UMT PRESS

Journal of Maritime Logistics
Journal Homepage: https://journal.umt.edu.my/index.php/jmle-ISSN: 2805-5195

DOI: http://doi.org/10.46754/jml.2024.08.002



A MODEL OF MARITIME COMMUNITY DIGITALISATION AND INSTITUTIONAL COMMITMENT TOWARDS TELECENTRE SUSTAINABILITY

MARHAINI MOHD NOOR* AND AMIRAH ABD HALIM

Faculty of Maritime Studies, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia.

*Corresponding author: marhaini.noor@umt.edu.my

ARTICLE INFO

Article History:

Received: 26 July 2023 Accepted: 11 October

2023

Published: 20 August

2024

Keywords:

Institutional capacity, sustainability, maritime community, telecentre, resilient.

ABSTRACT

This study focuses on telecentre implementation institutional capacity and sustainability. Telecentre sustainability is the power of a national commitment by policymakers who recognise the importance of connecting people through modern information society tools and back that commitment up with funding and institutional support for multi-year programs. The significance of institutional capacities in translating national policy into action at the regional and local levels through governmental and non-governmental bodies. The importance of maritime community volunteers in the operation of telecentres as a network of telecentres cooperating in a region to develop and share various resources. The significance of promoting information and ICTs as a valuable resource for individuals, families, organisations, and communities. In light of this, it is now clear that telecentres are necessary for continued development. The managers of various telecenters throughout the East Coast provided the information gathered. We presented and spoke about the findings of qualitative narratives derived from the content analysis of the interviews. In order to come up with the main conclusions of this study, the qualitative data were gathered, evaluated and interpreted. The findings show that this implementation study identified a lack of resources (inputs) and impediments due to policy failure. Theoretically, this research indicates that telecentres will be sustainable in the long run. With the enhancement of the telecentre program, ICT for maritime community development and sustainability will improve. This study proposes a model of maritime community digitalisation and institutional commitment emphasising technology infrastructure, digital literacy, institutional commitment and community involvement. Thus, these are embedded in the sustainability pillars: organisation, policy, social, finance and operation identified from this research.

© UMT Press

Introduction

The feasibility of institutional adoption and the long-term viability of telecenters are highlighted in this study. The strength of a national commitment to telecentre sustainability comes from decision-makers who value connecting the nation's citizens using the contemporary tools of the information society and who support

that commitment with funding and institutional support for multi-year programs. The value of institutional capacities in putting national policy into practice through governmental and non-governmental organisations at the regional and local levels (Fajrie, 2020). The important contribution that maritime community

volunteers make to the operation of telecenters as a regional network of telecenters collaborating to create and distribute a range of resources boosting public awareness of information and ICTs as a useful resource for people, families, organisations, and communities.

The term "maritime community" in this study refers to people who live in coastal locations and participate in maritime and inland activities. These villages are frequently labelled as economically underprivileged and have less access to ICT services than urban populations. They rely greatly on interpersonal engagement in daily communication, such as face-to-face interactions with family members or neighbours. Because they think they can interact well without using online tools, some members of these communities are reluctant to participate in virtual activities (Djaffar, 2017).

Maritime communities are distinguished by their capacity for survival without relying on modern resources (Fajrie, 2020). Information and communication technology (ICT) use, however, provides instant access to information without being constrained by time or place. The digital era has shown that the ICT network is a crucial platform for offering adaptable social spaces. By enabling people to freely express their thoughts and ideas and find sources of income, ICT has undoubtedly also changed how people live (OECD, 2016). In order to avoid falling prey to cybercrime, the marine community must be taught how to utilise ICT properly.

digitisation, Through community Telecenters empower communities, such as maritime communities, to foster peace and a viable civil society in the face of globalisation's uncertainties. Telecenters like Internet Centres are present in coastal areas to close the digital divide and serve as a conduit for community needs. Maritime communities are groups that possess specific traits that enable them to live without the aid of technical resources (Fajrie, 2020). ICT provides quick access to information without concern for time or space constraints. Living in the digital age has shown that ICT networks are a key platform for offering flexible social space. Undoubtedly, ICT also altered human lifestyles because everyone was free to express their thoughts and feelings and find sources of survival (OECD, 2016). Theoretically, maritime communities are made up of people who reside in coastal regions and rely on marine resources for economic activity, directly or indirectly. According to the OECD (2011), maritime communities are likewise recognised as being inflicted with poverty and obtaining fewer ICT services than metropolitan populations.

