MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION
SURUHANJAYA KOMUNIKASI DAN MULTIMEDIA MALAYSIA

DIGITAL SOCIETY RESEARCH GRANT

2022, CYCLE 2   AUGUST 2022

APPLICATION GUIDELINE

DSRG
DIGITAL SOCIETY RESEARCH GRANT

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SECTION 1: ABOUT THE DIGITAL SOCIETY RESEARCH GRANT

1.1   Introduction

1.1.1. The Malaysian Communications and Multimedia Commission (MCMC) Digital Society Research Grant (DSRG) was conceived to contribute toward the enhancement of information resources that are necessary and in line with changing community expectations as we navigate the transition towards a sustainable digital civil society.

1.1.2. In meeting these aspirations, beyond the provisioning of infrastructure and communications services, there is a corresponding imperative that users possess the knowledge, skills and attitudes to harness the potential of digital media and communications effectively. Accordingly, digital media literacy has increasingly become a key competency in the twenty-first century for citizen and user participation across the economy and society. This requirement has become exceedingly clear in the wake of the pandemic, which has heightened our dependence on digital technologies.

1.1.3. An important consideration that underpins MCMC's initiatives has been to ensure that all Malaysians equally share the access and benefits of the Information Age. More than ever, coherent and intelligent insights are required to address inequitable opportunity, access, knowledge, and skill issues. The efforts must be directed at ensuring the readiness and resilience of communities as the nation strives to overcome the challenges wrought by a global pandemic.

1.1.4. The research outcomes should nonetheless align with National Policy Objectives to promote a civil society where information-based services will provide the basis of continuing enhancements to the quality of work and life post-pandemic even as we manage the realities of life today.

1.1.5. In addressing the research gaps, research outcomes aim to support the strategies and initiatives under the various ongoing National Plans. These include the Malaysia Digital Economy Blueprint (MyDIGITAL), the National 4th Industrial Revolution (4IR) Policy, the Twelfth Malaysia Plan (RMK-12) and the Malaysian Budget of 2022.

1.2   Objective

1.2.1. This grant aims to grow the evidence base necessary for the nation to optimise the advancements made in communications infrastructure and service deployment. This base will assist the

development of policy, programmes, and interventions to promote the inclusion and participation of all population segments as the nation transitions towards being a fully digitally connected and informed society.

1.3 Frequency

1.3.1. For 2022, two (2) cycles of Call for Proposals (CFP) were planned, where the first cycle was issued in Quarter 1 (Q1), 2022 and the second cycle is issued in Quarter 3 (Q3), 2022, respectively.

1.4 Research Focus Areas

1.4.1. The research proposals are guided by the following two (2) Focus Areas:

- Digital Citizenship & Cyberwellness (DCC): Aims to elicit research clarifying regulatory and developmental gap areas influencing participation, positive uptake and wellness in an increasingly digitally dependent world; and
- Digital Inclusion (DI): Seeks to clarify regulatory and developmental gaps in areas related to factors that impede equality of access and challenge the paradigm of ensuring that no one is left behind or is deprived of digital connectivity and its benefits.

Table 1 – Framework for DSRG Research Focus Areas

DSRG Research Focus Areas	
Digital Citizenship & Cyberwellness (DCC)	**Digital Inclusion (DI)**
1. Competencies and literacies 2. Risks and potential harm 3. User rights and protection 4. Awareness and self-regulation 5. Adoption 6. Interventions 7. Programme evaluation, assessment and impact 8. Policy and regulatory implications 9. Validation and improvement 10. Communication strategies	1. Empowering productive use of services for "at risk and excluded groups" 2. Access to health and assisted living services 3. Adoption 4. Interventions 5. Programme evaluation, assessment and impact 6. Policy and regulatory implications 7. Validation and improvement 8. Communication strategies

1.4.2. For DSRG 2022 Cycle 2, interested researchers are invited to submit project proposals on one of the ten (10) research titles below:

Table 2 - List of Guided Research within the Digital Citizenship and Cyberwellness (DCC) and Digital Inclusion (DI) Categories

No.	Code	Research Category and Gap/Developmental Area	Research Title
1.	DCC-1	Awareness and self-regulation in addressing the gap area of standard processes and procedures implemented related to communications and multimedia equipment compliance and usage among consumers.	*Public Awareness on MCMC Label for Communications Equipment*
2.	DCC-2	Risks and potential harm in addressing the gap area of public perception on 5G EMF effects on health.	*Public Perception on Electromagnetic Field (EMF) Emissions from 5G Radio Communication Infrastructure and Consumer Premise Equipment (CPE)*
3.	DCC-3	Competencies and literacies in addressing the gap area of Communications and Multimedia (C&M) sector competency building	*Micro-credential courses in facilitating capacity building in identified areas of Communications and Multimedia (C&M)*
4.	DCC-4a	Awareness and self-regulation in addressing the developmental area supporting e-Government services through the adoption of digital signatures amongst the Malaysian "Public and Governmental" Sector.	*Public and Governmental Sector Adoption of Digital Signature usage for e-Government initiatives*
5.	DCC-4b		*Medium Term Forecast on Digital Signature Market Demand and Supply – A study on the sufficiency of the existing number of Certification Authorities (CAs) for Digital Signature in Malaysia*
6.	DCC-4c		*Feasibility of a Government-owned Certification Authority (CA) to support Government services*
7.	DCC-5	Communication strategies in addressing the developmental area supporting e-Government services through Malaysian citizens' take-up of Malaysian Digital Identity.	*Public Awareness, Perception and Acceptance of Malaysia's National Digital Identity initiative.*
8.	DCC-6	Policy and regulatory implications in addressing the developmental area supporting the adoption of Sustainable Carbon Emissions and Footprints amongst identified online businesses, courier and logistic players.	*Identification of Carbon Footprint Contribution towards the Promotion of Responsible Consumption amongst identified Online Businesses*
9.	DI-1a	Adoption addressing the developmental area supporting e-Commerce services through the deployment of innovative courier services via MCMC's PEDis in East Malaysia.	*Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDi centres in Sarawak*
10.	DI-1b		*Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDi centres in Sabah*

