



**Suruhanjaya Komunikasi dan Multimedia Malaysia**  
Malaysian Communications and Multimedia Commission

# DIGITAL SOCIETY RESEARCH GRANT

**CYCLE 2, AUGUST 2024**

# APPLICATION GUIDELINE

**DSRG**  
DIGITAL SOCIETY RESEARCH GRANT

***For enquiries, please contact:***

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📍 Secretariat

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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 enhancing necessary information resources and in line with changing community expectations as we navigate the transition towards a sustainable digital civil society.
- 1.1.2. Beyond the provisioning of infrastructure and communications services, it is imperative that users possess the knowledge, skills, and attitudes to harness the potential of digital media and communications effectively in meeting these aspirations. At its most basic element, users ought to be aware of the many opportunities that the digital age affords its users, from access to information, education, electronic services of all sorts, and the potential for socio-economic opportunities.
- 1.1.3. Accompanying these connectivity benefits is also the potential for risk, whether from fraudulent or criminal activities, online harm, cyberbullying, or predation. Thus, users must ensure that they build their resilience and understanding of these harms. Accordingly, digital media literacy has increasingly become a key competency for citizen and user participation across the digital economy and for society in the twenty-first century.
- 1.1.4. Moving up the value chain, another important aspect of knowledge, skills, and attitude is the new work competencies that need to be acquired. These may take the form of general work skills such as the sophistication to work in digital environments or alternatively to acquiring specialist technical knowledge for new work opportunities brought about by new services or technologies, which include 5G, AI, 5IR and the ongoing digitalisation of all industry verticals.
- 1.1.5. Thus, society's heightened dependence on digital technologies has made it necessary for us to continuously address awareness and literacy and acquire the new competencies necessary for the future of work. 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 Malaysia strives to keep abreast of global trends and ensure our continued competitiveness and resilience.

- 1.1.6. In addressing these concerns, we are guided by MCMC's 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.
- 1.1.7. In addressing the research gaps, research outcomes aim to support the strategies and initiatives under the various ongoing National Plans. These include the *Pelan Jalinan Digital Negara* (JENDELA), the Malaysia Digital Economy Blueprint (MyDIGITAL), the National 4th Industrial Revolution (4IR) Policy, the 12th Malaysia Plan (RMK-12), and the Malaysian Budget of 2024.

## **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 2024, two (2) Call for Proposals (CFP) cycles were planned, with the first cycle issued on 1 March 2024 and the second issued on 1 August 2024, respectively.

## **1.4 Research Focus Areas**

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

<b>DSRG Focus Areas</b>	
<p style="text-align: center;"><b>Focus Area 1</b> <b>Digital Citizenship and Cyberwellness (DCC)</b></p> <p style="text-align: center;"><b><u>Sub Focus Area 1</u></b></p> <ul style="list-style-type: none"> <li>i. Competencies and literacies</li> <li>ii. Risks and potential harm</li> <li>iii. User rights and protection</li> <li>iv. Consumer experience and protection</li> <li>v. Awareness and self-regulation</li> <li>vi. Adoption</li> <li>vii. Interventions</li> <li>viii. Programme evaluation, assessment, and impact</li> <li>ix. Policy and regulatory implications</li> <li>x. Validation and improvement</li> <li>xi. Communication strategies</li> </ul>	<p style="text-align: center;"><b>Focus Area 2</b> <b>Digital Inclusion (DI)</b></p> <p style="text-align: center;"><b><u>Sub Focus Area 2</u></b></p> <ul style="list-style-type: none"> <li>i. Empowering productive use of services for "at-risk and excluded groups"</li> <li>ii. Access to health and assisted living services</li> <li>iii. Adoption</li> <li>iv. Interventions</li> <li>v. Programme evaluation, assessment, and impact</li> <li>vi. Policy and regulatory implications</li> <li>vii. Validation and improvement</li> <li>viii. Communication strategies</li> </ul>

1.4.2. For DSRG 2024 Cycle 2, interested researchers are invited to submit project proposals on one of the seven (7) research titles below:

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

<b>No.</b>	<b>Code</b>	<b>Research Title</b>	<b>Research Category and Gap/Developmental Area</b>
1.	DCC-1	Study on the Value Propositions and Drivers for Initiatives under each Environmental, Social, and Governance Pillar within the Communications and Multimedia Industry	The research falls within the Guided Research Category of digital citizenship and cyberwellness. It aims to influence participation and positive take-up towards the adoption factors of Environmental, Social, and Governance (ESG) in the Communications and Multimedia (C&M) industry.
2.	DI-1	Impact Study on the Proficiency Certification Programmes for Cabling Providers	The research falls within the Guided Research Category. It addresses the digital inclusion gap in the validation and improvement of proficiency certification programmes for cabling providers.

No.	Code	Research Title	Research Category and Gap/Developmental Area
3.	DI-2	Study on 5G and Artificial Intelligence Adoption Challenges in Empowering the New Digital Economy	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to the market intelligence on 5G and Artificial Intelligence (AI) adoption and utilisation.
4.	DI-3	An Impact Analysis of MCMC's Broadband Wireless Access Internet Services for <i>Orang Asli</i> and Rural Communities	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to empowering the productive use of services for "at-risk and excluded groups."
5.	DI-4	A Study on the Viability of Digital Signature Ecosystem Interoperability through the Adoption of an Industry Common Standard Practice	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to the development of an industry common standard practice, ensuring the interoperability of the digital signature ecosystem.
6.	DI-5	Free-To-Air Channel: Uses, Motivation and Gratifications of Users in the Central Region of Peninsular Malaysia	The research falls within the Guided Research Category. It addresses the digital inclusion gap areas pertaining to the state of adoption of Free-To-Air (FTA) television platforms and channels amongst Malaysian users located throughout the Central Region of Peninsular Malaysia.
7.	DI-6	Study on the Accessibility of Television and Radio Services for Persons with Disabilities	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to Malaysian Persons with Disabilities (PWDs) access to broadcast services.

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. Please refer to **Appendix 1** for further information on the gap area, targeted research subjects, research problem and context, and desired research aims and objectives.

## **1.5 Duration of Project**

- 1.5.1. All research must commence within two (2) weeks of signing the Letter of Award (LOA) and stamping<sup>1</sup> the same.
- 1.5.2. The term of a project is up to nine (9) months, comprising six (6) months of research activities until the submission of the research report at the end of the sixth month and three (3) months of administrative closure.
- 1.5.3. 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 can 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 full-time academic faculty members in schools of communications, social sciences, humanities, or related fields of private and public Higher Educational Institutions (HEI). Each proposal must have a Lead Researcher, subject to the general terms and conditions for granting.
- 2.1.2. The following rules apply to the applicant:
  - i. Lead Researcher must hold a doctoral degree;

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<sup>1</sup> Stamping will be performed by MCMC.

- ii. Lead Researcher must have an appointment with a local HEI for (at least) the duration of the proposed research project;
  - iii. The salary of the researcher(s) cannot be financed from this grant;
  - iv. The researcher(s) may request the grant on her/his behalf and on behalf of any possible project consortium; and
  - v. 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).

## **2.2 Research Team**

- 2.1.1 The research team must comprise at least two (2) researchers (a Lead Researcher and a co-researcher).
- 2.1.2 Researcher(s) in professions other than academia are allowed to join the research team as co-researchers to complement the expertise and with the expectation that the research product will contribute to the broader body of knowledge on the topic specified.
- 2.1.3 The MCMC officers (including the research sponsors) cannot be included as co-researchers.

