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# PROCEEDINGS OF JOHOR INTERNATIONAL INNOVATION INVENTION COMPETITION AND SYMPOSIUM 2024 (JIICaS 2024)



*“Flourish and Nurturing Sustainable  
Innovation for a Prosperous Nation”*

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## **Preface**

**In the name of Allah, the Almighty who gives us the enlightenment, the truth, the knowledge and with regards to Prophet Muhammad (peace be upon him) for guiding us to the straight path. We thank to Allah for giving us guidance and strength to write this e-book.**

**This e-book compiles the extended abstracts that submitted to Johor International Innovation Invention Competition and Symposium 2024 (JIIICaS2024), where JIIICaS2024 is a virtual platform for all creative minds to share and present their invention and innovation. Each abstract gives a brief background on the innovation or project.**

**We hope that this e-book will help the readers to get to know the innovation done by the students and get some ideas to develop future innovation products.**



## Foreword Rector



Assalamualaikum warahmatullahi Wabarakatuh,  
Salam Sejahtera, Salam Malaysia MADANI and  
Salam UiTM Dihatiku.

In the name of Allah, the Most Gracious, the Most  
Merciful.

It is a great honor to welcome you to the Johor  
International Innovation, Invention, Competition, and  
Symposium 2024 (JIIICaS 2024). This event

connects various disciplines, focusing on education and engaging educators,  
students, researchers, and innovators from all walks of life.

Innovation is not just about ideas; it demands perseverance, creativity, and  
determination to turn those ideas into reality. The remarkable projects  
showcased today highlight the dedication and spirit of all participants.  
Initiatives like this not only explore new technologies but also cultivate skills  
and leadership among our youth. At Universiti Teknologi MARA (UiTM) Johor  
Branch, we are fully committed to fostering a dynamic culture of innovation,  
promoting the commercialization of new products, and encouraging  
meaningful collaborations with industry and society.

As we celebrate this event, I would like to extend my heartfelt gratitude to all  
sponsors, judges, the College of Computing, Informatics and Mathematics,  
UiTM Pasir Gudang Campus as the event organizer, as well as to the  
researchers and participants for their hard work in making this event a  
success. Let us continue striving for innovation and excellence. May the  
ideas presented today inspire us and lay the groundwork for future  
achievements.

Thank you.

**Associate Professor Dr. Saunah Zainon**  
**Rector**  
**Universiti Teknologi MARA (UiTM)**  
**Johor Branch**

## **(A-ST007) DEVELOPING MICRO-CREDENTIALS FOR SOCIAL SECURITY: A COMPREHENSIVE OVERVIEW**

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### **ABSTRACT**

In an era where the dynamics of social security systems are increasingly complex and pivotal to individual financial stability, there arises a critical need for innovative educational solutions. "Developing Micro-Credentials for Social Security: A Comprehensive Overview" introduces a groundbreaking approach aimed at transforming how individuals' access, understand, and leverage social security information for their benefit. This initiative is not just about imparting knowledge; it's about fostering a culture of informed decision-making and proactive financial planning. Social security, a fundamental component of the social safety net in many countries, is often perceived as intricate and inaccessible by the general public. The consequences of this perception are far-reaching, affecting individuals' ability to make informed decisions about their retirement, disability benefits, and more. Recognizing this gap, our product seeks to demystify social security through an innovative educational model that leverages the power of micro-credentials. These micro-credentials are designed to break down complex information into manageable, learnable segments that cater to a wide range of learning needs and preferences. This initiative is timely and relevant. As populations age and the future of social security systems becomes a hot topic of debate, the need for widespread public understanding and engagement has never been more critical. "Developing Micro-Credentials for Social Security" is not just an educational tool; it's a means to empower individuals, enhance public discourse, and contribute to the sustainable development of social security systems worldwide. In this comprehensive overview, we will delve into the objectives, novelty, practicality, and usefulness of our product. We aim to showcase how micro-credentials can transform the landscape of social security education, making it more accessible, engaging, and effective for all.

**Keywords:** Micro-Credentials, Social Security, Self-Directed Learning, Education, UiTM

### **1.0 INTRODUCTION**

The introduction of micro-credentials in the realm of social security education represents a significant shift from traditional learning paradigms. It acknowledges the diverse backgrounds and capabilities of learners, offering a flexible, personalized learning journey. By providing concise, targeted information through a digital platform, we aim to make learning about social security accessible to everyone, regardless of their prior knowledge or experience with the subject.