1.4.3. The above research titles are categorised as Guided Research, where the predetermined Research Objectives (ROs) are to be achieved with researchers expected to propose a research design incorporating suitable theoretical or conceptual frameworks, development of research questions, research instruments and methodology.

1.4.4. For further information on gap area, targeted research subjects, research problem and context, and desired research aims and objectives, please refer to **Appendix 1.**

1.5 Duration of Project

1.5.1. The term of a project is up to nine (9) months, including six (6) months of research activities until the submission of the research report at the end of the sixth month. The flow of the six (6) month project period can be referred to in Figure 2 in Section 3.

1.5.2. All research must commence within two (2) weeks of the date of the signing of the Letter of Award (LOA) and stamping of the same. The project shall be completed according to the duration and deadlines stipulated in the LOA. Applicants shall indicate the project duration in the proposal, including each phase of work.

1.6 Grant Amount

1.6.1. The grant amount shall depend on the type and scope of the research project and subject to the guidelines herein and may be of a sum of up to Ringgit Malaysia ten thousand (RM10,000).

1.7 Matching Grant/Additional Fund

1.7.1 Researchers are allowed to source matching grants/additional funds from their universities or other funding bodies for the expenses not covered by DSRG or as additional funding for their projects.

SECTION 2: APPLICATION PROCESS AND PROCEDURES

2.1 Eligibility Criteria

2.1.1. The grant is open to a full-time academic faculty member in schools of communications, social sciences, humanities or related fields of private and public institutions of higher learning (IHLs). Each proposal must have a Lead Researcher, subjected to the general terms and conditions for granting.

2.1.2. The following rules apply to the applicant:

- Lead Researcher must hold a doctoral degree;
- Lead Researcher must hold an appointment with a local IHL for (at least) the duration of the proposed research project;
- The salary of the researcher(s) cannot be financed from this grant;
- The researcher(s) may request the grant on her/his behalf and behalf of any possible project consortium; and
- The researcher(s) is responsible for research and financial matters.

2.1.3. Researcher(s) can only submit one (1) proposal as the Lead Researcher within this call, and each researcher can act no more than twice as an applicant (as Lead Researcher or co-researcher).

2.1.4. The research team must be comprised of at least two (2) researchers (a Lead Researcher and a co-researcher). Researcher(s) in professions other than academia are allowed to be part of the research team to complement the expertise and with the expectation that the product of the research will contribute to the broader body of knowledge on the topic specified.

2.2 Research Proposal

2.2.1. Proposals must be submitted using the Proposal Submission Form, which includes the following sections:

- Abstract;
- Introduction;
- Problem Statement;
- Research Aims and Objectives;
- Literature Review and Bibliography;
- Conceptual/Theoretical Framework;
- Research Methodology;
- Budgetary requirements; and
- Project Timeline and Deliverables.

2.2.2. The form is available for download via this link [https://www.mcmc.gov.my/en/grants/2022-digital-society-research-grant-call-for-propo].

2.2.3. The research proposal must also consider and include a contingency plan for disruptions as a precaution to ensure that such risks are mitigated. Any requests for extension of project deadlines are discouraged, and all reasonable attempts must be made to preserve the timely completion of deliverables.

2.3 Expenditure Details

2.3.1. *Remuneration and allowances*
Only extends to wages and allowance for temporary and contract personnel who are directly engaged in the project. The period of employment and hourly/monthly rate for the research assistant(s) must be clearly stated and justified.

2.3.2. *Travel and Transportation*
Only travel expenses (domestic) directly related to the project are claimable.

2.3.3. *Rental*
Only rental expenses for building space, equipment, transportation and any other item(s) directly related to the project are claimable.

2.3.4. *Research materials and supplies*
Only extends to expenses for research materials and supplies directly related to the project such as books, magazines, computer software, photocopying, printing binding, filming, consumables (stationeries, etc.), charges from postage, telephone, fax and other expenses necessary to complete the project. The purchase of mobile phones is not claimable.

2.3.5. *University Management Fees*
Payment made to Lead Researcher's IHL to conduct this research (if required).

2.3.6. *Special Services*
Consultancy, translation, license for Grammarly[1], payment of research subjects, data gathering and processing costs are claimable.

2.3.7. *Proofreading and editorial services*
Payment made specifically for qualified proof-reading services for the research report and manuscript. This expenditure is not to be used as payment to research members.

2.3.8. *Conference*
Specifically, to defray conference costs for the Lead Researcher to acquire related knowledge on research or disseminate research findings. Limited to not more than 10% of the total grant amount, whichever is lower.

2.3.9. *Publication*
Specifically, to defray costs for publications in relevant academic, indexed and/or peer-reviewed journals. Limited to not more than RM2,000.

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[1] Please note that license from Grammarly is renewable on yearly basis. The disbursement from the grant can be only used for the license procured during the six (6) months of research activities.