## **2.3 Research Proposal**

- 2.1.4 The DSRG proposal submission form is available for download on the MCMC website.
- 2.1.5 The research proposal must also consider and include a contingency plan for disruptions to mitigate such risks. Any requests for extension of project deadlines are discouraged, and all reasonable attempts must be made to preserve the timely completion of deliverables.

## 2.4 Expenditure Details

### 2.4.1. **Remuneration and Allowances**

The wages and allowance are only for temporary and contract personnel directly engaged in the project. The period of employment and hourly/monthly rate for the research assistant(s) must be clearly stated and justified.

### 2.4.2. **Travel and Transportation**

Only travel expenses (domestic) directly related to the project are claimable.

### 2.4.3. **Rental**

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

### 2.4.4. **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 assets and electronic gadgets, such as computers, tablets, phones, printers, etc., is not claimable.

### 2.4.5. **University Management Fees**

Payment made to Lead Researcher's HEI to conduct this research (if required).

### 2.4.6. **Special Services**

Translation, license for Grammarly<sup>2</sup>, incentives for data collection, data gathering, and processing costs are claimable.

### 2.4.7. **Proofreading and editorial services**

Payment made specifically for qualified proofreading services for the research report and project manuscript. This expenditure is not to be used as payment to research members or assistants.

### 2.4.8. **Conference**

Specifically, to defray conference costs for the Lead Researcher to acquire related knowledge on research or disseminate research findings.

### 2.4.9. **Publication**

Specifically, to defray costs for publications in relevant academic, indexed and/or peer-reviewed journals.

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<sup>2</sup> License from Grammarly is renewable on a yearly basis. The disbursement from the grant can be only used for the license procured during the first six (6) months of research activities.

## 2.5 Proposal Submission

- 2.5.1. The proposal(s) verified by the respective HEI Research Management Centres (RMCs) may be submitted in English or Malay and shall be presented clearly and submitted together with the following:
- i. Curriculum vitae of the Lead Researcher and team member(s) involved;
  - ii. Certified true copies of the highest academic certificates;
  - iii. A copy of the latest published research paper or article by the Lead Researcher; and
  - iv. Other relevant materials to support the proposal.
- 2.5.2. The electronic copy of the proposal and other documents should be emailed to the Secretariat with '**DSRG 2024/2 SUBMISSION**' in the subject line and addressed to [dsrg@mcmc.gov.my](mailto:dsrg@mcmc.gov.my) **no later than 5:00 pm, Friday, 30 August 2024.**
- 2.5.3. An acknowledgement receipt will be sent once the Secretariat has received the proposal. Those who have submitted the proposals and have NOT received an email confirmation within seven (7) working days should contact the Secretariat.
- 2.5.4. 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.**

## 2.6 Evaluation of Proposals

- 2.6.1. The proposals will be evaluated by the DSRG Technical Panel based on open competition and merit and taking into consideration the following criteria:
- i. **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;
  - ii. **Impact of research:** The research problem analysis identified an opportunity to contribute to implementing or evolving 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;

- iii. **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;
- iv. **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
- v. **Feasibility:** The appropriateness of the proposed activities, methods, planned activities, and resources to accomplish the project within the stated timeframe. The proposal also identifies the project's challenges and measures to overcome those challenges.

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

## 2.7 Award/Rejection of Proposals

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

- i. 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;
- ii. 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;
- iii. Research scope may not be feasible given the grant amount and limited duration allowed for under the DSRG;
- iv. Researchers' expertise does not match the research field of the proposal and/or lacks past research experience in the proposed area of study;
- v. The literature review and theoretical and/or conceptual frameworks underpinning a proposed study were not included; and
- vi. Submissions were of non-research proposals, such as the prototype or application development.

- 2.7.2. The Technical Panel reserves the right to consider any other factors it may deem relevant in the evaluation process and to reject proposals that do not meet the submission and evaluation criteria.
- 2.7.3. Successful applicants will be informed via email. The Technical Panel may suggest changes to the proposals, including cost/funding, scope, and research timelines. The successful applicant must sign the Letter of Award (LOA) and return it to the Secretariat to indicate acceptance of the grant and its terms and conditions.

## 2.8 Submission, Evaluation and Award Process Timeframe

- 2.8.1. An overview of the DSRG 2024, Cycle 2 timeframe is as tabulated below:

**Table 3 – DSRG 2024, Cycle 2 Timeframe**

No.	Process	Tentative Date*
i.	Issuance of Call for Proposal	1 August 2024
ii.	Deadline for submissions	5:00 pm, 30 August 2024
iii.	Information session with researchers	First week of August 2024
iv.	Evaluation process	First week of September 2024 to the second week of October 2024
v.	Notification period	Third week of October 2024
vi.	Execution of LOA	Fourth week of October 2024
vii.	Project commencement	First week of November 2024

*\*Timeline may be affected by public holidays*

- 2.8.2. Figure 1 below shows the flowchart for the submission, evaluation, and award process of DSRG.

