | Application of new methods |                 |           | High-quality supervision     |
|                 |                            | Comprehensive mentoring    | 3 months        | -         | Balanced student development |
|                 |                            | Sharing best practices     |                 |           |                              |
|                 | Phase 1:<br>Foundation     | Telegram RPC Platinum      | 6 months        | 250       | Online social support        |
|                 |                            | MST                        | 1-2 months      | 199       | Strong learning foundation   |
|                 |                            | PTP                        | 2 days          | 99        | Basic skills                 |
|                 |                            | Free Classes by Dr Roket   | Wed, 2 hours    | Free      | Fast and quality writing     |
|                 |                            | Article Writing            |                 | 199       | Technical skills             |
|                 | Phase 2:<br>Technical      | Problem Statement Basic    |                 | 79        | Quality writing              |
|                 |                            | TMOT                       | 3-4 months      | 299       | High confidence              |
|                 |                            | Road to Proposal           | 5-6 months      | 999       | Solid proposal               |
|                 | Phase 3:<br>Strengthening  | MIC                        | 2 days          | 500       | Academic networking          |
|                 |                            | Postgraduates Summit       | 2 days          | 299       | High motivation              |
|                 | Phase 4:<br>Consolidation  | Platinum Coaching Program  |                 |           | PhD success                  |
|                 |                            | Voice Chat                 | Through out PhD | 250-1,000 | Holistic development         |
|                 |                            | Telegram Community         |                 |           | Professional networking      |

Note : Costs are estimated as of November 2024 and are subject to change. Program can be customized. Some basic programs are free. The Platinum Professorship program is subject to the selected package.



**Figure 3.** The RIMS (Roket Integrated Management System) Interface showing weekly professorship programs and notifications, demonstrating the practical implementation of structured supervisory support.



**Figure 4.** Visual representation of successful outcomes 147 PhD candidates who completed their Viva from 2020-2024 through the 2MW Sdn. Bhd. structured support program.

### 3. Novelty and uniqueness

By integrating initiatives (refer **Table 3**) such as those provided by 2MW Sdn. Bhd., this framework lays a foundation for improving supervisory practices in Malaysian doctoral education. These structured programs, including advanced supervisor training and mentoring systems, address the prevalent gap in supervisory support. By combining the Ability Model of Emotional Intelligence and Leadership Support Theory, as conceptualized in **Figure 2** and validated through **Figure 1**, the framework addresses significant gaps in doctoral supervision. This study reveals the partial moderation effect of supervisory support, as shown in **Table 1** and **Table 2**. Supervisory support has a stronger impact under low conditions ( $\beta=1.040$ ,  $p<0.001$ ) and a reduced influence under high conditions ( $\beta=0.607$ ,  $p<0.001$ ), highlighting its dual role in shaping learning motivation. Programs by 2MW aim to elevate supervisory practices, potentially achieving full moderation in future studies by equipping supervisors with the skills and tools for impactful guidance. By fostering better supervisor-student relationships, 2MW's programs enhance academic outcomes and contribute to the broader goal of improving doctoral retention rates and reducing motivational barriers. This framework sets a new benchmark for supervisory excellence in Malaysia, aligning with global standards while addressing cultural nuances in educational practices.

### 4. Benefit to mankind

This framework, supported by programs from 2MW Sdn. Bhd., addresses the challenges of low supervisory support faced by doctoral students in Malaysia. As evidenced in **Figure 4**, which showcases 147 successful doctoral candidates who completed their Viva examinations between 2020-2024, the framework provides tangible solutions for tackling global challenges such as doctoral attrition while enhancing emotional well-being. Through structured training and mentoring initiatives, it equips supervisors with the skills to foster stronger academic relationships, enhancing emotional intelligence and learning motivation. The achievement wall represents not just individual successes, but the broader societal benefit of enhanced doctoral education quality and increased completion rates. This approach positively impacts academic and professional communities by cultivating emotionally resilient graduates, serving as a replicable model for institutions worldwide.

### 5. Innovation and Entrepreneurial Impact

2MW Sdn. Bhd.'s innovative programs, exemplified through the Rokat Integrated Management System (RIMS) shown in **Figure 3**, redefine traditional supervisory support by addressing critical gaps in doctoral education. Through RIMS's digital platform, which integrates weekly professorship programs, notifications, and student engagement tools, 2MW demonstrates entrepreneurial leadership in transforming conventional methods into scalable solutions. These programs promote a culture of entrepreneurship within the academic sector while fostering resilience and self-directed growth. Beyond education, this approach equips participants with entrepreneurial skills applicable across industries. The integration of localized insights with global academic standards showcases 2MW's commitment to innovation and adaptability, setting a benchmark for private-sector



involvement in educational reform. This initiative contributes to a supportive academic ecosystem while driving institutional and industry-wide change.

## 6. Potential commercialization

2MW Sdn. Bhd.'s programs provide scalable and adaptable solutions to address gaps in supervisory practices within doctoral education, with strong potential for commercialization in global markets. Initiatives such as the Platinum Professorship, Program Premier, and RISM, illustrated in their comprehensive phases, exemplify the company's commitment to transforming academic supervision. These structured approaches, which include new methodological applications in the development phase and comprehensive mentoring during implementation, elevate supervisory skills and contribute to balanced student development. These programs can be marketed as subscription-based training modules or digital tools for universities worldwide, offering tailored solutions for academic supervisors and students. By blending localized insights with global academic standards, 2MW's innovative framework meets the diverse needs of higher education institutions while promoting emotionally intelligent, well-supported doctoral researchers. This market appeal underscores 2MW's entrepreneurial leadership in reshaping educational practices and positions the company as a pioneer in scalable, impactful academic solutions.

## 7. Acknowledgment

The author extends heartfelt gratitude to Universiti Malaysia Sabah, Faculty of Education and Sports Science, for providing an inspiring academic environment to undertake this research. Appreciation is also given to the organization of 2MW Sdn. Bhd. for their invaluable guidance and resources that contributed to the progress of this study. This research is self-financed, and its completion reflects the commitment and dedication to advancing knowledge in doctoral education, emotional intelligence, and supervisory support. Lastly, sincere thanks to family and friends for their unwavering encouragement and support throughout this journey.

## 8. Authors' Biography



Farahiah Huda Husain, a PhD Candidate in Computer Education (UMS) and Head of Panel for Computer Science at SMK PITAS II. Primary author investigating moderating effects of supervisory support and emotional intelligence on doctoral students' learning motivation.



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Professor Dr. Sabariah Sharif, a VK7 Professor at UMS, specializing in education quality enhancement and thematic interpretation.



Dr. Mad Noor Madjapuni, a Senior Lecturer at UMS, contributing expertise in statistical analysis and research methodology validation.