



INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

“Optimizing Innovation in Knowledge, Education and Design”

EXTENDED ABSTRACT



e ISBN 978-967-2948-56-8



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eISBN 978-967-2948-56-8

Published by:
Universiti Teknologi MARA (UiTM) Cawangan Kedah,
Sungai Petani Campus,
08400 Merbok,
Kedah,
Malaysia.

35.	Digital Mathematics Exercise Tool (DiMatExT) <i>Norazlina Ahmad, Norhafiza Ahmad & Mohd Khairil Nazmi Md Nayan</i>	179-184
36.	LINGOACTIVE 1.0: Integrating the Italian Language and Exercise in A Fun Game <i>Suhardi bin Kram, Piermauro Catarinella, Wan Firdaus bin Wan Chik, Cyndra Robert Budull, Noreriani binti Sabturani, Adjullea James & Theresa Ahing</i>	185-189
37.	Proscience Workshop <i>Diana Indim, Siti Sarayati Hj Abdul Mawah, Shirley Arvilla Andrew & Farnidah Jasnie</i>	190-194
38.	Easy Way to Write a Clear Research Problem Statement Using IRCA Model: Ideally, Reality, Consequences and Aim <i>Haidy Henry Dusim, Tony Paridi Bagang, Jain Yassin, Lo Chor Wai & Alexius Korom</i>	195-202
39.	Kamus Saku Dialek Suku Kaum Jakun Lenga: Daripada Data Mentah ke Penerbitan Kamus <i>Mohamad Suhaizi Suhaimi, Muhammad Nazirul Mohd Noor, Aminuddin Saimon, Azean Idruwani Idrus & Nurul Jamilah Rosly</i>	203-207
40.	From Certificates to Comprehensive Records: Innovating with UiTM Kedah Student Activity Transcripts (UiTMKDH SAT) <i>Muhammad Hanif Othman, Mohd Nazir Rabun & Mohd Hamidi Adha Mohd Amin</i>	208-215
41.	MFRS 140 Investment Property Learning Through Gamification – “PROPQUEST GAME APP” <i>Dr. Masetah Ahmad Tarmizi, Noor Saatila Mohd Isa, Norliana Omar, Dr. Mohd Taufik Mohd Suffian & Mohd Zulfikri Abd Rashid</i>	216-221
42.	E-Inventori Bahan Panduan Pengurusan Rekod UiTM <i>Ahmad Azman Bin Mohamad Ramli, Noor Faraliza Binti Samsudin, Norhidayu Binti Md Yatim, Mohd Naim Bin Mohd Nasfi, Intan Nurbaizura Binti Zainuddin, Izzatil Husna Binti Arshad & Kasmarini Binti Baharuddin</i>	222-226
43.	Sustainable Supply Chain Management Disclosure Index (SSCMDI): Towards Achieving Sustainable Development Goals (SDGS) <i>Nur Zharifah Che Adenan, Prof Dr. Roshima Said, Prof Dr. Corina Joseph, Leily Adja Radjeman, Dr. Shafilla Subri & Syahrini Shawalludin</i>	227-230

CATEGORY: ASP ACADEMIC INVENTOR

1.	REED: 3D Printed Wearable Device to Manage Anxiety Through Melodic Mindfulness <i>Hana Hapiz, Nooraziah Ahmad, Yuhanis Ibrahim, Azlin Sharina Abdul Latef, Ainul Wahida Radzuan & Mohd Zaimmudin Mohd Zain</i>	231-236
2.	Bank Design: Collection of Student Artworks <i>Dr. Nani Hartina Ahmad, Nur Fatiyah Roslan, Nurin Elani Makrai, Azhar A Aziz & Zainab Anuar</i>	237-242

Assalamualaikum warahmatullahi wabarakatuh,



First and foremost, I would like to express my gratitude to the organizing committee of i-Spike 2023 for their tremendous efforts in bringing this online competition a reality. I must extend my congratulations to the committee for successfully delivering on their promise to make i-Spike 2023 a meaningful event for academics worldwide.

The theme for this event, 'Optimizing Innovation in Knowledge, Education, and Design,' is both timely and highly relevant in today's world, especially at the tertiary level. Innovation plays a central role in our daily lives, offering new solutions for products, processes, and services. By adopting a strategic approach to 'Optimizing Innovation in Knowledge, Education, and Design,' we have the potential to enhance support for learners and educators, while also expanding opportunities for learner engagement, interactivity, and access to education.