As a result, the need for telecentres is acknowledged and is expected to continue. Telecentres require long-term viability and commercial strategies that blend in with local customs. Putting more emphasis on information services than just computers and the Internet will help local institutions become more integrated into their communities and have a wider range of potential sources of income. The lack of resources (inputs) and obstacles as a result of policy failure will thus be identified by this implementation research. The study should demonstrate the long-term viability of telecentres. Improved ICT for maritime community development and sustainability will result from the telecenter initiative, which is now being improved (Naik, 2011).

Policy failure at the institutional level, specifically the inputs or resources of this program, is the issue associated with this research. Sadly, there is a lack of financing, incomplete information. time. outdated technology. and other deficiencies in the fundamental infrastructure. The program's execution, which is now only at a very basic level, is the focus of this research, which also highlights the need for expanded broadband infrastructure to give training and enable quick access to the internet. Despite the program's activities, the program's content will place a stronger emphasis on the idea that training materials should not be kept to themselves. Local and international business owners must share business-related information freely. The sustainability of Telecentres is based on five pillars. There are: (1) Organisation, (2) social, (3) finance, (4) policy, and (5) operation.

This research emphasises the implementation of institutional capacities and the sustainability of Telecentres. Telecentre sustainability is the power of a national commitment by policymakers who recognise the value of connecting the country's people through the modern tools of the Information Society and follow that commitment with funding and institutional support for multi-year programs. The importance of institutional capacities in translating national policy into action through governmental and non-governmental bodies at the regional and local levels. The significant value of community volunteers in operating telecentres as a network of telecentres working together in a region to develop and share various resources. It is important to raise awareness about information and ICTs as valuable resources for individuals. families, organisations, and communities. Therefore, the need for telecentres is realised and to become sustained. Telecentres need long-term sustainability and business plans that fit the culture of the community. Focusing on information services rather than on computers and the Internet alone will help build a local institution that is more fully woven into the fabric of the community, with a larger base for generating income.

Literature Review

Telecentre Sustainability

A telecenter's sustainability is defined as its "capacity to produce sufficient revenue from ICT-enabled services to assure its continued existence in the community, hence promoting the socio-economic well-being of society" (Niranjan M, 2009). Failure of institutional policy, specifically the inputs or resources of this program, is the issue that this research is trying to address. Sadly, there is inadequate fundamental infrastructure due to insufficient funds, erroneous information, time constraints, outdated systems, and other factors. The program's execution, which is now at a very rudimentary level, is the focus of this study. More broadband facilities are required for training delivery and the quick usage of internet services.

Notwithstanding the program's activities, the program's content will emphasise the idea that training materials should not be kept to themselves. Local business owners and those in other areas should disseminate the business information extensively (Marhaini MN, 2014). The primary goal of this research is to assess Telecentre implementation capabilities and sustainability.

The sustainability of Telecentres is based on five pillars. There are five categories: (1) Organisation, (2) policy, (3) social, (4) finance, and (5) operation. The first pillar includes organisational aspects such as partnerships, community ownership, and networking. This partnership role is to ensure the telecentre's long-term viability. Public-private partnerships bring together a variety of skills and resources. Typical Telecentre partnerships at the local level include community leaders, community organisations, schools. health centres, agricultural extension agents and input suppliers, and local cooperatives. Assist in identifying information demand and promoting development activities. In terms of community ownership and networking, the community becomes a representative within the governance structure, and services responsive to community needs are provided. The path to long-term viability passes through the heart of community acceptance (Harris, 2017).