2.4 Proposal Submission

2.4.1. The proposals may be submitted in English or Malay and shall be presented clearly and submitted together with the following:
- Proposal Submission Form – **both in pdf. and word.doc formats**;
- Curriculum vitae of the Lead Researcher and team member(s) involved;
- Certified true copies of highest academic certificates; and
- Other relevant materials to support the proposal.

2.4.2. The electronic copy of the proposal and other documents should be emailed to the Secretariat with '**DSRG 2/2022 SUBMISSION'** in the subject line and addressed to dsrg@mcmc.gov.my, **no later than 5:00 pm, Friday, 9 September 2022**.

2.4.3. An acknowledgement receipt will be sent once the Secretariat has received the proposal. Those who have submitted the proposals and NOT received an email confirmation within a week, should contact the Secretariat.

2.4.4. All applicants are advised to adhere to the stipulated requirements. Submissions that do not follow the criteria will risk being disqualified from consideration. **Submissions received after the deadline will not be considered.**

2.4.5. If required by the IHL, applicants can submit the proposals through the respective IHL's Research Management Centre (or equivalent department). The researchers are not required to submit directly to the Secretariat to avoid multiple submissions.

2.5 Evaluation of Proposals

2.5.1. The proposals will be evaluated by the DSRG Technical Panel based on open competition and merit, and taking into consideration the following criteria:

- *Quality*: Rationale and justification are presented coherently and logically within the research focus and key growth areas. Ethical considerations have also been identified and addressed;
- *Impact of research:* The research problem analysis identified an opportunity to contribute to the implementation or evolution of one or more MCMC policies or initiatives. The proposed study is also

potentially significant for offering new insights into the subject area and other relevant sectors;

- *Alignment to internal requirement:* The need and relevancy of the research in contributing towards departmental specific works and potentially provides valuable and relevant data for the knowledge base;

- *Suitability of applicant:* The degree to which the researchers have the experience, expertise, skills and knowledge in the proposed area of research and with the proposed methodology to accomplish the stated aims of the project; and

- *Feasibility:* The appropriateness of the proposed activities, methods, planned activities and resources to accomplish the project within the timeframe stated. The proposal also identifies the challenges in implementing the project and measures to overcome those challenges.

2.5.2. The Lead Researcher may be invited to present their proposal to the Technical Panel as part of the evaluation process.

2.6 Award/Rejection of Proposals

2.6.1. The various factors contributing to the poor suitability of submitted proposals include the following aspects:

- Researcher(s) do not understand MCMC's role and functions, thereby submitting proposals outside of MCMC's regulative scope or too remote in impacting key regulatory partners or stakeholders;

- The proposed research is based on the study of research questions with existing high research work and publications and does not provide new insights, value or new knowledge;

- Research scope may not be feasible given the grant amount and limited duration allowed for under the DSRG;

- Researchers' expertise does not match the research field of the proposal and/or lacks past research experience in the proposed area of study;

- The literature review and theoretical and/or conceptual frameworks underpinning a proposed study were not included; and

- Submissions were of non-research proposals, such as prototype or application development.

2.6.2. The Technical Panel reserves the right to consider any other factors it may deem relevant in the evaluation process. The Technical Panel

also reserves the right to reject proposals that do not meet the submission and evaluation criteria.

2.6.3. Successful applicants will be informed in writing. The Technical Panel may suggest changes to the proposals, including cost/funding, scope, and research timelines. The successful applicant must sign an LOA to indicate the acceptance of the grant and the terms and conditions thereof.

2.7   Submission, Evaluation and Award Process Timeframe

2.7.1. An overview of the DSRG 2022, Cycle 2 timeframe is as tabulated below:

Table 3 – DSRG 2022, Cycle 2 Timeframe

No.	Process	Tentative Date
1.	Issuance of Call for Proposal	10 August 2022
2.	Deadline for submissions	5:00 pm, 9 September 2022
3.	Information session with researchers	Third week of August 2022
4.	Evaluation process	Second week of September 2022 – Second week of October 2022
5.	Notification period	Third week of October 2022
6.	Execution of LOA	End of October 2022
7.	Project commencement	First week of November 2022

2.7.2. Figure 1 below shows the flowchart for the submission, evaluation and award process of DSRG.
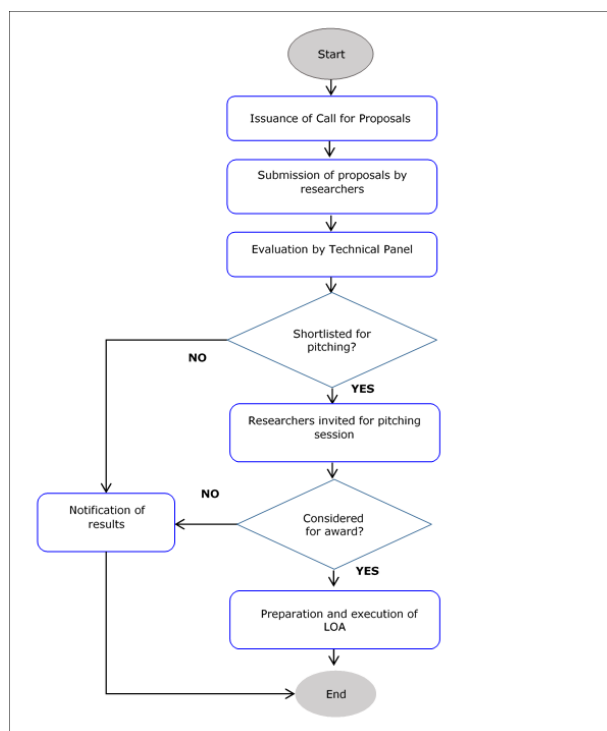
Figure 1- Process flow chart for submission, evaluation and award of DSRG