I am awed by the magnitude and multitude of participants in this competition. I am also confident that all the innovations presented have provided valuable insights into the significance of innovative and advanced teaching materials in promoting sustainable development for the betterment of teaching and learning. Hopefully, this will mark the beginning of a long series of i-Spike events in the future.

It is also my hope that you find i-Spike 2023 to be an excellent platform for learning, sharing, and collaboration. Once again, I want to thank all the committee members of i-Spike 2023 for their hard work in making this event a reality. I would also like to extend my congratulations to all the winners, and I hope that each of you will successfully achieve your intended goals through your participation in this competition.

Professor Dr. Roshima Haji Said
RECTOR
UiTM KEDAH BRANCH



WELCOME MESSAGE (i-SPIKE 2023 CHAIR)



We are looking forward to welcoming you to the 3rd International Exhibition & Symposium on Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023). Your presence here is a clear, crystal-clear testimony to the importance you place on the research and innovation arena. The theme of this year's Innovation is "*Optimizing Innovation in Knowledge, Education, & Design*". We believe that the presentations by the distinguished innovators will contribute immensely to a deeper understanding of the current issues in relation to the theme.

i-SPIKE 2023 offers a platform for nurturing the next generation of innovators and fostering cutting-edge innovations at the crossroads of collaboration, creativity, and enthusiasm. We enthusiastically welcome junior and young inventors from schools and universities, as well as local and foreign academicians and industry professionals, to showcase their innovative products and engage in knowledge sharing. All submissions have been rigorously evaluated by expert juries comprising professionals from both industry and academia.

On behalf of the conference organisers, I would like to extend our sincere thanks for your participation, and we hope you enjoy the event. A special note of appreciation goes out to all the committee members of i-SPIKE 2023; your dedication and hard work are greatly appreciated.

Dr. Junaida Ismail

Chair

3rd International Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023)

SUSTAINABLE SUPPLY CHAIN MANAGEMENT DISCLOSURE INDEX (SSCMDI): TOWARDS ACHIEVING SUSTAINABLE DEVELOPMENT GOALS (SDGS)

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ABSTRACT

Massive efforts have been made by the Malaysian government to back the 2030 Development Agenda and its Sustainable Development Goals (SDGs), which aim to ensure the preservation of the planet and the prosperity of society by stressing the importance of things like health and well-being, gender equality, quality education, and responsible consumption and production. Sustainable supply chain management (SSCM) begins with an organization's leadership being aware of its influence on the world around it. On top of that, a business needs to share supply chain management data with interested parties so that those parties may accurately assess the company's success in this area. Creating a sustainability report is one strategy businesses may use as part of SSCM to track, report on, and improve the extent to which they utilize sustainable and responsible practices in their own operations and those of their suppliers. Taking into account the core criteria of the SSCMDi will benefit a company because it will encourage the use of best supply chain management practices, strengthen the Supplier's Code of Conduct, and integrate Supply Chain Management into sustainability reporting. The index was developed to promote uniformity in reporting on SSCM practices across manufacturing companies listed in Malaysia. The public's awareness of the importance of environmental, social, and economic sustainability will be boosted as a result of SSCMDi's role as an efficient monitoring tool. The SSCMDi can also be utilized by those who are involved in the decision-making process to gauge how reliable the data they were given actually is.

Keywords: sustainable supply chain management, disclosure, index, SDGs

PROBLEM STATEMENT

The principles of transparency and integrity play a significant role in SSCM. When a company voluntarily discloses information about its operations and products to interested parties, it is said to be engaging in proactive disclosure. As a result, the opinions of the company's stakeholders are crucial, as they have a major bearing on the company's success. More trust means better relationships with stakeholders and a better chance at building a lasting brand. The global coronavirus pandemic (COVID-19) has had far-reaching consequences on the world's industrial infrastructure. The present COVID-19 problem has highlighted the importance of "Triple-A Supply Chains" in business operation strategy. Companies that value transparency will keep tabs on activities upstream in the supply chain and disseminate that information both internally and externally. Sustainable supply chain reporting is used frequently by investors in order to forecast a company's market worth. Communicating and having access to accurate information is crucial for stakeholders and businesses to overcome the challenges brought on by the COVID-19 pandemic. There is a lot of ambiguity and conflicting data about the efficacy of SSCM because there lack of adequate methods for monitoring an organization's sustainability performance.