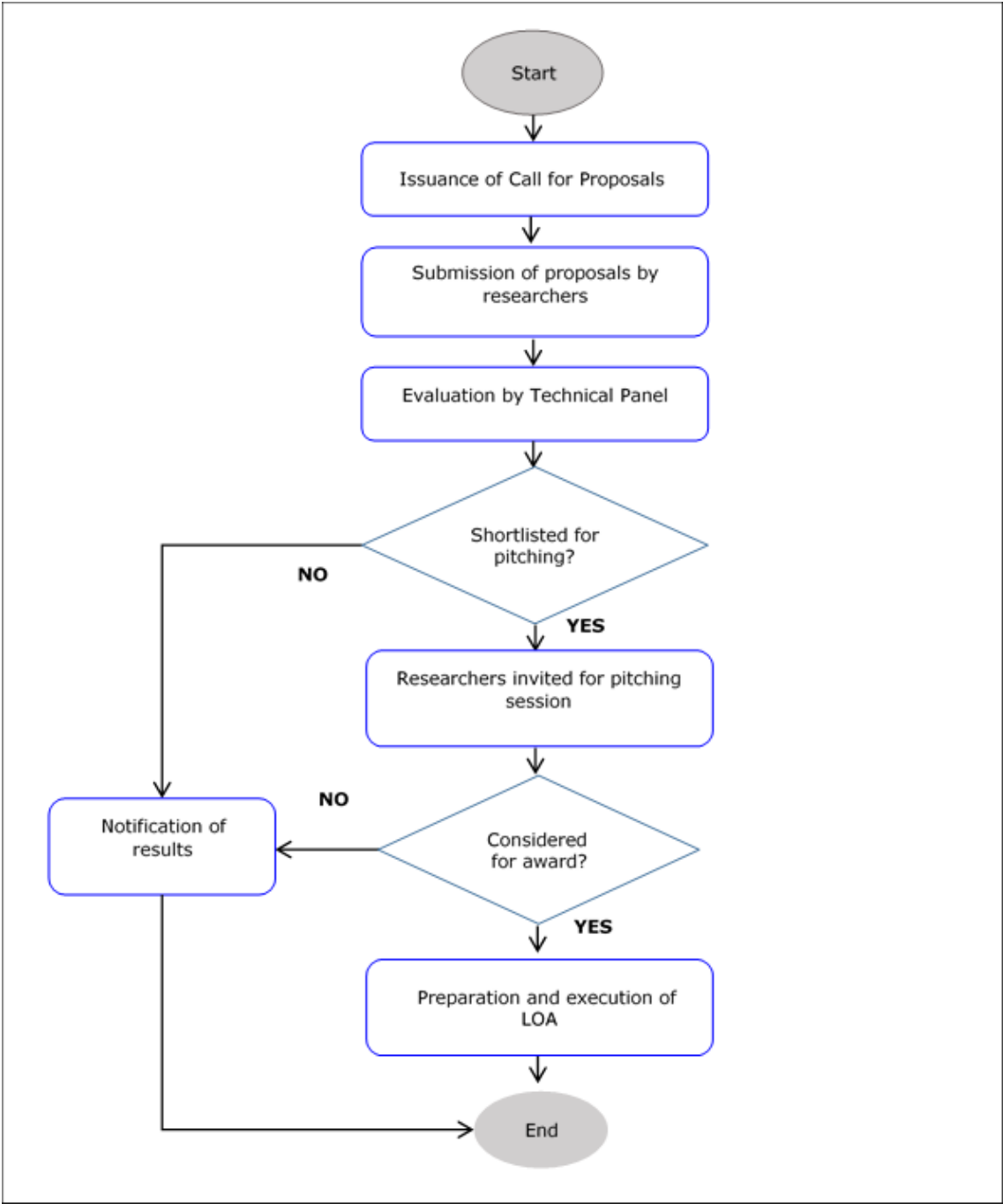


Figure 1 – Process Flow Chart for Submission, Evaluation and Award of DSRG

## **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**

<b>No.</b>	<b>Disbursement Phase</b>	<b>Description</b>	<b>Quantum (%)</b>
i.	First disbursement	Upon submission of the signed Letter of Award to the Commission <sup>3</sup>	50
ii.	Second disbursement	Upon submission of the verified Interim Report, subject to the satisfaction of the Commission <i>(disbursement subject to the Researcher's request)</i>	40
iii.	Final disbursement	Upon submission of the verified Research Report and no later than one (1) month after the completion of research activities, subject to the satisfaction of the Commission <i>(disbursement subject to the Researcher's request)</i>	10

### **3.2 Submission of Reports, Slides and Project Manuscript**

3.2.1. Interim Report (IR)

- i. The Lead Researcher is responsible for successfully implementing the project according to agreed timelines and for the timely submission of the IR. It is required for the IR to be submitted at the end of the 3rd month from the project commencement date and upon achieving 50 per cent of the project completion target;
- ii. The IR must be verified by the Lead Researcher HEI and submitted together with the financial status update as per the templates provided by the Secretariat; and
- iii. The reports will be evaluated against the deliverables to determine whether the project is on track and whether the conditions for disbursement are met.

<sup>3</sup> The signed Letter of Award will then be submitted to the Corporate Advisory Department, Malaysian Communications and Multimedia Commission for the stamping process.

### 3.2.2. Research Report (RR)

- i. The RR must be verified by the Lead Researcher HEI and submitted by the end of the 6th month from the project commencement date and upon achieving 100 per cent of the project completion target.
- ii. The RR shall include (but is not limited to) the following and per the template provided by the Secretariat:
  - Abstract;
  - Introduction;
  - Research Objectives (ROs);
  - Literature Review;
  - Methodology;
  - Findings;
  - Direct outputs of the research;
  - Achievements based on the original ROs;
  - Implications and recommendations for regulatory and policy considerations; and
  - Recommendations for future research.
- iii. The updated and finalised RR based on the feedback and comments provided must be submitted within the 8th month of the project commencement date.

### 3.2.3. Presentation Slides

- i. The updated presentation slides based on the final RR must be submitted within the 8th month from the project commencement date.

### 3.2.4. Project Manuscript<sup>4</sup>

- i. The project manuscript will be published in MCMC's research publication known as Media Matters;
- ii. The project manuscript is required to be submitted as per the templates provided by the Secretariat after the RR is approved;
- iii. Researchers who have conducted the research and submitted the reports in Malay shall translate and submit the project manuscript in English.

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<sup>4</sup> The project manuscript is an abridged version of the Final Research Report which will be published as part of MCMC's Media Matters.

### 3.2.5. Financial Report (FR)

- i. The FR is to be submitted by the end of the 9th month from the project commencement date, as per the templates provided by the Secretariat and supported with a verified financial statement from the HEI.

## 3.3 Dissemination of Findings

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

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

3.3.3. The researcher(s) may publish the "spin-off" version of the research findings in peer-reviewed journals. The researcher(s) shall ensure the following statement of acknowledgement is clearly stated in the publication report:

***"This Project is funded by the Malaysian Communications and Multimedia Commission through the Digital Society Research Grant"***

3.3.4. The researcher shall submit a written notification to the Secretariat before the publication.

## 3.4 Project Closure Notification

3.4.1. An acknowledgement receipt of project closure 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:

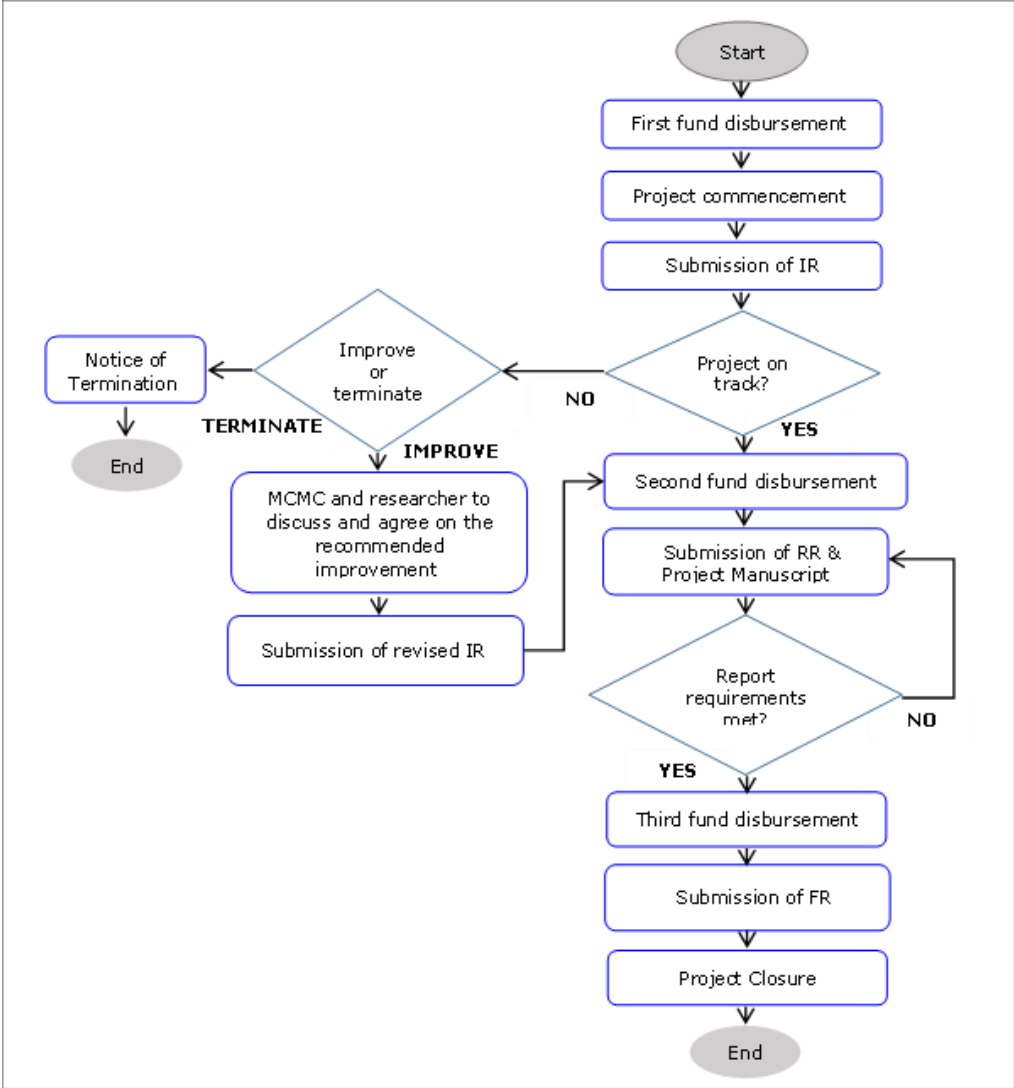


Figure 2 - Process Flow Chart for Project Implementation and Monitoring

## **SECTION 4: INTELLECTUAL PROPERTY**

### **4.1 Intellectual Property (IP)**

- 4.1.1. Ownership and management of IP, royalties, and any other 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 per 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 and proof of participation, i.e. presentation slides, write-up, event agenda, etc. 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 2024 CYCLE 2 RESEARCH TITLES**