SECTION 3: PROJECT IMPLEMENTATION AND MONITORING

3.1 Disbursement of Funds

3.1.1. The grant will be disbursed according to the following schedule:

Table 4 – Grant disbursement schedule

No.	Disbursement phase	Description	Quantum (%)
1.	First disbursement	Upon proper execution and stamping of the LOA	50
2.	Second disbursement	Upon submission of the Interim Report, subject to the satisfaction of the Commission (*disbursement subject to Researcher's request*)	40
3.	Final disbursement	Upon submission of the Research Report and no later than one (1) month after the completion of research activities, subject to the satisfaction of the Commission (*disbursement subject to Researcher's request*)	10

3.2 Submission of Reports and Manuscript

3.2.1 Interim Report ("IR")

- The Lead Researcher is responsible for successfully implementing the project according to agreed timelines and for the timely

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submission of the IR. It is required for the IR to be submitted promptly (not more than seven days) upon achieving 50% of project completion;

- The IR is to be submitted together with the financial status update, as per the templates provided by the Secretariat; and
- The reports will be evaluated against the deliverables to determine whether the project is on track and whether the conditions for disbursement are met.

3.2.2 Research Report ("RR")

- The RR must be submitted within seven (7) days after research activities are completed (by the end of the 6th month) to the MCMC. The RR shall include (but is not limited to) the following:

  o Abstract;
  o Introduction;
  o Research Objectives ("ROs");
  o Literature Review;
  o Methodology;
  o Findings;
  o Direct outputs of the research;
  o Achievements based on the original ROs;
  o Implications and recommendations for regulatory and policy considerations; and
  o Recommendations for future research.

- The RR is to be submitted as per the templates provided by the Secretariat.

3.2.3 Manuscript[2]

- The manuscript will be published in MCMC's research publication known as Media Matters; and
- The manuscript is required to be submitted upon completion of research as per the template provided by the Secretariat.

3.2.4 Financial Report ("FR")

- The FR is to be submitted within three (3) months after the research completion date and submission of RR, with a verified financial statement from the IHL, as per the template provided by the Secretariat.

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[2] The manuscript is an abridged version of the Final Report which will be published as part of MCMC's Media Matters.

3.3   Dissemination of Findings

3.3.1 The MCMC may elect to publish and distribute all or portions of the research report and/or manuscript without restriction.

3.3.2 The researcher(s) will be invited to present their research findings at MCMC meetings/seminars/symposiums and may be invited to participate in media engagement activities arranged by MCMC as a spokesperson for the research project.

3.4   Project Completion Notification

3.4.1 An acknowledgement receipt of project completion will be sent to the Lead Researcher once the requirement for proper project closure and conditions such as satisfactory submissions of reports and financial statements are met.

3.5   Project Implementation and Monitoring Process Flow

3.5.1 An overview of the project implementation and monitoring process is provided in Figure 2 below:
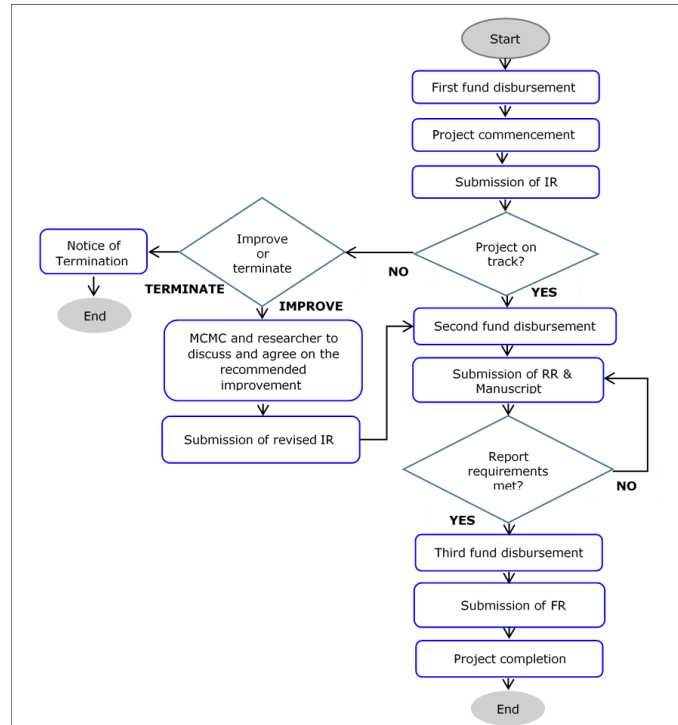

Figure 2 - Process flow chart for project implementation and monitoring

SECTION 4: INTELLECTUAL PROPERTY

4.1   Intellectual Property ("IP")

4.1.1 Ownership and management of IP, royalties and any other forms of fees received by the institution resulting from the findings or outputs of the research, such as licensing of the IP or any other forms of commercialisation, shall be governed in accordance with the agreed terms and conditions outlined in the LOA.

4.2   Publishing Rights

4.2.1 The MCMC is entitled to publish the research reports in any form deemed fit for education or knowledge transfer. Notwithstanding, the Lead Researcher is required to contribute through publishing and presenting research findings in local or international events/media, subject to the prior approval of the MCMC. Copies of all publications are to be submitted to the Secretariat.