OBJECTIVE AND NOVELTY OF SSCMDi

The index was developed to promote uniformity in reporting on SSCM practices across manufacturing companies listed in Malaysia. The prototype development will aid in selecting the best SSCMDi among Malaysian publicly listed manufacturing companies. The SSCMDi is among the first checklist that measures the quantity and quality of supply chain management-related information in Malaysia. SSCMDi was also made through a thorough process that followed both international and local rules. The SSCMDi serves as a tool to measure the companies' commitment to sustainability pillars. SSCMDi serves as the approach for the SDGs to be realized by 2030.

BENEFITS OF SSCMDi TO SOCIETY AND ORGANIZATION

SSCMDi will be useful to an organization by taking into consideration identifying the relevant criteria of the Sustainable Supply Chain Management Disclosure Index (SSCMDi) that should contribute towards the best practices of supply chain management. SSCMDi will serve as an effective monitoring mechanism as it improves the Supplier's Code of Conduct and includes Supply Chain Management in sustainability reporting. SSCMDi will act as a tool that can improve awareness of sustainability among members of society.

STEPS IN SSCMDi DEVELOPMENT

Table 1. SSCMDi Development

Step	Description
1	Identification of the SSCMDi basic items using Global Reporting Initiative Indicators Version 4.0 (GRIv4) and the National Corporate Annual Report (NACRA) 2018 competition's criteria
2	Removal of several items
3	Using previous studies as references

4	Alteration of the index by adding the ideal criteria
5	Removal / Addition of (SSCMDi items by comparing basic SSCMDi items and actual SSCMDi disclosures available in annual reports, sustainability reports, and companies' websites
6	Validation of items by experienced scholars and industrial practitioners
7	Preparation of the final version of SSCMDi
8	Prototype development known as the Sustainable Supply Chain Management Disclosure Index (SSCMDi)

SSCMDi CALCULATION

By assigning a value of "1" if the item was released and a value of "0" if it was not, the unweighted disclosure index method was used to examine the extent to which SSCM information disclosure. The scores are calculated as follows:

$$(SSCMDi)_j = \frac{\sum_{t=1}^{n_j} X_{ij}}{n_j}$$

Figure 1. SSCMDi Calculation

Where:

SSCMDi j= Sustainable Supply Chain Management Disclosure Index

n_j= Number of items expected for the company n_j≤69 items

X_{ij} = of "1", if the company discloses the items and "0", if it is not.

THEMES IN SSCMDi

Table 2. SSCMDi Themes

Themes	Descriptions	Items
1	Product responsibility - Customer Health and Safety	5
2	Product and Service Labelling - Report whether the following product and service information is required by the organization's procedures for product and service information and labeling	5
3	Marketing Communications	4
4	Customer Privacy	4
5	Compliance	3
6	Society - Supplier Assessment for Impacts on Society	6
7	Human Rights - Supplier Human Rights Assessment	6
8	Labor Practices and Decent Work - Supplier Assessment for Labor Practices	6
9	Environment - Supplier Environmental Assessment	6
10	Procurement	3
11	Policies	11
12	Stakeholders' engagement	4
13	Economic	6
TOTAL		69

USEFULNESS

The SSCMDi is expected to provide a new benchmark of a comprehensive SSCMDi which acts as a new point of reference, as a tool, and as a monitoring mechanism to measure the commitment of Malaysian public listed manufacturing companies in advancing sustainable development agenda specifically in realizing the SDG 12. Improvement in the Supplier's Code of Conduct, by the inclusion of supply chain management in sustainability reporting, and an ideal criterion of SSCMDi that should contribute towards the best practices of supply chain management.

COMMERCIALIZATION POTENTIAL

To Bursa Malaysia –measure the commitment of Malaysian public listed manufacturing companies in advancing sustainable development agenda specifically in realizing SDG 12.
To companies- identify the ideal criteria of SSCMDi that should contribute towards the best practices of supply chain management disclosures.

VALUE ADDED

Improve the content of sustainability reporting by integrating the supplier's code of conduct into the sustainable supply chain management disclosure practice.

ACKNOWLEDGEMENTS

This project is funded by the Malaysian Ministry of Higher Education [600-RMC/FRGS 5/3 (154/2022)].

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e ISBN 978-967-2948-56-8

