

The Role of Inter-organizational Knowledge Transfer on the Sustainable Development of the Coastal Tourism Industry: A Preliminary Study from Sri Lanka

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Abstract - This preliminary research aims to examine the impacts of actively using knowledge transfer among inter-organizations related to the coastal tourism industry to promote sustainable development implementation. This research project is an exploratory, qualitative study focusing on knowledge transfer practices from an inter-organisational perspective in the context of sustainable coastal tourism in Sri Lanka. Moreover, a qualitative approach is used in this research. Participants chose from academic, government, industry, and coastal community clusters. The researcher chose industrial and coastal community participants from the Hikkaduwa district. Hikkaduwa was chosen because it was one of the primary coastal tourism destinations in this island nation, and overdevelopment, environmental degradation, and civil war threaten this once vibrant and robust coastal ecosystem and tourism-dependent economy. Data was collected via online and in-person interviews. This study uses a reflexive thematic analysis approach to analyze the data from the coastal-related stakeholders' views, opinions, knowledge, and experiences. Further, it addresses the lack of prior exploratory research in knowledge transfer, the inter-organizational perspective of the Sri Lanka coastal tourism industry and the need for theories, and strategies implications in this area, which has been a lack of focus by academics. Further, this research develops a conceptual framework based on the quintuple helix model. This model demonstrates the importance of healthy interaction and calls for collective interaction and knowledge transfer through education systems, political systems, economic systems, social systems, and the natural environment (Hartanto et al, 2021). Hence, the research contributes to both practice and theory in different ways.

Keywords: Coastal Tourism, Inter-Organizational Knowledge Transfer, Quintuple Helix Model and Sustainable Development.

I. INTRODUCTION

Sri Lanka has plentiful and diverse coastal and marine resources. Therefore, there's a huge potential value for coastal tourism and it also benefits the Sri Lanka economy (Bandara & Ratnayake, 2015). As a concept sustainability development, is becoming an important topic for discussion within the Sri Lankan coastal tourism industry due to its environmental, social, and economic impact and the rise of the compliance framework (Bandusena et al., 2020). However, the coastal tourism industry in Sri Lanka is not distinct from other tourism sectors since it is integrated and interdependent with several coastal industries. Not only industries, public, private, academic institutions, and coastal communities are also interrelated to the coastal tourism industry. These institutions have a multitude of policies, mandates, and strategies, working in the same area with overlaps (Weerakoon et al., 2020). As social and political pressure mounted on successive governments regarding competition for and access to coastal resources, the institutional framework was expanded. Over 100-line ministries and institutions have overlapping responsibility for the coast and its assets (World Bank, 2017). Generally, local communities have also been diminished in developing tourism planning in coastal areas,

with little concern given to their livelihoods. Therefore, achieving sustainable development is a huge challenge due to this organizational fragmented network. Johnson, Johansson, Andersson, and Sodahl (2013) asserted that the industry's many challenges, such as lack of knowledge and resources, lack of communication, conflict of interest, overlapping mandates, and poor project management, have been limiting factors to the attainment of sustainable practices in the industry. This emphasizes that inter-organization must mobilize and exchange knowledge, technology, expertise, and other resources to promote sustainable development in the coastal tourism industry. Hence, the non-involvement of coastal-related inter-organizations or professional groups may result in significant risks.

A. Sri Lankan Coastal Tourism

However, the strength of Sri Lanka's coastal economy is domestic and international tourism, which has been growing since 2012. Due in large part to Sri Lanka's exceptional natural resources, wildlife, and cultural heritage, the tourism industry has been steadily expanding in recent years. Coastal beach tourism provides a wide range of value-added products and generates 60% of the sector's overall revenues. Deep-sea sport fishing, watching marine mammals, sailing, different types of diving, boating, a variety of recreational activities, sunbathing, and watching turtles in the shallower reef waters are a few of these. The first million foreign tourists to Sri Lanka arrived there in 2012, according to official statistics. It increased to 1.3 million in 2013, a 26.7 percent increase (World Bank, 2017).

About 2.6 billion US dollars, or 3.9 percent of GDP, were directly contributed by tourism receipts in 2013. Regarding foreign exchange earnings for the country's economy in 2012, tourism ranked fifth with over US\$1.3 billion. Significant Foreign Direct Investment (FDI) was also drawn to it. A relatively labor-intensive industry, tourism directly supported 286,000 jobs in 2013 (3.5 percent of total employment) and is expected to support 360,000 jobs (4.3 percent of total employment) by 2024, growing by 2.5 percent annually (World Bank, 2017).