The second pillar is policy, which includes literacy, poverty reduction, rural development, and ICTs. The policy concern on poverty reduction is the policy to achieve the Sustainable Development Goals (SDGs) and to legitimise telecentres that provide access to ICTs to poor people who cannot afford domestic access. The majority of Asia's poverty is rural, according to rural development policy. Access to ICTs is most limited in rural areas. Mostly under the jurisdiction of the Ministry of Rural Development, but their use of ICTs is generally low priority. Thus, the ICT policy aims to align poverty reduction and rural development policies with developing telecentre programs and access to telecommunications and internet services (Kamaruddin et al., 2019).

The third pillar is the social aspects, which include need assessment, community involvement, and marketing. The goal of the need analysis is to enable the delivery of information-based services that the community will value. Community representatives within the governance structure help to facilitate responsiveness to community needs. The marketing will then promote telecentre services and outreach programs to maintain continuous community engagement (Boldureanu *et al.*, 2020).

The fourth pillar is finance, which includes business plans, entrepreneurship, training, and subsidisation. The telecentre's business plans and entrepreneurialism are intended to gain financial support. Owning a business and becoming an entrepreneur is an investment for the community. Entrepreneurs were given training to help them maintain their financial stability (Boldureanu *et al.*, 2020). As a result, subsidies are used to support telecentres, with a sum of money granted by the government or a public body to assist a telecentre in ensuring that the service remains low or competitive.

The final pillar is the operational aspects, which include personnel, facilities, technology, power supply, and location. The staff will provide community information services and act as information brokers. A strong link exists between community acceptance of telecentres and the quality of interaction with staff. As a result, this is critical for the capacity and sustainability of telecentres. Finally, the location is strategic for attracting community members to visit telecentres and is long-term sustainable (Harris, 2017).

Hence, telecenters should maintain ongoing partnerships with local authorities and frequently rely on public financing sources. Telecentres are inherently accessible since they give everyone in the community access to information, regardless of financial situation or social standing. They are a part of networks spread across a nation, frequently even in the tiniest settlements. Effective telecentres are fundamentally local at their best because they react immediately to specific, recognised community needs (ESCAP, 2020).

Maritime Community Digitalisation and Institutional Commitment

Contrary to popular belief among people unfamiliar with Internet Centers, Telecenter is more than just a cybercafé. The problem of the digital divide, which affects marginalised communities like coastal ones that have trouble meeting their residents' needs for digital-based infrastructure and internet connection, is addressed by Telecenter (Dawood *et al.*, 2019). Maritime communities are having trouble staying connected in this age of digitisation, which is characterised by Industrial Revolution 4.0's emphasis on utilising the Internet of Things, big data, cloud computing, and robotics.

In community development, the digital divide among communities generally has the potential to grow into a wider humanitarian catastrophe. Additionally, it prevents the digitalisation ecosystem from being inclusive to all community groups at all levels while considering disparities in education, money, location and area, race, and other factors. However, a fair distribution of ICT access can mobilise the community and give them the capacity to improve their quality of life by using ICTs to guide their daily activities (ESCAP, 2020).

If there is a digital divide among the digitalisation ecosystem communities, cannot function well for communities to optimise digital technologies inclusively. The digital divide among individuals, organisations, and communities results from several causes (UN, 2021). The digital divide can also lead to differences in social, economic, and educational outcomes. ICT access has evolved into a fundamental requirement that each community member must have to meet their demands. The government and interested parties must provide ICT access facilities for communities that experience barriers to accessing ICT so that these marginalised groups can benefit from proper ICT access.

The elderly, under Doris et al. (2010) research, feel that traditional practices do not obstruct their daily lives but rather foster reciprocal relationships and local economic

growth. The e-community can, however, benefit from various real-world activities and programs, such as webinars and e-commerce, that can motivate members. According to Datuk Jahid Jahim, Sabah's Minister for Rural Development (edited in DOSM, 2018), the program works to fortify the association and enhance the participation of maritime communities in development. The SDG 2030 objectives, which support equal justice for all people, should be used to overcome the limitations experienced by the impoverished in the maritime community.