4.2.2 The Lead Researcher shall denote and acknowledge the source of research funding and support for the project and the contribution of the various entities.

-End of the Document-

APPENDIX 1: DSRG 2022 RESEARCH TITLES

Table 1 - List of Guided Research within the Digital Citizenship and Cyberwellness (DCC) and Digital Inclusion (DI) Categories

No.	Code	Research Category and Gap/Developmental Area	Research Title
1.	DCC-1	<u>Awareness and self-regulation</u> in addressing the gap area of standard processes and procedures implemented related to communications and multimedia equipment compliance and usage among consumers.	*Public Awareness on MCMC Label for Communications Equipment*
2.	DCC-2	<u>Risks and potential harm</u> in addressing the gap area of public perception on 5G EMF effects on health.	*Public Perception on Electromagnetic Field (EMF) Emissions from 5G Radio Communication Infrastructure and Consumer Premise Equipment (CPE)*
3.	DCC-3	<u>Competencies and literacies</u> in addressing the gap area of Communications and Multimedia (C&M) sector competency building	*Micro-credential courses in facilitating capacity building in identified areas of Communications and Multimedia (C&M)*
4.	DCC-4a	<u>Awareness and self-regulation</u> in addressing the developmental area supporting e-Government services through the adoption of digital signatures amongst the Malaysian "Public and Governmental" Sector.	*Public and Governmental Sector Adoption of Digital Signature usage for e-Government initiatives*
5.	DCC-4b		*Medium Term Forecast on Digital Signature Market Demand and Supply – A study on the sufficiency of the existing number of Certification Authorities (CAs) for Digital Signature in Malaysia*
6.	DCC-4c		*Feasibility of a Government-owned Certification Authority (CA) to support Government services*
7.	DCC-5	<u>Communication strategies</u> in addressing the developmental area supporting e-Government services through Malaysian citizens' take-up of Malaysian Digital Identity.	*Public Awareness, Perception and Acceptance of Malaysia's National Digital Identity initiative.*
8.	DCC-6	<u>Policy and regulatory implications</u> in addressing the developmental area supporting the adoption of Sustainable Carbon Emissions and Footprints amongst identified online businesses, courier and logistic players.	*Identification of Carbon Footprint Contribution towards the Promotion of Responsible Consumption amongst identified Online Businesses*
9.	DI-1a	<u>Adoption</u> addressing the developmental area supporting e-Commerce services through the deployment of innovative courier services via MCMC's PEDis in East Malaysia.	*Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDi centres in Sarawak*
10.	DI-1b		*Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDi centres in Sabah*

Title, Category, Gap and Target Group

DCC 1 – Public Awareness on MCMC Label for Communications Equipment

A. Research Area: Public compliance to C&M technology standards
B. Focus Area: Awareness of Communications Equipment Label
C. Research Sponsor: Technology and Standards Division (Standards Development Department)

The research targets consumers and falls within the Guided Research Category and addresses the gap area of standard process and procedures implemented related to communications and multimedia equipment compliance and usage among consumers.

Research Problem/Context

All communications equipment shall be certified pursuant to Regulation 14, Communications and Multimedia (Technical Standards) Regulations 2000.

The MCMC label is the certification mark that indicates the communications equipment has been certified and is in compliance with the standards and legal requirements. The MCMC label can be in the form of a physical label (engraved, embossed or sticker) or a digital label for devices with a display.

Using communications equipment without the MCMC label may not be safe as it could come with a substandard charger, not in compliance with the safety requirements. Using such a device may cause electric shock and, worst case, fire. In addition, non-certified communications equipment may not be interoperable with local networks. It may also cause frequency interference which will affect the quality of the services or even the performance of other communications equipment. There are also possibilities that devices without an MCMC label could be counterfeit or cloned.

Unlawful use, possession or supply of uncertified communication devices is an offence in which, if convicted, a person shall be liable to a fine not exceeding RM300,000 or imprisonment for a term not exceeding three years or both.

Consumers are encouraged to verify the authenticity of the MCMC label by checking the certification status and details using the 'Check Your Label' (CYL) mobile application that can be downloaded from Google Play or Apple App Store. Alternatively, consumers can verify the certification status of the communications device via recce.mcmc.gov.my.

Launched in 2014, CYL is a campaign to create consumer awareness of the importance of purchasing communication devices with a valid MCMC label.

Research Aims

This research aims to elicit research proposals providing an understanding of the extent of knowledge on the importance of the MCMC labelled communications equipment. Also, to explore the awareness and effectiveness of the CYL campaigns

among the consumers. The findings will contribute to further improvement and enhancements to the existing CYL campaigns.

Research Objectives

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):

a. RO 1 – To gauge the public awareness and knowledge of the importance of the MCMC label for communication equipment;
b. RO 2 – To evaluate the effectiveness of CYL campaigns; and
c. RO 3 – To assess and provide recommendations for enhancing the effectiveness of the CYL program.

Title, Category, Gap and Target Group

DCC 2 – Public Perception on Electromagnetic Field (EMF) Emissions from 5G Radio Communication Infrastructure and Consumer Premise Equipment (CPE)

A. Research Area: Electromagnetic Field (EMF) Emission and Public Health
B. Focus Area: Public Perception on 5G EMF Effects on Health
C. Research Sponsor: Technology and Standards Division (Technology Development Department)

The research targets consumers and falls within the Guided Research Category and addresses the gap area of public perception on 5G EMF effects on health.