## **Framework for DSRG Focus Areas**

### **FOCUS AREA 1: DIGITAL CITIZENSHIP AND CYBERWELLNESS (DCC)**

#### **Sub Focus Area 1:**

- i. Competencies and literacies
- ii. Risks and potential harm
- iii. User rights and protection
- iv. Consumer experience and protection
- v. Awareness and self-regulation
- vi. Adoption
- vii. Interventions
- viii. Programme evaluation, assessment, and impact
- ix. Policy and regulatory implications
- x. Validation and improvement
- xi. Communication strategies

### **FOCUS AREA 2: DIGITAL INCLUSION (DI)**

#### **Sub Focus Area 2:**

- i. Empowering productive use of services for "at-risk and excluded groups"
- ii. Access to health and assisted living services
- iii. Adoption
- iv. Interventions
- v. Programme evaluation, assessment, and impact
- vi. Policy and regulatory implications
- vii. Validation and improvement
- viii. Communication strategies

**List of Guided Research within the Digital Citizenship and Cyberwellness (DCC) and Digital Inclusion (DI) Category**

<b>No.</b>	<b>Code</b>	<b>Research Title</b>	<b>Research Category and Gap/Developmental Area</b>	<b>Page</b>
1.	DCC-1	Study on the Value Propositions and Drivers for Initiatives under each Environmental, Social, and Governance Pillar within the Communications and Multimedia Industry	The research falls within the Guided Research Category of digital citizenship and cyberwellness. It aims to influence participation and positive take up towards the adoption factors of Environmental, Social, and Governance (ESG) in the Communications and Multimedia (C&M) industry.	21
2.	DI-1	Impact Study on the Proficiency Certification Programmes for Cabling Providers	The research falls within the Guided Research Category. It addresses the digital inclusion gap in the validation and improvement of proficiency certification programmes for cabling providers.	24
3.	DI-2	Study on 5G and Artificial Intelligence Adoption Challenges in Empowering the New Digital Economy	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to the market intelligence on 5G and Artificial Intelligence (AI) adoption and utilisation.	27
4.	DI-3	An Impact Analysis of MCMC's Broadband Wireless Access Internet Services for Orang Asli and Rural Communities	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to empowering the productive use of services for "at-risk and excluded groups."	30
5.	DI-4	A Study on the Viability of Digital Signature Ecosystem Interoperability through the Adoption of an Industry Common Standard Practice	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to the development of an industry common standard practice, ensuring the interoperability of the digital signature ecosystem.	32
6.	DI-5	Free-To-Air Channel: Uses, Motivation and Gratifications of Users in the Central Region of Peninsular Malaysia	The research falls within the Guided Research Category. It addresses the digital inclusion gap areas pertaining to the state of adoption of Free-To-Air (FTA) television platforms and channels amongst Malaysian users located throughout the Central Region of Peninsular Malaysia.	35
7.	DI-6	Study on the Accessibility of Television and Radio Services for Persons with Disabilities	The research falls within the Guided Research Category. It addresses the digital inclusion gap related to Malaysian Persons with Disabilities (PWDs) access to broadcast services.	38

**DCC-1 – Study on the Value Propositions and Drivers for Initiatives under each Environmental, Social, and Governance Pillar within the Communications and Multimedia Industry**

- A. Research Field: Malaysian Communications and Multimedia (C&M) industry Environmental, Social, and Governance (ESG) adoption.
- B. Research Focus: C&M Industry ESG Pillars Value Propositions and Drivers.
- C. Research Sponsor: Sustainability Department.
- D. Contact person for queries on this research:
  - i. Ms. Syafawati Abdul Hamid, Director II, Sustainability Department, [syafawati.abdhamid@mcmc.gov.my](mailto:syafawati.abdhamid@mcmc.gov.my)
- E. The research falls within the Guided Research Category of digital citizenship and cyberwellness. It aims to influence participation and positive take up towards the adoption factors of ESG in the C&M industry.
- F. The research targets the following groups:
  - i. Malaysian Communications and Multimedia Commission (MCMC) Licensees – Network Facilities Providers (NFPs) and Network Service Providers (NSPs) comprising Telco providers;
  - ii. Malaysian Communications and Multimedia Commission (MCMC) Licensees – Content Application Service Providers (CASPs) comprising Broadcasters; and
  - iii. Postal and Courier providers ('Universal' and 'Non-Universal' License Holders).

## **Research Problem/Context**

As global awareness of ESG intensifies and regulatory pressures increase, businesses are compelled to integrate sustainability into their operations. In the Malaysian context, only Public Listed Companies are subject to Bursa Malaysia<sup>5</sup> and the Security Commission<sup>6</sup> sustainability and corporate governance requirements. Nevertheless, some organisations may sometimes not see the value in pursuing ESG initiatives as their focus is mainly on financial performance.

Therefore, it is crucial to carry out a study on the value propositions and value drivers across the different ESG Pillars to showcase the importance of sustainability initiatives. Without a comprehensive understanding of how sustainability impacts value creation, organisations miss opportunities for innovation, competitive advantage, and long-term viability.

This study explores the intricate interplay between value propositions, drivers, and sustainability practices in strategic decision-making and fostering sustainable business models. The diversity of the C&M industry provides distinct value propositions and value drivers to fulfil the implementation of sustainability initiatives within their respective organisations.

## **Research Aims**

The research aims to provide how ESG initiatives create value across the different C&M industry sectors (including Telcos, Broadcasters, and Postal and Courier providers).

Insights sought include:

- i. The identification of the value propositions that sustainability initiatives offer to the C&M industry and how they are measured;
- ii. An analysis of the value drivers that enhance the effectiveness of organisational sustainability practices;
- iii. An understanding of how sustainability initiatives impact the overall business performance in terms of financial, operation and market competitiveness;
- iv. An exploration of the synergies between profitability and sustainability; and
- v. Identify industry practices in adopting sustainability value propositions and value drivers in strategic decision-making.