The maritime community must understand how the Internet can help them advertise their business, find employment opportunities, and get the required information. Effective ICT use by the maritime community can strengthen bonds and boost trust among community members (Nur Syahzanani *et al.*, 2021). In the long run, this can aid in the growth of the maritime community by lowering crime. Sharing these study findings can help responsible parties gain insightful information and encourage the use of ICT to develop a sustainable maritime community.

The government's efforts to progress the community towards a developed country can be successful by cultivating a community that has a prosperous and positive mental outlook when facing the difficulties of the current uncertainty in numerous aspects. The government's efforts to close the gap between urban and rural communities—including the digital divide, wealth gap, education gap, and other gaps—are accelerated by the Internet as a medium (ECLAC, 2021). The Internet Centre, also called a "multipurpose centre," offers digital amenities and runs several initiatives and programs to empower the neighbourhood. Because they are easily accessible to local populations, internet

centres are a practical application for coastal communities and other marginalised areas.

Methodology

The data were collected from telecentre managers from different regions and locations in Terengganu. The results of narratives determined from a content analysis of the interviews (qualitative) were presented and discussed. The qualitative data collected were analysed and interpreted to determine this study's key findings. The expected results were used to evaluate institutional capacities needed for the telecentre to be sustained. Therefore, this implementation study identified a lack of resources (inputs) and impediments due to policy failure. Theoretically, this research shows that the telecentres will be sustained in the long run. Improving the telecentre program in Malaysia will lead to improved ICT for rural development and sustainability.

This study used in-depth interviews and purposive sampling to evaluate the viability of telecenters and their deployment potential. descriptions of the research's methodology are provided. The program managers at each telecentre had been contacted by email and through the telecentre portal or website to ask for formal approval to carry out this research and participate in interviews. The interviews aim to learn how institutional capacities are boosted and maintained longterm. Managers of telecenters in several cities and regions along the East Coast were contacted for information. The results of the qualitative content analysis of the interviews' narratives are presented and discussed. Purposive sampling was used to identify ten (10) locations from the Terengganu Region on Peninsula Malaysia's east coast (Table 1).

Table 1: Identified 10 locations in Terengganu region

| No. | Areas/Kampung | Districts |
|-----|-----------------|-----------------|
| 1 | Kuala Berang | Hulu Terengganu |
| 2 | Mengabang Lekar | Kuala Nerus |
| 3 | Kampung Banggol | Kuala Nerus |
| 4 | Kampung Fikri | Setiu |

| 5 | FELDA Belara | Hulu Terengganu |
|----|----------------------------|-----------------|
| 6 | Kampung Baru Kanan Kemasik | Kemaman |
| 7 | KIOL Kemaman | Kemaman |
| 8 | FELDA Bukit Bading | Ajil |
| 9 | Kampung Bukit Diman | Ajil |
| 10 | Kampung Padang Jambu | Dungun |

In order to support community growth and provide quick access to data needs, we are actively collaborating with the Ministry that established the telecentre. A meta-analysis of studies on telecentres and related initiatives will serve as the foundation for this project. In this section, the research methodology's general framework is presented. Emails and the telecentre portal or website were used to reach out to the Ministry and the programme managers at each telecentre in order to request official permission to conduct this research and assistance from the programme managers to make it easier for participants to participate in the interview at each telecentre. In order to better

understand the telecentre programme, this research conducted interviews with programme management. By providing more thorough knowledge of how and why a policy failure in the implementation of telecentres occurred, the data from the interviews serve as a source of evidence.

Results

According to preliminary findings, the government does not provide resources, funds,

or input. The political will to sway institutional support for this program is considerable (telecentres). However, the acceptance and support of telecenter initiatives are now facing new government obstacles. Locally, users have a high need for ICT use and access. According to some local business success stories, the telecentre is still going strong. Since municipal and non-governmental organisations at the regional and local levels are responsible for putting national policy into practice, institutional capacity is crucial.