Research Problem/Context

In line with the goals of the MyDIGITAL Blueprint in the 12th Malaysia Plan, 5G will be a key driver of Malaysia's digital economy aspirations. Currently, the implementation of 5G alongside the expansion of 4G is being carried out throughout the country via the National Digital Network (JENDELA) plan. By 2025, it is targeted that Malaysians will be able to enjoy 100 Mbps speed by adopting 5G.

With the introduction of wireless communication technologies, there has been some public concern about the potential health risks associated with wireless communications, including using mobile phones and living near base stations.
According to a report by the World Health Organization (WHO) (2014), "A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use".

Other subsequent research also indicated that no new established causal relationships between EMF exposure and health risks had been identified.

Nonetheless, public concerns about EMF's safety and health implications continue to persist.

Research Aims

This research aims to elicit research proposals providing an understanding of the extent of public perception of the health effects of EMF given the active rollouts of 5G infrastructure and network deployment across the country.

Research Objectives

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):
a. RO 1 – To gauge the public perception on the health effects of EMF;
b. RO 2 – To identify the sources of EMF information referenced by the public;
c. RO 3 – To understand the extent of public understanding on the implications of the radio communication infrastructure and CPE present in their vicinity; and

d. RO 4 - To provide recommendations for building public trust on the safety of 5G radio communication infrastructure and CPE.

Title, Category, Gap and Target Group

> **DCC 3 – Micro-credential courses in facilitating capacity building in identified areas of Communications and Multimedia (C&M)**

A. Research Area: Communications and Multimedia (C&M) sector competency building
B. Research Focus Areas: Role of micro-credentials in supplementing C&M
C. Research Sponsor: MCMC Academy (Training Centre)

The research targets Institution of Higher Learnings (IHLs), students and working adults and falls within the Guided Research Category and addresses the gap area of Communications and Multimedia (C&M) sector competency building.

Research Problem/Context

In realising the aspiration for MCMC Academy to enhance its role in providing capacity and capability-building programmes to external stakeholders, starting in 2021, MCMC through MCMC Academy is actively seeking potential collaboration partners with Institution of Higher Learnings (IHLs) to develop micro-credential courses.

In general, this form of collaboration is a strategic necessity to ensure the quality and relevance of the programmes offered by IHLs aligned with the Government's initiatives to address the issue of shortage of skilled talents. Therefore, collaborations are expected to deliver highly-relevant programmes that help to develop qualified and professional graduates for the workforce.

At the same time, it supports MCMC's role in realising the national aspirations of the digital economy by providing qualifications and skills for economic recovery, particularly in addressing some of the effects of unemployment caused by COVID-19.

For this reason, MCMC has collaborated with local Universities such as Universiti Teknologi Malaysia (UTM), UCSI University, University Kuala Lumpur (UNIKL) and Multimedia University (MMU) to rapidly develop a suite of micro-credential courses (short courses) in the Communications and Multimedia Industry to allow workers to re-skill quickly, primarily to meet the demand for a highly trained and digitally savvy workforce.

Nonetheless, the expanding debate on micro-credentials revolves around their advantages and benefits. According to a 2020 Australian report[3], a three- or four-year degree may not be the currency required for many jobs and among the changing nature of workplaces due to the knowledge and skills that need to be updated constantly and quickly.

Research Aims

Orr (2018) stated in his study that micro-credentials enable individual re-skilling and may also provide better methods for making people's skill

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[3] The State of Queensland. (2020). Queesnland's Economic Recovery Plan. Queensland Treasury. https://www.covid19.qld.gov.au/__data/assets/pdf_file/0025/128194/economic-recovery-plan.pdf

profiles more visible, allowing both individuals and society to harness their talents and competencies fully.

Therefore, this study will provide a background analysis of MCMC about the micro-credentials programmes in Malaysia, including the development of micro-credential courses in the Communication and Multimedia industry.

The outcome of this study will assist MCMC's role in realising the national aspirations of the digital economy, MyDIGITAL Economy Blueprint, the National Fourth Industrial Revolution (4IR) Policy, as well as the RMK-12 and Malaysia 2022 Budget, namely in:

- establishing digital infrastructure as a public utility, thus enhancing connectivity
- building agile and competent digital talents and workforce
- accelerating technology adoption and innovation, and
- creating an inclusive digital society

Research Objectives

a. RO 1 - To understand the role of micro-credential programmes in complementing the capacity-building ecosystem;
b. RO 2 – To explore the available C&M-related micro-credential programmes offered by the local universities;
c. RO 3 - To canvass the availability and factors contributing to take ups and demand for micro-credential programmes in other countries;
d. RO 4 – To explore how micro-credentials could support employability in the C&M industry and forecast the potential number of working adults who would be interested in pursuing C&M-related micro-credentials;
e. RO 5 - To identify and recommend potential micro-credential programmes for the C&M industry; and
f. RO 6 - To understand the challenges faced by Malaysian Universities in developing and implementing micro-credential programmes (this includes challenges in e-learning technology, learning infrastructure, connectivity, investment, Malaysian Qualifications Authority (MQA) accreditation requirements, availability of skills and subject matter, etc.).