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<sup>5</sup> Bursa Malaysia, 2015, Sustainability Reporting Guide, accessed on 2 July 2024 at <[https://www.bursamalaysia.com/sites/5bb54be15f36ca0af339077a/content\\_entry5ce3b5005b711a1764454c1a/5ce3c83239fba2627b286508/files/bursa\\_malaysia\\_sustainability\\_reporting\\_guide-final.pdf?1570701456](https://www.bursamalaysia.com/sites/5bb54be15f36ca0af339077a/content_entry5ce3b5005b711a1764454c1a/5ce3c83239fba2627b286508/files/bursa_malaysia_sustainability_reporting_guide-final.pdf?1570701456)>

<sup>6</sup> Security Commission, 2021, Malaysian Code on Corporate Governance, accessed on 2 July 2024 at <<https://www.sc.com.my/api/documentms/download.ashx?id=239e5ea1-a258-4db8-a9e2-41c215bdb776>>

## **Research Objectives**

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

- i. RO 1 – **To identify the value propositions** on sustainability practices in the C&M industry;
- ii. RO 2 - **To determine the key value drivers** that enhance the effectiveness and impact of ESG initiatives in the C&M industry; and
- iii. RO 3 – **To conduct a comparative analysis** of the adopted value propositions and value drivers for ESG initiatives in the C&M industry:
  - a. RQ 1 – To identify how these value propositions align with their respective organisational strategic objectives.
  - b. RQ 2 – To analyse the drivers that influence the adoption, implementation and effectiveness of sustainability initiatives.
  - c. RQ 3 – To determine the impact of sustainability initiatives on financial, operational and market competitiveness.

**DI-1 – Impact Study on the Proficiency Certification Programmes for Cabling Providers**

- A. Research Field: Malaysian Communications and Multimedia (C&M) industry-designated skills proficiency standards.
- B. Research Focus: Adequacy and potential development of proficiency certification programmes for cabling providers.
- C. Research Sponsor: Standards Planning Department, Technology and Standards Division.
- D. Contact person for queries on this research:
- i. Ms. Siti Nur Zulikasahiera Rahim, Deputy Director, Standards Planning Department, [zulikasahiera.rahim@mcmc.gov.my](mailto:zulikasahiera.rahim@mcmc.gov.my)
- E. The research falls within the Guided Research Category. It addresses the digital inclusion gap in the validation and improvement of proficiency certification programmes for cabling providers.
- F. The research targets respondents from the following identified groups:
- i. TM Tech, the registered certifying agency providing proficiency certification programmes
  - ii. Cabling contractors
  - iii. Malaysian Communications and Multimedia Commission (MCMC) Licensees:
    - a. Network Facilities Providers (NFPs)
    - b. Network Service Providers (NSPs)
  - iv. Key stakeholders including:
    - a. Construction Industry Development Board (CIDB)
    - b. The Institution of Engineers Malaysia (IEM)
    - c. Developers (Real Estate & Housing Developers' Association, REHDA)
    - d. Local Government Department
    - e. Local Authorities

## **Research Problem/Context**

Pursuant to section 186 of the Communications and Multimedia Act 1998 (CMA 1998), MCMC may register certifying agencies (CAs) for the purpose of certifying compliance with codes or standards. The registration of CAs is made in accordance with Part II of the Communications and Multimedia (Technical Standards) Regulations 2000 (TSR 2000).

Under Regulation 8 in Part II of the TSR 2000, a CA registered with MCMC can apply to register categories for communications equipment and designated skill areas (proficiency). In the categories of designated skill areas (proficiency), there are several subcategories such as radio operator (General Operator's Certificate and Radio Operator's Certificate) and cabling provider (copper pair, fiber optic pair and cabling network design for customer's premises and copper pair, fiber optic pair and cabling network design for network).

Telekom Malaysia Berhad has been appointed as a CA for certifying cabling providers since 15 July 2002, and it is currently the single entity for certifying them. The function is taken over by TM Technology Services Sdn. Bhd. (TM Tech) on 4 April 2023 due to their organisational restructuring.

The registration authorises TM Tech to conduct certification programmes for cabling providers in accordance with the provisions under Part IV of the TSR 2000 for six (6) categories below:

- i. Cabling Providers - Customer's Premises:
  - a. 1A copper pair – installation, jointing, testing and maintenance.
  - b. 1C fiber optic – installation, jointing, testing and maintenance.
  - c. 1D cabling network design.
- ii. Cabling Providers – Network:
  - a. 2A copper pair – aerial and underground installation, jointing, testing and maintenance.
  - b. 2C fiber optic – aerial and underground installation, jointing, testing and maintenance.
  - c. 2D cabling network design.

The register of certified persons for cabling providers can be found in the ReCPro ([MCMC ReCPro](#)).

MCMC believes it is timely to assess and review the compliance of industry cabling providers with the regulations and identify the continued relevance, completeness, and areas for improvement of the certification of cabling operators in view of emerging technologies such as 6G and non-geostationary satellite orbits (NGSO) systems.

## **Research Aims**

The research aims to provide validation and impact data on the provision of designated skills under the TSR 2000 to the C&M industry. Ultimately, these will provide inputs to ensure the programme's adequacy and relevancy, contributing to better take-up and compliance among the key stakeholders (NFPs, NSPs, cabling contractors) and identifying the gaps and key areas for improvement.

## **Research Objectives**

Researchers are invited to submit proposals guided by the following overarching Research Objectives (ROs) (Researchers are to develop and propose suitable Research Questions (RQs) supporting each RO):

- i. RO1 – **To determine the adequacy and relevancy of the proficiency certification programme** for cabling providers in view of the latest technological advancements and industry practices and requirements;
- ii. RO2 – **To evaluate the take-up and compliance** of network facilities providers (NFPs), network services providers (NSPs), and cabling contractors **with the proficiency certification requirements** for cabling providers;
- iii. RO3 – **To determine the adequacy of the number of certified cabling providers** to meet the demand of the industry; and
- iv. RO4 – **To identify the gaps and key areas for improvement** in the proficiency certification programme for cabling providers.

**DI-2 – Study on 5G and Artificial Intelligence Adoption Challenges in Empowering the New Digital Economy**

- A. Research Field: Malaysian Communications and Multimedia (C&M) industry technology and digitalisation adoption and impact.
- B. Research Focus: C&M Industry 5G and Artificial Intelligence (AI) adoption challenges.
- C. Research Sponsor: Market Intelligence Department, Industry Research and Data Analytics Division.
- D. Contact persons for queries on this research:
  - i. Mr. Nor Faiz Ramli, Deputy Director, Market Intelligence Department, [norfaiz.razali@mcmc.gov.my](mailto:norfaiz.razali@mcmc.gov.my)
  - ii. Ms. Nur Syahirah Ramlee, Assistant Director, Market Intelligence Department, [nursyahirah.ramlee@mcmc.gov.my](mailto:nursyahirah.ramlee@mcmc.gov.my)
- E. The research falls within the Guided Research Category. It addresses the digital inclusion gap related to the market intelligence on 5G and AI adoption and utilisation.
- F. The research targets respondents from the following identified groups:
  - i. 5G and AI providers:
    - a. Malaysian Communications and Multimedia Commission (MCMC) Licensees – Network Facilities Providers (NFPs) and Network Service Providers (NSPs) providing 5G services and AI solutions.
    - b. Other AI solutions providers.
  - ii. 5G and AI users:
    - a. Other sector verticals 5G private network users.
    - b. Other sector verticals 5G and AI users.

## **Research Problem/Context**

Currently, as of February Malaysia's 5G uptake and coverage stood at 36 per cent and 80.3 per cent<sup>7</sup> respectively. 5G's availability of faster speeds, capacity, and low latency is expected to usher in game-changing use cases in different verticals, including education, entertainment, healthcare, manufacturing, transportation, agriculture, and more.

The interplay between 5G and AI is expected to bring about further benefits by enabling AI systems to process large datasets in real time, enabling faster decision-making and more responsive applications<sup>8</sup>. It has been proposed that 5G and AI are symbiotic in that "5G supports AI, AI supports 5G. From smart manufacturing to sports and entertainment, the opportunities seem limitless".<sup>9</sup>

Whilst the interplay between 5G and AI offers revolutionary potential, their rapid adoption presents challenges such as job displacement in sectors like manufacturing and healthcare, increasing inequality and social unrest. Additionally, AI raises ethical concerns, including data privacy violations and algorithmic biases, which have been further intensified by recent advancements in generative AI. Cisco's AI Readiness Index<sup>10</sup> shows that businesses struggle with data privacy, security, and effective AI use. The research will explore these challenges in Malaysia, focusing on privacy and security concerns, job displacement, and the digital divide.