Table 2: Mapping geographical locations vs sustainability pillars

| Location | Organisation | Social | Finance | Policy | Operation |
|--------------------|-------------------------------------|---|--------------------|-------------------------------|--|
| TC Kuala Berang | Government and private agency | Various activities to promote the Internet centre | People-oriented | Expand the broadband network. | The staff is responsible for managing the internet |
| | | TC as an | | | centre. |
| | | Entrepreneurial Aid | | | |
| | | Platform - Online | | | |
| | | Marketing | | | |
| TC Kg | Government | Life-enhancing | Financial | Introducing | The continuity |
| Padang | and private | platform - business | contributions | internet | of the Internet |
| Jambu | agency | from the community | from the community | centre | center |
| | | Introducing | and the local | | |
| | | internet centres to | authority | | |
| | | local community | | | |
| | | participation | | | |

| TC Kg Fikri | Government and private agency | Internet centres are a medium for communities to gain knowledge Facility for housewives to | Get the financial support from HQ | Reduce the digital divide | Staff is responsible for the Internet centre operation |
|-----------------------------|---|---|--|--|---|
| | | do business - advertising. | | | |
| TC Kg Mengabang Lekar | Collaborate with the private, NGO and the government | Encourages community participation in program implementation | DiGi support financial assistance | IT literate Community | Internet centre operations are running smoothly |
| | | Community asks for diversity activities - ** Entrepreneurship online | | | |
| **TC Kg Baru Kanan | Collaborate with Head of Kg, state legislative officers, private and government | Become a community reference centre for information authenticity ** The community is dissatisfied with the operation of the | Financial contribution from assemblyman | Communities are more aware of broadband networks | The staff is responsible for the Internet centre operation |
| TC Kg Banggol | Government and private agency | internet centre Many organise ICT classes for the community while at the same time strengthening the internet connection with the community Internet centre staff initiatives help to improve 1. Income 2. Knowledge | No financial assistance from either party | Creating a sustainable Internet centre | The staff is responsible for overseeing the internet centre |
| TC Koil | Government, private agency and NGO | Full community involvement in program implementation One-stop center for IKBN students. Managers - instruct the user Customer-friendly | No financial assistance from either party | 'Self- oriented' | The staff is responsible for overseeing the internet centre |

| TC Felda Belara | Government, private agency and NGO | The community is fully involved in the program No further reviews from users/ communities | The financial contributions from the assemblyman/ leaders attend entrepreneurship class | To mobilise the community in the use of ICT | The staff is responsible for operating the internet centre |
|-----------------------------|--|--|---|---|---|
| TC Kg. Bukit Diman | Collaboration with local government, community and government as well as private | The school is also involved in participating in the program organised | Holding a marketing workshop for the community, not expecting a profit alone | Creating a more sustainable Internet centre | The staff ensures that all operations of the internet centre are running smoothly |
| TC Felda Bukit Bading | Engage with schools, communities, NGOs | Various activities and services are available to encourage community participation The Internet Center is very committed to performing exciting tasks | Many get financial assistance such as from the District Council, local authorities and others | Reduce the digital divide | Help each other to maintain internet centre sustainability |

 $*Note: TC-Telecentre\ Kg.-Kampung/village$

Table 2 illustrates that the telecentre in Kuala Berang collaborates with government and private agencies. The centre has various activities to promote the Internet centre. It is regarded as an entrepreneurial aid platform for online marketing, and people are oriented towards expanding the broadband network. The staff is responsible for managing the Internet centre. In Kampung Padang Jambu, the centre collaborates with government and private agencies. It is a life-enhancing platform for businesses in the community. Introducing Internet centres to local community participation. Financial contributions from the community and the local authority. Introducing the internet centre will thus become a continuity of the internet centre. Kampung Fikri also works with government and private agencies. Internet centres are a medium for communities to gain knowledge. Facility for mothers to do business such as advertising. Get the financial support from Headquarter, reduce the digital divide and the staff is responsible for the internet center operation.