Title, Category, Gap and Target Group

DCC 4 – Awareness and Adoption of Digital Signature Usage in Malaysia

A. Research Area: Digital Signature
B. Research Focus Areas: Factors contributing to Digital Signature Awareness, Perception and Adoption vis-à-vis:
  i. DCC-4a: **"Public and Governmental" Sector Adoption of Digital Signature usage for E-Government initiatives**;
  ii. DCC-4b: **Medium Term Forecast on Digital Signature Market Demand and Supply – A study on the sufficiency of the existing number of Certification Authorities (CAs) for Digital Signature in Malaysia**; and
  iii. DCC-4c: **Feasibility of a Government-owned Certification Authority (CA) to support Government services**
C. Research Sponsor: Digital Ecosystem Development Division (Digital Transformation and Adoption Department)

Research under this category falls within the Guided Research Category and addresses the developmental area supporting e-Government services through the adoption of digital signatures amongst the Malaysian "Public and Governmental" Sector.

The following stakeholder groups are the target respondents:
  i. Public and Governmental Sector (eg. Government agencies, statutory bodies, Institutions of Higher Learning (IHLs), local authorities, etc.);
  ii. Digital Signature Certification Authorities; and
  iii. Digital Signature users (eg. members of the public, businesses, private entities, etc.)

Research Problem/Context

Growing digital usage in e-Commerce, e-Banking, e-Government services and other digital services are accompanied by varying requirements to ensure confidentiality, identity authentication, non-repudiation, and integrity of information. To this end, electronic and digital signatures have supported this changing and ubiquitous digital wave.

Though sometimes used interchangeably, in Malaysia, these two terms carry different meanings. While an electronic signature is a digitalised form of a handwritten signature, a "digital signature" is defined and subject to requirements of the Digital Signature Act 1997 (DSA 1997), which came into force on 1 October 1998. The DSA 1997 defines digital signatures as "a transformation of a message using an asymmetric cryptosystem such that a person having the initial message and the signer's public key can accurately determine whether the transformation was created using the private key that corresponds to the signer's public key and, whether the message had been altered since the transformation was made."

In supporting Malaysia's aspirations under the MyDIGITAL Blueprint to transform the country into a digitally-driven, high-income nation and regional leader in the

digital economy, MCMC is desirous of supporting further and more intensive take-up of digital signatures by the Government and Public sector.

Research Aims

This research aims to clarify the factors contributing to Digital Signature awareness, perception and adoption in support of e-Government initiatives. The findings will contribute to the further promotion and take-up of digital signature.

Research Objectives

DCC-4a: Public and Governmental Sector Adoption of Digital Signature usage for E-Government initiatives.

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):
a. RO 1 – To categorise the potential use cases of Digital Signatures relevant to identified Government and public sector users;
b. RO 2 – To determine the level of awareness amongst Government and public sectors on Digital Signatures;
c. RO 3 – To determine the level of Digital Signature, feasibility, planning, implementation, and impact of Digital Signature adoption of usage amongst Government and public sectors;
d. RO 4 – To identify the factors encouraging and hindering the take-up of Digital Signature by the Government and public sector; and
e. RO 5- To provide recommendations on measures to increase awareness and adoption of Digital Signature targeting identified Government and public sectors.

Research Objectives

DCC-4b: Medium Term Forecast on Digital Signature Market Demand and Supply – A study on the sufficiency of the existing number of Certification Authorities (CAs) for Digital Signature in Malaysia

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):
a. RO 1 – To identify the factors contributing to market demand for Digital Signatures in light of Malaysia's MyDIGITAL Blueprint, JENDELA initiatives and consumer take-up of digital services;
b. RO 2 – To forecast the Malaysian market demand of Digital Signatures in the medium term (3 to 5 years);
c. RO 3 – To identify the capacity of the existing four Certification Authorities (CAs) to meet current and forecasted medium-term demand; and
d. RO 4 – To provide recommendations on the ideal number and capacity of CAs to meet market demand for Digital Signatures; and
e. RO 5 - To propose a suitable "sweet spot" for retail and (possible wholesale) pricing for Digital Signatures.

Research Objectives

DCC-4c: Feasibility of a Government-owned Certification Authority (CA) to support Government services

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):

a. RO 1 – To prepare a risk-benefit analysis of the Government entering the Digital Signature market as a Certification Authority;

b. RO 2 – To identify the business model and scope of customer and services provided, ensuring the continued viability of existing CAs; and

c. RO 3 – To provide recommendations on the approaches and merits of the different possible models in which a Government CA could take shape.

Title, Category, Gap and Target Group

DCC 5 – Public Awareness, Perception and Acceptance of Malaysia's National Digital Identity initiative.

A. Research Area: Digital Ecosystem and National Identity
B. Research Focus Areas: Identification of Issues and Public perceptions contributing to adoption and use of the National Digital Identity
C. Research Sponsor: Digital Ecosystem Development Division (Digital Transformation and Adoption Department)

The research targets Malaysian Citizens and falls within the Guided Research Category and addresses the developmental area supporting e-Government services through Malaysian citizens' take-up of Malaysian Digital Identity.

Research Problem/Context

In supporting the growth of the digital economy across various service sectors such as public services, finance, e-commerce, e-wallet, e-health and others, the Malaysian Government is working towards implementing a Malaysian Digital Identity to complement the physical MyKad in use by Malaysian citizens.

To this end, a Public Consultation Report (PCR) on National Digital Identity (NDI) Framework for Malaysia was published in August 2020 *(Public-Consultation-Report_National_DI.pdf (mcmc.gov.my))*. Beyond canvassing user responses, the questions within the PCR pertaining to the public on the benefits of NDI could provide the basis for a more in-depth inquiry into the nuances and issues pertaining to public awareness, perception and acceptance of Malaysia's National Digital Identity initiative.