However, tourism has not yet reached its full potential, so better management of the natural resources that attract tourists is crucial. For instance, Sri Lanka is ranked 42nd globally in terms of endowment of natural resources while placing 64th out of 139 nations on the 2017 World Economic Forum's Travel and Tourism Competitiveness Index (World Bank, 2017). The absence of infrastructure that fosters tourism growth and a workforce with the necessary qualifications is one of the crucial issues that investors and operators frequently call attention to. The main tourist destinations are experiencing environmental degradation, which influences tourism revenue growth. Regarding environmental sustainability, Sri Lanka came in at 93rd out of 139 nations (World Economic Forum's Travel and Tourism Competitiveness Index, 2017).

In fact, for a small island like Sri Lanka, the coastal area obviously forms a significant part of the landscape. Development activities in the tourism sector and in the coastal zone play a crucial role in the country's economy. Therefore, the coastal belt offers coastal residents unlimited benefits over a wide area. For the purposes of management and conservation of the coastal environment, the coastline is defined as the "coastal zone", which in the 1981 Coastal Protection Law is "the area that, within a limit of 300 m towards land, the mean high-water level and a limit of 2 km towards the sea is the mean low water level. For rivers, streams, lagoons, or other bodies of water that are permanently or periodically connected to the sea, the land-side boundary extends to a limit of 2 km,

measured perpendicular to the straight baseline drawn between the natural access points. Therefore, marine, and intertidal ecosystems comprise mangroves, coral reefs, sand dunes, lagoons, and beaches. Together with the Western Ghats, Sri Lanka is classified as one of the world's biodiversity hotspots, sustaining over 3000 endemic plant species, 87 endemic amphibians and over 20 endemic bird and mammal species (Coastal Zone Management Plan, 2018). Therefore, Sri Lanka is blessed with numerous and diverse coastal and marine resources that have great potential for tourism.

However, the Coastal tourism industry is a very challenging industry since it is interdependent and interrelated with many coastal sectors and coastal communities. The main limitations are insufficient government involvement in coastal area management, lack of awareness and commitment and willingness of the local community in community management (Kumara, 2021). Despite Sri Lanka's efforts in Integrated Coastal Management (ICM) projects spanning over three decades, achieving consensus on the sustainable development of coastal tourism remains a challenge. Several key weaknesses contribute to this situation. Firstly, the setting of short-term project goals can hinder the long-term vision of sustainable coastal development. Secondly, not meeting the expectations of the participating coastal communities leads to a lack of community buy-in and support for ICM initiatives.

Moreover, there is a notable lack of commitment to ICM, resulting in inconsistent implementation and follow-through on plans. Institutional fragmentation further complicates the matter, with many ministries and organizations sharing overlapping responsibilities for coastal resources. This decentralization of management functions, coupled with inadequate human and financial resources, leads to inefficiencies and hindered progress in coastal management (Weerakoon *et al.*, 2020). In Sri Lanka, the supervision and implementation of all tourism-related policies, programs, and projects is under the responsibility of the Ministry of Tourism and Christian Religious Affairs. Tourism related agencies under the Ministry of Tourism include:

- Sri Lanka Tourism Development Authority (SLTDA) is responsible for planning, developing, regulating, and implementing policies on travel.
- Sri Lanka Institute of Hotel and Tourism Management (SLITHM) is responsible for all aspects related to the training and development of industry professionals.
- Sri Lanka Tourism Promotion Department (SLTP) is responsible for activities related to the development, promotion, and marketing of Sri Lanka as a tourist destination.
- Sri Lanka Convention Bureau (SLCB) is responsible for promoting Sri Lanka as a venue for meeting, incentive, convention, and exhibition (MICE) tourism.

At the central level of government, Sri Lanka has 25 special administrative regions organized into nine provinces; each district is divided into 331 District secretary divisions (DSD) (Ministry of Public Administration and Disaster Management, 2014). Each province has a Provincial Council responsible for provincial planning, urban development, environmental management, and economic services - including tourism of the province. The Tourism Authority in the Provincial Council supports the national goals defined by the Ministry of Tourism and coordinates the development actions with the DSD (MoT, 2017). Depending on the infrastructure, services, and attractions in each region, there may be overlapping jurisdictions with other line ministries and institutions (IUCN,2020; MoT, 2016). For example, while beaches are significant to tourism, coastal areas also fall under

the mandate of the Coast Conservation Department (CCD), the Urban Development Authority (which functions under the Ministry of Defence), the Ministry of Environment, and the Marine Protection Agency (MMDE, 2011). Thus, the CCD, the Urban Development Authority, the Ministry of Fisheries and Ocean Resources, and the Department of Fisheries and Aquatic Resources. The Department of Wildlife Conservation, the Ministry of Forestry and Environment, the Ministry of Environment and Natural Resources, the Central Environmental Authority, the National Aquaculture Development Authority, the National Aquatic Resources Research and Development Agency, the Ministry of Local Government, Housing and Construction, the Marine Pollution Prevention Authority, the Marine Environmental Protection Authority, are some of the institutions at the central level that are responsible for the management of coastal and marine resources and areas.