## 2.0 OBJECTIVE

The primary objective of this innovation is to evaluate and enhance the effectiveness of micro-credentials as tools for self-directed learning in the field of social security. The innovation aims to increase learner autonomy, competence, and readiness in managing social security needs, while also contributing to broader societal benefits through enhanced financial literacy and preparedness.

## 3.0 METHODOLOGY

The micro-credential framework was developed using a competency-based approach, focusing on practical skills essential for managing social security systems.

**Objective(s) of the Product:** The primary objective of our product, "Micro-Credentials for Social Security," is to revolutionize the way individuals engage with and understand social security systems. By breaking down complex social security information into digestible, micro-credential courses, we aim to empower users with the knowledge and skills necessary to navigate their social security benefits effectively. This initiative seeks to enhance public awareness, improve personal financial planning, and foster a more informed citizenry regarding social security policies and practices.

**Novelty of the Product:** Our product introduces an innovative approach to learning and engagement with social security systems through the use of micro-credentials. Unlike traditional educational resources, our micro-credentials are designed to be concise, focused, and highly relevant to the immediate needs of individuals. This modular learning approach allows users to select and complete courses tailored to their specific interests or requirements, ranging from basic understanding of social security benefits to more advanced topics such as investment strategies for retirement planning. The novelty lies in the customization and flexibility of the learning modules, combined with a digital badge certification system that acknowledges and rewards users' progress and expertise.

**Practicality of the Product:** The practicality of our product is evident in its user-friendly design and accessibility. Developed with a focus on ease of use, the micro-credentials can be accessed via a web-based platform or mobile application, allowing users to learn at their own pace and convenience. The courses are structured to facilitate short, engaging learning sessions that can easily fit into busy schedules. Additionally, the integration of interactive elements, real-life case studies, and expert insights ensures that the learning experience is both practical and applicable to real-world scenarios. This practical approach not only enhances learning outcomes but also encourages continuous engagement with the content.

**Usefulness of the Product:** The usefulness of our micro-credentials for social security extends beyond individual learning to have a broader societal impact. By demystifying social security and making information more accessible, we aim to improve financial literacy and preparedness among the population. This is particularly crucial in a landscape where social security systems are becoming increasingly complex, and the need for informed decision-making is more important than ever. For individuals, the knowledge gained through our micro-credentials can lead to better financial planning, increased confidence in managing retirement funds, and a more secure financial future. For society, an informed citizenry is better equipped to engage in discussions and decisions regarding the future of social security systems.

The courses are delivered through a flexible and accessible online platform, allowing learners to engage at their own pace. Features include customizable learning paths, real-time feedback, and recognized credits. The practical application of this framework

is supported by a thorough analysis of participant feedback, which has shown high levels of satisfaction and effectiveness.

*Table 1: Micro-Credential Features and Benefits*

<b>Feature</b>	<b>Description</b>	<b>Benefit</b>
Customizability	Learners can tailor courses to their needs	Increases relevance and engagement
Accessibility	Available online, anytime, anywhere	Facilitates continuous learning
Recognized Credits	Acknowledged by academic and professional bodies	Enhances employability and credibility

#### **4.0 RESULTS**

The implementation of micro-credentials has led to significant advancements in social security education. Participants reported substantial improvements in knowledge acquisition and confidence levels, with 87% strongly agreeing that the content was delivered engagingly and 88% expressing high overall enjoyment. The novelty of this innovation lies in its ability to provide precise, scalable, and flexible learning opportunities that directly address the evolving needs of the workforce. The program's success has been recognized through various academic and professional channels, highlighting its impact and potential for further development.

#### **5.0 CONCLUSION**

The introduction of micro-credentials in social security education represents a significant step forward in fostering self-directed learning and enhancing societal benefits. The positive outcomes and feedback underscore the program's effectiveness and its alignment with the broader goals of sustainable national prosperity. The continued support and recognition from institutions like UiTM and innovation platforms further validate the innovation's importance and potential for widespread application. In conclusion, "Micro-Credentials for Social Security" represents a forward-thinking solution to the challenges of engaging with and understanding social security. Through its innovative design, practical learning approach, and broad usefulness, our product stands to make a significant contribution to individual and societal well-being.