Kampung Mengabang Lekar collaborates with the private, NGO and the government. Encourages community participation program implementation. The community asks for diversity activities such as entrepreneurship online and DiGi support financial assistance. This is to produce an IT-literate Community and make the Internet centre operations run smoothly. Kampung Baru Kanan collaborates with the Head of Kampung, state legislative officers, and private and government agencies. This has become a community reference for information authenticity. community is dissatisfied with the operation of the Internet centre. The centre received a financial contribution from the assemblyman. The communities are more aware of broadband networks. The staff is also responsible for the operation of the Internet centre.

Hence, Kampung Banggol collaborates with government and private agencies. They have organised many ICT classes for the community while at the same time strengthening

the internet connection within the community. The Internet Center staff initiatives help improve the community's income and knowledge. There is no financial assistance from either party. The centre is creating a sustainable internet centre. Their staff is responsible for overseeing the internet centre. Kampung KOIL cooperates with the government, private agencies, and NGOs. They had full community involvement in the program implementation. KOIL organised a One-stop center for IKBN students. The managers instruct the user to use the services at the centre, which is customer-friendly, even though there is no financial assistance from either party. The centre is 'Self-oriented' and the staff oversees the internet centre.

FELDA Belara also works with the government, private agencies and NGOs. The community is fully involved in the program. There are no further reviews from users/communities. The financial contributions from

the assemblyman/leaders. The communities attend entrepreneurship classes to mobilise the community to use ICT. The staff is responsible for operating the Internet centre. Kampung Bukit Diman collaborates with local government, community and government, and private sectors. The school is also involved in organised programs, such as holding a marketing workshop for the community, and is not expecting a profit alone. Thus, this is creating a more sustainable internet centre. The staff ensures that all internet centre operations are running smoothly. FELDA Bukit Bading engages with schools, communities, and NGOs. Various activities and services are available to encourage community participation. The Internet Center is very committed to performing exciting tasks. Most financial assistance was received from the District Council, local authorities and others. In order to reduce the digital divide, they support and assist each other in maintaining the sustainability of the Internet centre.

Table 3: Similarities and differences from interview data

| Main issue/managers | TC managers/location | Pillars/ Elements |
|---|--|----------------------|
| Collaboration with government, private, and NGOs | Kampung Fikri, Kampung Banggol, KOIL, Kuala Berang, Bukit Diman, Felda Belara, Felda Bukit Bading, Padang Jambu, Kampung Baru Kanan and Mengabang lekar | Organisation |
| Bridging the digital divide | Kampung Fikri, Felda Belara and Mengabang lekar | Policy |
| Carry out promotions and activities to introduce the Internet centre to the community | Kampung Banggol, KOIL, Kuala Berang, Bukit Diman, Felda Belara, Felda Bukit Bading, Padang Jambu, Kampung Baru Kanan and Mengabang Lekar | Social |
| Internet centres are a medium for communities to gain knowledge | Kampung Fikri and Kampung Baru kanan | Social |
| Obtain financial support from outside parties such as the local authority, assemblymen, government and NGOs | Kampung Fikri, Kuala Berang, Bukit Diman, Felda Belara, Felda Bukit Bading, Padang Jambu, Kampung Baru Kanan and Mengabang lekar | Financial |
| No financial assistance from either party | Kampung Banggol and KOIL | Financial |
| Staff is responsible for operating the internet centre, and Staff is responsible for overseeing the internet centre | Kampung Fikri, Kampung Banggol, KOIL, Kuala Berang, Bukit diman, Felda Belara, Felda Bukit Bading, Padang Jambu, Kampung Baru Kanan and Mengabang lekar | Operation |

Many issues were encountered during the interviews with the managers. The main findings are collaboration with stakeholders, bridging the digital divide, promotions, financial support and operation. However, there are similarities and differences in perspectives among managers. Thus, this made the study more interesting and unique to explore this sustainability pillar. The main concern on this pillar is that most managers believe that organisation, operation and social are their most significant pillars.