Additionally, political interference in the permit process, which falls under the primary responsibility of the Coastal Conservation Department (CCD), poses a significant challenge to effective coastal conservation efforts. Such interference may compromise the proper management and protection of coastal areas (Weerakoon *et al.*, 2020). Addressing these weaknesses is crucial to achieving sustainable development in Sri Lanka's coastal tourism industry. A more coordinated and focused approach, along with a stronger commitment to long-term goals, is essential. Rationalizing institutional responsibilities and providing adequate resources for coastal management will enhance efficiency and effectiveness in ICM initiatives.

By overcoming these challenges, Sri Lanka can foster a more integrated and sustainable approach to coastal tourism management. Engaging with coastal communities, ensuring transparency, and aligning short-term projects with long-term sustainability goals will contribute to the preservation of coastal ecosystems and the overall well-being of the nation. Efforts to strike a balance between economic development and environmental conservation will be instrumental in securing a resilient and prosperous future for Sri Lanka's coastal industries, including coastal tourism.

B. Significance of the Study

The literature on knowledge transfer and an integrated approach in Sri Lanka's coastal tourism is currently limited, leaving a significant gap in understanding this crucial aspect of the industry. Addressing this knowledge gap is essential as it can provide valuable insights into how knowledge flows within the tourism sector, which stakeholders are involved, and how an integrated approach can foster sustainable development. By conducting in-depth research in this area, scholars and practitioners can gain a deeper understanding of the challenges and opportunities for knowledge transfer, leading to more effective strategies for enhancing the overall performance and sustainability of Sri Lankan coastal tourism.

The quintuple helix model, which traditionally involves government, academia, industry, civil society, and the media, can be further extended and refined based on new findings and data analyses. This extension could include additional stakeholders or factors that play crucial roles in knowledge transfer within the context of Sri Lanka's coastal tourism. By refining the model to align with the specific dynamics of the coastal tourism industry in Sri Lanka, researchers can offer a more comprehensive and nuanced framework for understanding and enhancing knowledge transfer processes. This updated model would serve as a valuable guide for policymakers and practitioners seeking to foster innovation, collaboration, and sustainable development in the tourism sector.

This study represents an inspiring shift in research focus by emphasizing a more integrated approach to investigating complex knowledge transfer phenomena. Rather than studying individual concepts in isolation, this research aims to explore the interplay between various aspects that contribute to successful knowledge transfer within the coastal tourism context in Sri Lanka. By adopting such an integrated approach, researchers can uncover hidden relationships, synergies, and potential barriers that may not be apparent when investigating single elements independently. This holistic perspective will not only advance theoretical understanding but also provide practical recommendations for fostering effective knowledge transfer practices that drive sustainable development and innovation in Sri Lanka's coastal tourism.

The theoretical contributions of this study lie in bridging the gap between organizational network analysis and knowledge transfer aspects in the context of sustainable development. Unlike some previous studies that solely focused on examining the structural attributes of organizational networks, this research delves deeper into exploring the pivotal role of knowledge transfer in facilitating successful collaboration among organizations. By analyzing the relationship between knowledge transfer, organizational networks, and sustainable development in Sri Lanka coastal tourism, this study sheds light on how knowledge transfer and collaboration can lead to positive economic, social, and environmental outcomes. These theoretical insights not only enrich the academic discourse but also offer practical implications for policymakers and industry stakeholders, emphasizing the importance of fostering knowledge transfer mechanisms to achieve sustainable growth and development goals (Munasinghe, 2019).

In terms of the practical gap, by focusing on identifying structural weaknesses, strengths, and knowledge flow bottlenecks in the integrated coastal zone management (ICZM) systems of Sri Lanka, policymakers and practitioners can take crucial steps towards strengthening the sustainability and resilience of coastal tourism destinations. Understanding the inter-organizational knowledge transfer mechanisms and their effectiveness in the sustainable development of coastal tourism in Sri Lanka can lead to valuable insights that inform the development of effective strategies and policies (Hay Mele et al., 2019).