**Privacy and Security Concerns:** As Malaysia rapidly adopts digital technologies, the risk of data breaches and cyber-attacks increases. This research will investigate the extent of these privacy and security issues, their impact on individuals and businesses, and the effectiveness of current regulations and measures in place to protect sensitive information.

**Job Displacement:** The rise of automation and digital platforms is transforming the job market, potentially displacing workers in traditional sectors. This study will analyse the sectors most affected by digital transformation, assess the current and future impact on employment, and evaluate the adequacy of retraining and upskilling programs available to the workforce.

**Digital Divide:** Despite the widespread adoption of digital technologies, there remains a significant gap between those who have access to digital resources and

<sup>7</sup> Bernama, 26 April 2024, Malaysia's 5G Adoption Rate Almost 36 Pct, Coverage 80.3 Pct – Fahmi, accessed on 1 July 2024 at <<https://www.bernama.com/en/news.php?id=2291688>>

<sup>8</sup> MRL, 31 July 2023, How AI and 5G will power the next wave of Innovation, accessed on 1 July 2024 at <<https://www.mrlcg.com/resources/blog/how-ai-and-5g-will-power-the-next-wave-of-innovation/>>

<sup>9</sup> Joe McKendrick, 29 November 2023, 8 ways AI and 5G are pushing the boundaries of Innovation together, ZDNet, accessed on 1 July 2024 at <<https://www.zdnet.com/article/8-ways-ai-and-5g-are-pushing-the-boundaries-of-innovation-together/>>

<sup>10</sup> Cisco, 2023, Cisco AI Readiness Index: Intentions Outpacing Abilities, accessed on 1 July 2024 at <[https://www.cisco.com/c/m/en\\_us/solutions/ai/readiness-index.html](https://www.cisco.com/c/m/en_us/solutions/ai/readiness-index.html)>

those who do not. This research will examine the extent of the digital divide in Malaysia, identifying the demographics most affected, the barriers to digital access, and the effectiveness of government and private sector initiatives aimed at bridging this gap.

By addressing these challenges, this research seeks to provide a comprehensive understanding of the challenges of the digital economy in Malaysia and propose strategic solutions to mitigate these issues, ensuring a more inclusive and secure digital future for Malaysians.

### **Research Aims**

The research aims to provide market intelligence to identify the challenges in 5G and AI towards empowering a new digital economy. Ultimately, these will provide inputs to spur the nascent uptake of 5G and AI.

### **Research Objectives**

Researchers are invited to submit proposals guided by the following overarching Research Objectives (ROs) (Researchers are to develop and propose suitable Research Questions (RQs) supporting each RO):

- i. RO1 – **To determine the symbiosis between 5G and AI** and determine its impact on the New Digital Economy;
- ii. RO2 – **To investigate the associated challenges which affect the take up of 5G and AI**, addressing the following areas:
  - a. To identify actual and potential **privacy and security concerns**.
  - b. To analyse actual and potential **job displacements** due to digital transformation.
  - c. To address the digital divide by understanding the **factors for the low take-up of 5G and AI**.
- iii. RO3 – **To recommend areas of improvement** to realise the potential benefits of 5G and AI adoption.

**DI-3 – An Impact Analysis of MCMC’s Broadband Wireless Access Internet Services for *Orang Asli* and Rural Communities**

- A. Research Field: Malaysian Communications and Multimedia (C&M) industry infrastructure planning and coordination.
- B. Research Focus: Rural Broadband Wireless Access (BWA) internet service deployment and community impact.
- C. Research Sponsor: State Planning and Coordination Department, State Coordination Division.
- D. Contact person for queries on this research:
  - i. Ms. Nurulbaiti Ramli, Assistant Director, State Planning and Coordination, [nurul@mcmc.gov.my](mailto:nurul@mcmc.gov.my)
- E. The research falls within the Guided Research Category. It addresses the digital inclusion gap related to empowering the productive use of services for "at-risk and excluded groups."
- F. The research targets respondents living in communities with limited access to basic connectivity comprising:
  - i. Communities in *Orang Asli* villages (*Perkampungan Orang Asli*) and in rural areas in Peninsular Malaysia where BWA services have been provisioned.

**Research Problem/Context**

The Commission has implemented BWA via its Satellite Connectivity initiative as part of MCMC’s efforts to ensure Internet broadband access to underserved and vulnerable groups in rural and remote areas.

The Satellite Connectivity initiative is an interim measure and serves as an expedient solution for connectivity issues in remote areas with challenging geographical terrain. Given the consideration of population density and geographical terrain, completing permanent solutions for the provisioning of public cellular services and mobile broadband in such areas will take considerable time.

Under this project, 839 locations have been identified nationwide, covering remote locations in Johor, Kelantan, Negeri Sembilan, Pahang, Perak, Selangor, Sabah, and Sarawak. The locations comprise *Orang Asli* settlements in the Peninsular and remote *Orang Asli* communities throughout Sabah and Sarawak.

The provisioning of broadband access services to these Indigenous communities is a means of ensuring collective access through the setting up of public WiFi hotspots proportionate to the population and distribution at each location. End users in each location will enjoy free WiFi at an average speed of 35 Mbps, which will highly benefit the community. This supports the national agenda of closing the digital divide and ensuring digital inclusion for all Malaysians.

The current generation of Generation Z (Gen Z or Zoomers), born between the mid-1990s and the mid-2010s, is often said to comprise digital natives who are IT savvy and highly connected online and thus highly suited to prospering in a 4th IR environment. However, this generalisation does not necessarily apply to indigenous communities located in remote locations throughout the country.

Due to their remoteness, the *Orang Asli* community can lag behind those in urban and suburban areas. This is especially true in the areas of educational, and socio-economic opportunities and growth. It is important to ensure that these disparities are addressed and that rural communities can participate productively and overcome the many challenges they face.

### **Research Aims**

The research aims to assess the impact of BWA Internet service towards vulnerable communities' social and behavioural changes, economic uplifting and well-being. The research seeks to provide clarity on rural communities' satisfaction, perception, and experience in utilising BWA services. The study also provides foresight to the Commission by exploring users' expectations and technological appetite towards upcoming broadband technologies which may be deployed in rural areas to further ensure digital inclusion for all Malaysians.

### **Research Objectives**

Researchers are invited to submit proposals guided by the following overarching Research Objectives (ROs) (Researchers are to develop and propose suitable Research Questions (RQs) supporting each RO):

- i. RO 1 – **To measure *Orang Asli* / Rural Communities' satisfaction** with BWA Internet services **and** their **preference** towards other possible **service options**;
- ii. RO 2 – **To investigate *Orang Asli* / Rural Communities' readiness to participate in various digital services and applications**, including their maturity level in digital literacy, through the implementation of the BWA Project; and
- iii. RO 3 – **To assess the impact of BWA Internet service** on communities' social and behavioural changes, economic uplifting, and well-being.