Discussions

This section of the discussion focuses on the key issues of the perception of managers based on the five sustainability pillars highlighted earlier. Firstly, managers agreed that collaborating with various parties could further enhance the Internet centre. The majority of the managers agreed that the existence of Internet centres could reduce the digital divide. While some of the managers disagreed that an internet centre would be more sustainable without the involvement of many parties. Next, managers agreed that the Internet centre distributes broadband networks and that the policy created is to reduce the digital divide. Thus, this helps the communities with their daily activities. Most managers agreed that this establishes social relationships between communities and social networks. Hence, builtin networks can enhance community knowledge.

On the other hand, some managers disagreed that this internet centre raises social problems among communities. Managers agreed that this centre assisted managers in marketing to entrepreneurs to expand their product market. Thus, some managers disagreed that the Internet centre is for profit maximisation only. However, managers agreed that Internet centres can increase revenue and improve the community's standard of living. Lastly, they believed that the role of staff is very important for the operation of the internet centre and to sustain the centre. Thus, good staff performance will make the Internet centre more sustainable.

As a result, this study proposes a model of maritime community digitalisation and institutional commitment towards telecentre

sustainability. The model highlights importance of building a strong technology infrastructure in maritime areas. In order to achieve this, it is required to guarantee dependable internet connectivity, access to computers and other digital devices, and the availability of essential software and apps. Maritime communities may remove digital obstacles and give citizens access to various digital services and possibilities by investing in these technology resources. The model's fundamental element is the promotion of digital literacy. Maritime community members need to be prepared with the abilities and information needed to use digital technologies efficiently. This entails offering training courses, workshops, and educational materials on digital including fundamental computer literacy, knowledge, internet usage, online safety, and digital communication. Maritime communities may empower citizens to fully participate in the digital economy and exploit its opportunities by promoting digital literacy.

For telecenters to be sustainable, institutional commitment is essential. Telecentres and digital projects should be supported by local governments, neighbourhood groups, and other institutions with a strong commitment. Financial assistance, the formulation of policies, and working with stakeholders can all help achieve this. The long-term viability of telecenters is guaranteed by institutional commitment, which also supports creating an environment that fosters digital innovation and community growth. The model's effectiveness depends on community involvement. It entails soliciting advice from the maritime community's members, actively involving them in digitalisation, and attending to their wants and concerns. User groups, frequent feedback sessions, and activities that are supported by the community can all help promote community participation. The concept actively involves the community to ensure that digitalisation efforts align with the requirements and goals of those a part of the maritime community, which promotes greater acceptability and sustainability.

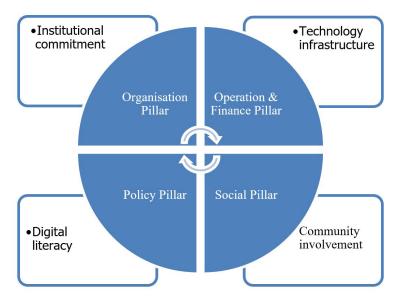


Figure 1: Model of Maritime Community Digitalization and Institutional Commitment

Source: Author, 2021

Conclusions

In conclusion, a strategy for digitalising maritime communities and institutional commitment to telecenter sustainability is essential for developing maritime communities in the digital era. This model covers various topics, including institutional support, community involvement, technology infrastructure, and digital literacy.

Finally, a model of maritime community digitisation and institutional commitment to telecenter sustainability includes technological infrastructure, digital literacy, institutional support, and community involvement. By implementing this approach, maritime communities can use digital technologies to improve their economic prospects, social inclusion, and general level of community wellbeing in the digital age.

Acknowledgements

This work was supported in full by the Universiti Malaysia Terengganu (financial support) under the Talent and Publication Enhancement-Research Grant (TAPE-RG) - university grant 2018-2020 (Vote number 55129).

Conflict of Interest Statement

The authors declare that they have no conflict of interest.

References

Boldureanu, G., Ionescu, A. M., Bercu, A., Bedrule-Grigoruță, M. V., & Boldureanu, D. (2020). Entrepreneurship Education through successful entrepreneurial models in higher education institutions. *Sustainability*, 12(3), 1267. https://doi.org/10.3390/su12031267

Chong Eng Tan, Poline Bala, Sei Ping Lau, & Siew Mooi Wong. (2020). The TPOA telecentre: A community sustainable telecentre architecture. International Journal of Advanced Computer Science **Applications** (IJACSA), and 11(8), 182-192. https://www.researchgate.net/ publication/344022496 The TPOA Telecentre A Community Sustainable Telecentre Architecture

- Dawood, S. R. S, Ghazali, S., & Samat, N. (2019).