Research Aims

This research aims to clarify the factors contributing to heightened awareness and readiness by Malaysians to adopt and use the NDI as part of Malaysia's digital aspirations.

Research Objectives
Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):
a. RO 1 – To gauge the level of awareness and understanding amongst Malaysians on the NDI;
b. RO 2 – To identify the factors promoting and hindering the adoption of NDI amongst Malaysians;
c. RO 3 – To determine the level of readiness to take up and use NDI amongst Malaysians; and
d. RO 4 – To provide recommendations to promote awareness and adoption amongst specified user categories.

Title, Category, Gap and Target Group

DCC 6 – Identification of Carbon Footprint Contribution towards the Promotion of Responsible Consumption amongst identified Online Businesses

A. Research Area: E-Commerce Ecosystem and Carbon Contribution
B. Research Focus Areas: Identification of Elements contributing to Carbon Contribution and Measurement Matrix
C. Research Sponsor: Postal, Courier and E-Commerce Services Division (E-Commerce Department)

The research falls within the Guided Research Category, and addresses the developmental area supporting the adoption of Sustainable Carbon Emissions and Footprints amongst identified online businesses, courier and logistic players.

Research Problem/Context

The positive growth of e-Commerce has resulted in an accompanying need to ensure that sector players do not play a deleterious impact on the environment due to the searching, packaging, shipping, and returning items activities. (Escursell et al., 2021). Further, in a study conducted in Thailand, an additional contributor to waste production was repackaging (Prasertwit & Kanchanasuntorn, 2021). Collectively, these elements contribute to the carbon footprints of these E-Commerce players and could be reduced through improved resource utilisation and reduction of disposable waste by-products.

Further, a systemic categorisation and stock-take of the elements contributing to the carbon production of e-Commerce players would allow the sector to better identify areas of carbon saving to further reduce their respective carbon footprints.

Research Aims

This research aims to provide a baseline on the elements contributing to carbon production and emissions amongst identified participating organisations (i.e. e-Commerce, logistics and courier players).

Research Objectives

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):
a. RO 1 – To identify and categorise the elements and factors contributing to carbon production or savings;
b. RO 2 – To evaluate the consumption profiling from the participating organisations; and
c. RO 3 – To propose a measurement method and matrix suitable to measure carbon contribution for e-Commerce, logistics and courier players based on best practices and industry standards across other sectors and/or jurisdictions.

Title, Category, Gap and Target Group

> **DI 1 – Factors promoting and hindering the implementation of pick-up and drop-off (PUDO) services related to courier services deployed at _Pusat Ekonomi Digital Keluarga Malaysia_ (PEDi) in East Malaysia**

A. Research Area: National E-Commerce coverage and availability
B. Research Focus Areas: Expansion of e-Commerce services leveraging on community-based digital services and access network focusing on:
   i. DI 1a: **Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDis in Sarawak**; and
   ii. DI 1b: **Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDis in Sabah**
C. Research Sponsor: Postal, Courier and E-Commerce Services Division (E-Commerce Department)

The research falls within the Guided Research Category and addresses the developmental area supporting e-Commerce services by deploying innovative courier services via MCMC's PEDis in East Malaysia.

The following stakeholder groups are the target respondents:
   i. Courier service providers;
   ii. PEDI managers, members and the surrounding community; and
   iii. Potential business owners, sellers and individuals likely to utilize PUDO enabled facilities.

Research Problem/Context

The National Courier Accelerator Plan (PAKEJ) has set ambitious aspirations on improving the courier industry for both the Rakyat and Industry Players, with the following True North: Delivering Quality of Service and Seamless Coverage to all Malaysians sustainably to support the projected E-Commerce Industry growth from 7 parcels per capita to 30 parcels per capita by 2025.

Based on the total parcel volume for Quarter 1, 2022, both Sabah and Sarawak require intervention to increase the national parcels per capita, especially for the rural areas. A key initiative identified under this plan is the provision and availability of PUDO services at PEDis throughout the states of Sabah and Sarawak. It is envisaged that this will spur e-Commerce adoption and create a heightened demand for courier services in both markets.

Research Aims

This research aims to identify the factors promoting and hindering adoption and potential solutions for the courier service providers to effectively deploy pick-up and drop-off (PUDO) services at Pusat Ekonomi Digital Malaysia (PEDI) and recommend suitable PEDi for PUDO deployment in Sabah and Sarawak.

Research Objectives

DI 1a: Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDi centres in Sarawak

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):

a. RO 1 – To identify the factors contributing to the effective deployment of PUDO services at PEDi centres located in Sarawak by courier service providers;

b. RO 2 – To provide recommendations for the courier service providers to effectively deploy PUDO services at PEDi centres located in Sarawak; and

c. RO 3 – To identify and recommend suitable PEDi centres in Sarawak for courier service providers to deploy PUDO services.

Research Objectives

DI 1b: Factors promoting and hindering the implementation of PUDO services related to courier services deployed at PEDi centres in Sabah

Researchers are invited to submit proposals guided by the following overarching research objectives (ROs):

a. RO 1 – To identify the factors contributing to the effective deployment of PUDO services at PEDi centres located in Sabah by courier service providers;

b. RO 2 – To provide recommendations for the courier service providers to effectively deploy PUDO services at PEDi centres located in Sabah; and

c. RO 3 – To identify and recommend suitable PEDi centres in Sabah for courier service providers to deploy PUDO services.