**DI-4 – A Study on the Viability of Digital Signature Ecosystem Interoperability through the Adoption of an Industry Common Standard Practice**

- A. Research Field: Public Sector Digitalisation and Standards Adoption.
- B. Research Focus: Digital Signature Ecosystem Interoperability Technical Standards.
- C. Research Sponsor: Public Sector Development Department, Digital Ecosystem Development Division.
- D. Contact person for queries on this research:
- i. Ms. Norizan Ab Rahman, Deputy Director, Public Sector Development Department, Digital Ecosystem Development Division, [norizan.rahman@mcmc.gov.my](mailto:norizan.rahman@mcmc.gov.my)
- E. The research falls within the Guided Research Category. It addresses the digital inclusion gap related to the development of an industry common standard practice, ensuring the interoperability of the digital signature ecosystem.
- F. The research targets the [Digital Signature Certification Agencies](#) licensed by MCMC.

**Research Problem/Context**

The Digital Signature Act 1997 (DSA 1997) and Digital Signature Regulations 1998 (DSR 1998) established the licensing framework for providing digital signatures in Malaysia, outlining the types of services, qualification requirements, applications, and associated fees. The DSA 1997 defines a digital signature as an electronic method of authentication that uses a mathematical algorithm to validate the authenticity and integrity of a digital document or message.

To date, four Certification Authorities (CAs) are authorised by MCMC to issue digital certificates in Malaysia: Pos Digicert Sdn. Bhd., MSC Trustgate Sdn. Bhd., Telekom Applied Business Sdn. Bhd., and Raffcomm Technologies Sdn. Bhd. These CAs provide digital signature services to a wide range of clients and organisations, including government agencies, financial institutions, healthcare providers, and businesses across various sizes and industries.

Despite the presence of multiple CAs in Malaysia, their lack of interoperability creates challenges for users who need to use digital signatures across different platforms.

Currently, a user who has been issued a digital certificate from one CA cannot use the same digital certificate on another CA's platform. When a user obtains a digital certificate from a CA, the certificate is signed by the CA's private key and includes the CA's public key. If the user tries to use their digital certificate on another CA platform, the platform will not be able to verify the certificate's digital signature and the certificate will be considered invalid.

However, there are efforts underway to promote interoperability among different CAs in Malaysia. This would allow digital certificates issued by one CA to be used on another CA's platform, as long as both CAs have agreed to the same interoperability standard.

Based on a series of discussions and engagements with digital signature stakeholders, including CAs, Jabatan Digital Negara, and MIMOS, as well as the findings from past research, one of the proposed solutions to digital signature interoperability is through an industry-common standard practice, i.e., by establishing standard and common attributes applicable to all CAs and having the same standard and attributes at the application level for end-to-end interoperability.

### **Research Aims**

This research aims to explore the CAs' views and recommendations on a practical solution to establish interoperability through a common standard and attributes across their platforms. Also, to gain information on the existing practice/standard documents available for referral as well as to explore the steps to achieve interoperability among the Malaysian CAs.

Additionally, the research is envisaged to provide insights from other jurisdictions or case studies regarding successful interoperability solutions, looking at critical aspects such as the best model, standards, challenges, regulations, compliance audits, development costs, and other related factors crucial for developing digital signature interoperability among CAs.

The research findings are expected to provide inputs towards realising the National Initiatives on Government Services Delivery related to the promotion and adoption of digital signature under the MyDigital Blueprint, in which CA interoperability plays an essential role.

## **Research Objectives**

Researchers are invited to submit proposals guided by the following overarching Research Objectives (ROs) (Researchers are to develop and propose suitable Research Questions (RQs) supporting each RO):

- i. **RO 1 – To compile CAs' views and suggestions on potentially workable approaches and solutions to achieve inter-CA interoperability** through an industry common standard and attributes approach (focusing on the respective CAs' application and systems level interoperability);
- ii. **RO 2 – To benchmark inter-CA interoperability approaches and solutions in other sectors or countries** (citing existing practices, case studies, referral documents, standards or guidelines as appropriate) for possible adoption/adaptation amongst Malaysian CAs; and
- iii. **RO 3 – To provide recommendations based on the findings of RO 1 and RO 2 on achieving interoperability** (including but not limited to the processes, timelines, requirements, CPS, cost implications, as well as the challenges and risks).

### DI-5 – Free-To-Air Channel: Uses, Motivation and Gratifications of Users in the Central Region of Peninsular Malaysia

- A. Research Field: Addressing the Digital Divide by delivering inclusive digital services.
- B. Research Focus: Indicator of acceptance and adoption of digital television technology within the Central Region of Peninsular Malaysia.
- C. Research Sponsor: Broadcasting Development Department, Digital Ecosystem Development Division.
- D. Contact person for queries on this research:
  - i. Mr. Tham Yoong Cheong, Director II, Broadcasting Development Department, [yctham@mcmc.gov.my](mailto:yctham@mcmc.gov.my)
- E. The research falls within the Guided Research Category. It addresses the digital inclusion gap areas pertaining to the state of adoption of Free-To-Air (FTA) television platforms and channels amongst Malaysian users located throughout the Central Region of Peninsular Malaysia.
- F. The research targets the following FTA users located in the Central Region of Peninsular Malaysia:
  - i. FTA users in Kuala Lumpur, Federal Territory;
  - ii. FTA users in Putrajaya, Federal Territory;
  - iii. FTA users in Selangor;
  - iv. FTA users in Negeri Sembilan; and
  - v. Small Medium Enterprises in the Central Region (to provide input on regional content and advertisement on FTA TV at an affordable price).

#### **Research Problem/Context**

In line with Malaysia's National Digitalisation Broadcasting Project, MCMC completed the Analogue Switch-Off (ASO) of terrestrial FTA broadcasts on 31 October 2019, with all Malaysian television broadcasts switched to digital TV (DTV) using the DVBT-2 digital format. The switch to DTV is accompanied by various benefits, including superior image resolution, enhanced audio quality, HD television, and the potential for interactive services. Additionally, DTV offers a broader range of channels compared to analogue terrestrial TV, enabling the delivery of targeted regional content through regional broadcasts.

MCMC would like to obtain information on FTA TV viewership on digital TV platforms to gauge the connectivity of digital TV among the audience and to narrow the country's digital divide between urban and remote areas, allowing equal access to information with TV broadcasting services.

Previously, MCMC had researched television users' motivations and gratifications in Sabah in 2021, Sarawak and East Coast regions in 2023, followed by Northern and Southern regions in 2024. MCMC would also like to complete the research in the Central region.

This study will focus on the Central region (comprising Selangor, Negeri Sembilan, and the Federal Territories of Kuala Lumpur and Putrajaya) and is expected to identify and investigate the motivational factors driving audiences to access digital TV. MCMC and the industry can better understand broadcasting development and content provision by understanding content preferences and viewer behaviour in this area. This study will serve as a valuable reference for regional broadcasting trials or the creation of targeted content by region.

### **Research Aims**

The research is expected to explore and investigate the issues, capture the main features of FTA channels' viewers, and provide a market context and perspective. The outcome should facilitate a better understanding of consumption patterns and motivations behind using FTA channels in the Central region of Peninsular Malaysia.

In relation to the potential provisioning of specific regional content, the research findings are also expected to gauge the audiences' preference for targeted content by region.

The research results will provide inputs on the following:

- i. Audience preference on FTA TV broadcasting services;
- ii. FTA contents according to the audience preference;
- iii. User experience and perception of DTV connectivity; and
- iv. User spending behaviours of disposable income in relation to television advertising.