Through a thorough analysis of the existing ICZM systems, policymakers, and practitioners can pinpoint areas that require improvement. This may involve identifying gaps in coordination and collaboration among different stakeholders involved in coastal tourism management. By addressing these structural weaknesses, the ICZM systems can be enhanced, leading to better environmental protection, resource management, and community engagement.

Overall, the insights gained from research on inter-organizational knowledge transfer and its role in coastal tourism sustainability can empower decision-makers to make informed choices that benefit both the tourism industry and the coastal ecosystems of Sri Lanka. This holistic approach to strengthening ICZM systems and knowledge transfer mechanisms can pave the way for a more sustainable and thriving coastal tourism sector in the country.

Therefore, this study aims to identify the role of inter-organizational knowledge transfer in the sustainable development of the Sri Lankan coastal tourism industry. Accordingly, following objectives are derived:

1. To identify the challenges in establishing sustainable development in Sri Lanka's coastal tourism industry.
2. To identify the co-relationship between knowledge transfer, organizational integration, and integrated sustainable coastal tourism management planning systems.
3. To develop a comprehensive and coherent conceptual framework based on the quintuple helix model and emerging data.

II. LITERATURE REVIEW

A. Knowledge Transfer in Tourism

Tučková, Zuzana, and Martina (2017) claim that tourism is a globally important sector with high levels of competitiveness and knowledge transfer. Over the last few decades, tourism has been one of the world's fastest-growing industries. The topic of knowledge transmission emerges in tourism studies extremely occasionally. In contrast, other academic subjects including agriculture, engineering, JCT, and mining, have a long history of university-industry-government collaboration, which is generally described as an extension, research, and development (R&D), or research and innovation (R&I) (Caravannis et al., 2018; Chapman et al., 2018). The phenomena of technology transfer have now been the focus of a large body of research, with journals like the *Journal of Technology Transfer* dedicated to it.

This distinction in research traditions is emphasized by several authors (Scott & Ding, 2008; Walters et al., 2015). They claim that when it comes to knowledge sharing, the tourism business falls behind other industries. When it comes to generating and transferring academic knowledge in the tourism industry, research tends to be predominantly focused on the hotel industry (Cooper, 2006; Ruhanen & Cooper, 2004). Knowledge transfer in tourism enterprises is the subject of a small body of research; Xiao and Smith (2007) identify barriers to knowledge transfer in a tourism industry dominated by small and medium-sized businesses, while Cooper (2006), Weidenfeld, Williams and Butler (2010) investigate knowledge transfer in tourism businesses of various sizes.

Knowledge transfer research in tourism has been less developed than in other areas of the economy (Xiao & Smith, 2007). The act of transmitting knowledge from one entity to another is known as knowledge transfer. As a result, information transfer can occur between corporations, societies, and organizations, as well as between private and public organizations and between producers and customers. Szulanski (2000) stresses that the recipient's absorption ability, which is tied to his past knowledge and skills, as well as his willingness to strive to integrate this new knowledge, is dependent on knowledge sharing. Lack of motivation can lead to postponement, rejection, interruption, inactivity, or acceptance when it comes to the application and use of shared knowledge. The transfer of knowledge between the various regional actors in the tourism sector is referred to as knowledge transfer (Lopes & Farinha, 2020; Rastegar & Ruhanen, 2023).

Academic and professional researchers in several sectors (IT, engineering, medical, etc.) have turned to collaboration to enhance bidirectional knowledge exchange in an era of constant technical, socio-economic, and regulatory progress (Brennenraedts et al., 2006). The tourism and hotel-related sectors, however, are out of date in this field, as Czernek (2017) and Walters et al. (2015) have highlighted. Knowledge-based economic and social development is built on interactions between universities, industries, and governments (Triple Helix), which are based on innovation and entrepreneurship. This is about the change of the major spheres from the double to the triple helix, which

goes beyond the evolution of industries through mutual interactions. This innovation regime takes a proactive approach to innovation and collaboration.

B. Inter-organizational Knowledge Transfer (IOKT)

Organizational knowledge transfer is divided into two types: inter-organizational and intra-organizational (Van Wijk, Jansen, & Lyles, 2008). Intra-organizational KT refers to the process of transferring and disseminating knowledge within an organization (Ollows & Moro, 2015). The organization does not require an external (Perrin et al. 2007). It could have two sub-processes, according to Chen, Hu, Chung and Yang (2005). The first sub-process is when inter-individual learning is happening. The second sub-process is when individual learning is converted into organizational learning through an organizational internal process. The process of IOKT is harder than intra-organizational KT (Easterby-Smith et al., 2008).