 Digital divide and poverty eradication in the rural region of the Northern Peninsular Malaysia. *Indonesian Journal of Geography*, 51(2), 172-182. http://dx.doi.org/10.22146/ijg.37758
- Djaffar, R. (2017). Dissemination of information technology to fishermen society in the Districts of Takalar and Barru. *Jurnal Penelitian Komunikasi dan Opini Publik*, 21(1), 73-87.
- Doris, P. S., Idris, N. A., & Abu Bakar, N. (2010). Warga emas di Malaysia: Ke arah kesejahteraan ekonomi dan sosial. Bangi: UKM Press.
- Department of Statistics, Malaysia. (2018).

 The initial assessment of the sustainable development goals indicators for Malaysia 2018. https://www.dosm.gov.my/
- Department of Statistics, Malaysia. (2021). Digital technologies for a new future. Economic Commission for Latin America and the Caribbean. United Nations. https://www.dosm.gov.myECLAC.
- ESCAP. (2020). Inequality in Access to Information and Communication Technologies (ICTs) in East and North-East Asia and South East Asia. UN.
- Fajrie, M. (2020). The variety and meaning of the coastal community tradition of Bungo Wedung Indonesia. *Mozaik Humaniora*, 20(1), 70-78. https://doi.org/10.20473/mozaik.v20i1.15470
- Harris. J. (2017). Evaluating public and community health programs. Canada: John Wiley & Sons. https://www.researchgate.

- net/scientific.../2029131826_Niranjan_ Meegammana
- Kamarudin, S., Omar, S. Z., Bolong, J., Osman, M. N., & Mahamed, M. (2019). ICT development of community in rural areas. *International Journal of Academic Research in Business and Social Sciences*, 9(9), 118-126.
- Marhaini M. N. & Abdul Rauf, A. (2014). The significant roles of internet centre (Information Providers) to rural community in Malaysia. *Journal of Administrative Science* (JAS), *11*(2), 1-20. https://jas.uitm.edu.my/images/2014 DEC/4.pdf
- Naik, G. (2011). Designing a sustainable business model for e-governance embedded rural telecentres (EGERT) in India. IIMB Management Review, 23(2), 110-121.
- Niranjan M. (2009). E3-Framework for Telecenter Network Sustainability Development. https://www.researchgate.net/publication/256003144_E3_-_Framework_for_Telecenter_Network_Sustainability_Development_Niranjan_Meegammana
- Nur Syahzanani Hani Mohd Zamri, Marhaini Mohd Noor, & Siti Marsila Mhd Ruslan (2021): Assessing information and communication technology in building blue social capital for maritime community development. *Journal of Maritime Logistics*, 1(2), 85-95. https://doi.org/10.46754/jml.2021.12.005
- OECD (2011). Understanding the digital divide. OECD Digital Economy Papers 49. Paris, France: OECD Publishing.

OECD (2016). Innovating education and educating for innovation: The power of digital technologies and skills.

Paris: OECD Publishing. http://dx.doi. org/10.1787/9789264265097-en

- Telecentre.Org. (2011). *Annual report: A review of the year 2011*. Quezon City, Phillipines: Telecentre org Foundation.
- UN. (2021). Leveraging digital technologies for social inclusion. United Nations Department of Economic and Social Affairs Social Inclusion. https://www.un.org/development/desa/dspd/2021/02/digital-technologies-for-social-inclusion/
- Van Dyk, L. (2018). The manifestation of sustainability in social enterprises. *The International Journal of Sustainability Policy and Practice*, *14*(1), 1-16. http://doi.org/10.18848/2325-1166/CGP/v14i01/1-16
- World Bank. (2019). Information and communications for development 2018.

 Data-driven Development. Washington, USA: World Bank Group.