## **Research Objectives**

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

- i. RO 1 – **To identify the usage pattern of FTA TV** among the audience in the Central region;
  - a. RQ 1: To understand the factors contributing to Set-Top-Box (STB) ownership and usage.
  - b. RQ 2: To identify the motivational factors of FTA TV users.
  - c. RQ 3: To understand the receptivity and acceptance of FTA TV users to regional programmes/local dialect/local-specific content.
- ii. RO 2 – **To identify the gratification level of FTA TV** among audiences in the Central region;
  - a. RQ 1: To understand user preferences and appreciation towards having Central local dialect/local-specific content on FTA TV.
- iii. RO 3 – **To identify the demographic profile** of the audience and content preferences; and
  - a. RQ 1 – To examine the relationship between usage patterns, motivational factors, and gratification level of FTA TV.
  - b. RQ 2 – To examine FTA TV user spending patterns with respect to their disposable income.
  - c. RQ 3 – To examine FTA TV user spending patterns in relation to advertising on different types of FTA TV channels (i.e. national vs regional content).
- iv. RO 4 – **To provide general recommendations to promote FTA TV viewership** and positive responses to content and advertising amongst users.

**DI-6 – Study on the Accessibility of Television and Radio Services for Persons with Disabilities**

- A. Research Field: Addressing the Digital Divide by delivering inclusive digital services.
- B. Research Focus: Persons with Disabilities (PWDs) accessibility to television and radio services.
- C. Research Sponsor: Broadcasting Development Department, Digital Ecosystem Development Division.
- D. Contact person for queries on this research:
- i. Mr. Tham Yoong Cheong, Director II, Broadcasting Development Department, [yctham@mcmc.gov.my](mailto:yctham@mcmc.gov.my)
- E. The research falls within the Guided Research Category. It addresses the digital inclusion gap related to Malaysian Persons with Disabilities (PWDs) access to broadcast services.
- F. The research targets the following groups:
- i. Persons with Disabilities (PWDs);
  - ii. Government Agencies or Ministries dealing with PWDs;
    - a. Development of Persons with Disabilities Department (*Jabatan Pembangunan Orang Kurang Upaya JPOKU*), Department of Social Welfare.
    - b. Special Education Department, Ministry of Education Malaysia.
    - c. Social Security Organisation (SOCISO), Ministry of Human Resources.
  - iii. MCMC Content Applications Service Providers (CASPs) comprising;
    - a. Television.
    - b. Radio broadcasters.
  - iv. Disability advocacy organisations and NGOs; and
    - a. Malaysian Association for the Blind (MAB).
    - b. National Council for the Blind, Malaysia (NCBM).
    - c. Society of the Blind in Malaysia (SBM).
    - d. St. Nicholas' Home.
    - e. Malaysian Federation of the Deaf (MFD).
    - f. Other important organisations.

- v. Other important stakeholders comprising;
  - a. PWD caregivers.
  - b. Technology providers.
  - c. Production houses, studios, etc., involved in content creation.
  - d. Advertisers.
  - e. Other important parties.

### **Research Problem/Context**

The Department of Social Welfare (as of 31 January 2023) lists a total of 637,537<sup>11</sup> registered PWDs across seven (7) disability categories, which include hearing, visual, speech, physical, learning, mental, and multiple disabilities. This figure represents approximately 1.9 per cent of Malaysia's population of 34 million<sup>12</sup> who are either existing or potential audiences for Malaysian television and radio broadcast services.

In Malaysia, Part IV of the Person with Disabilities Act (PWDA) 2008 affirms that PWDs have equal access to public facilities, healthcare services and recreational activities. Specifically, S. 30(1) of the Act provides that persons with disabilities shall have the right to access to information, communication and technology on an equal basis with persons without disabilities. The PWDA further states under Section 30 (2) that the Government and the provider of information, communication and technology shall in order to enable persons with disabilities to have such access, provide the information, communication and technology in accessible formats and technologies appropriate to different kinds of disabilities in a timely manner and without additional cost.

Following Malaysia's National Digitalisation Broadcasting Project and MCMC's completion of the Analogue Switch Off (ASO) of terrestrial FTA broadcasts on 31 October 2019 and switch to digital TV (DTV) using the DVBT-2 digital format, audiences have received various improvements to enhance their viewing experience. These include improved image resolution, enhanced audio quality, HD television, and the potential for interactive services.

Though these improvements and the potential interactivity of DTV have yet to be tested, they could potentially be leveraged to ensure improved user experiences for PWDs. PWDs still face significant barriers to accessing and enjoying the broadcast content delivered via television and radio and current policies and technologies may not fully address their unique needs, leading to disparities in information access, entertainment, and educational content.

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<sup>11</sup> Department of Social Welfare, 7 April 2024, Statistik Pendaftaran OKU Mengikut Negeri dan Kategori Sehingga 31 Januari 2023, accessed on 4 July 2024 at

<[https://www.jkm.gov.my/jkm/uploads/files/STATISTIK%20PENDAFTRAAN%20OKU%2031012023%20\(2\).pdf](https://www.jkm.gov.my/jkm/uploads/files/STATISTIK%20PENDAFTRAAN%20OKU%2031012023%20(2).pdf)>

<sup>12</sup> Bernama, 14 May 2024. Malaysia's population estimated at 34 Million in First Quarter of 2024 – DOSM, accessed on 4 July 2024 at <<https://bernama.com/en/news.php?id=2297508>>

At the international level, the International Telecommunication Union (ITU) has published a report on how accessibility can be improved for broadcasting services for PWDs<sup>13</sup>. Apart from addressing how services could be improved for PWDs with hearing disabilities and sight impairments, the ITU document also addresses an ageing audience. Though this group does not fall under the seven (7) categories eligible for registration as PWDs, an ageing audience can experience difficulties when trying to follow the dialogue on radio or television as it appears to flow too quickly<sup>14</sup>.

The report also outlines how technology can aid PWD accessibility through improvements to receiver user-friendliness, speech rate conversion technology, real-time closed-captioning, a multimedia browsing system, machine translation, and other methods.<sup>15</sup> Thus, the document provides a convenient reference to some of the technology enhancements that the research team can consider to determine their potential adoption and adaptation.

### **Research Aims**

The research aims to identify the existing gaps in television and radio service accessibility for PWD, evaluate the effectiveness of current technologies and policies/regulations, and propose recommendations to enhance inclusivity.

The research findings will serve as input and feedback to improve the accessibility of television and radio services for PWDs by addressing the following knowledge gaps:

- i. PWDs' viewing preferences and patterns for television and radio services;
- ii. Current broadcasting policies and regulations in different countries and jurisdictions; and
- iii. Development and implementation of PWD accessibility technologies for television and radio services available in foreign and domestic markets.

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<sup>13</sup> International Telecommunication Union, 2020 Accessibility to broadcasting services for persons with disabilities, Report ITU-R BT.2207-5 (10/2020) *ITU-R* accessed on 4 July 2024 at <[REPORT ITU-R BT.2207-5 - Accessibility to broadcasting services for persons with disabilities](#)>

<sup>14</sup> *Ibid* p.3

<sup>15</sup> *Ibid* pp. 4-25

## **Research Objectives**

Researchers are invited to submit proposals guided by the following overarching Research Objectives (ROs) (Researchers are invited to propose relevant research questions (RQs) to support the respective ROs identified):

- i. RO 1 – **To benchmark** existing television and radio **services, technologies, policies and regulations related to accessibility for PWDs** in Malaysia and in selected countries;
- ii. RO 2 – **To determine the key challenges and barriers that PWDs face in accessing TV and radio services** in the Malaysian market;
- iii. RO 3 – **To identify current and emerging technologies to enhance television and radio accessibility** for PWDs;
- iv. RO 4 – **To evaluate existing policies and regulatory frameworks** to identify gaps and areas for improvement by integrating inclusive practices in TV and radio service provision; and
- v. RO 5 – **To provide targeted recommendations** to improve PWD **television and radio accessibility**.