Therefore, IOKT is a method of passing knowledge from one donor organization to another recipient organization. IOKT involves at least two organizations and may include the movement, integration, and application of knowledge (Easterby-Smith et al., 2008). It's also a good approach for generating value or gaining a long-term competitive advantage (Lyles & Salk, 1996; Van Wijk et al., 2008) and enhancing business performance. Szulanski (2000) describes KT as a challenging process that is multifaceted and can be considered a social issue. At the inter-organizational level, it's considerably more complicated and tough (Chen et al., 2010).

Understanding the relationship between the interacting organizations is critical in the IOKT process. Before any sort of knowledge may flow from one party to another, both parties must agree on the purpose of the transfer. This can take the shape of a strategic partnership that organizes how the KT process will be implemented (Easterby-Smith et al., 2008). Because of the constraints involved with the KT process, managing this strategic alliance is tough and has a high failure rate (Song et al., 2020).

A combination of external and internal knowledge is required for a successful IOKT. Organizations can engage in two routes to facilitate the IOKT, as highlighted by Chen et al. (2010). Social and electronic networks are these channels. Face-to-face communication is enabled via social networks, which strengthens interpersonal bonds and enables implicit and explicit knowledge transfer. Electronic networks offer the advantage of sharing explicit knowledge quickly and at a low cost (Warkentin et al., 2001), but it is difficult to transfer tacit knowledge.

C. Inter-organizational Knowledge Transfer and ICZM Approach

There are opportunities to strengthen local employment and supply chains all over the world. Tourism and hospitality training can help to build capacity and form multi-stakeholder coalitions to ensure sustainable development that benefits host communities (UNEP, 2011). Governance structures for sustainable coastal tourism must effectively engage with various stakeholders at various levels, while also ensuring adequate capacity to deliver outcomes that meet their various objectives (UNWTO, 2013). This strategy would seek to strengthen the resilience of existing coastal destinations by fostering relationships that foster innovation and destination capacity building (Dwyer, 2017, 2018b).

Key players' roles in delivering sustainable coastal and marine tourism development should be clarified, with responsibilities identified at various levels of governance. Stakeholder strategies for developing and maintaining sustainable operations

can benefit from industry certification and tourist codes of conduct (Winder & Le Heron, 2017). Coordination of both the public and private sectors is especially important. Public-private partnerships have not yet played a significant role in coastal and marine tourism development, but they may be beneficial in fostering stakeholder collaboration and bringing additional finance to support developments (Delmon, 2017). Organizations and initiatives representing environmental and social interests and initiatives have the potential to play a critical role in facilitation and capacity building (Honey & Krantz, 2007).

Academic and research institutes, as well as training institutions and local consultants, can all provide extremely useful information and services (Dwyer, 2018a; Dwyer & Gill, 2019). International organizations should continue providing financial and technical assistance to developing countries to aid in planning and managing coastal tourism, as well as information sharing among countries (Dwyer, 2018b). Bringing stakeholders together in the context of tourist development is relatively easy but retaining commitment over time is more difficult. There are possibilities for forming social dialogue committees for various coastal and marine tourism sub-sectors (CLIA, 2017). Destinations might provide a permanent organized forum/discussion platform, bringing regional/local actors together (e.g., cruise operators, ports, and coastal tourism stakeholders).

Such structured communication platforms would enable the industry to work closely with all relevant stakeholders to exchange ideas, develop themes, share best practices, and create a shared vision to address current challenges (Dwyer & Gill, 2019; Dwyer, 2018b). This initiative could help to ensure that tourism is better mainstreamed in all government policymaking and is considered more closely in government decision-making processes (Hoegh-Guldberg, 2015).

Coastal tourism development has been characterized by a lack of interaction with other industries in many countries. ICZM implementations involved different levels of integration: between the relevant sectors, land and water, elements of the coastal zone, and the levels of government, country, and agencies (ThiaEng, 1993); Cicin-Sain & Belfiore, 2005; CicinSain & Knecht, 1998). An increasing number of countries are adopting ICZM to manage complex coastal issues (CicinSain & Belfiore, 2005). Despite widespread agreement that ICM is the best technique for human–environment management on the coast, its implementation has been problematic (Sorensen, 1997; Belfiore, 2003). This apparent failure of ICM to maintain the environmental health of coastal ecosystems, especially in developing nations, demonstrates the challenge of properly planning and managing coastal ecosystems (Christie, 2005; Christie et al., 2009). As an example, Taiwan has also launched several programs aimed at achieving better coastal management, but decisions regarding coastal development are still scattered among many agencies, at the middle level, central, provincial, and local levels (Chiau, 1998). The lack of coordination among these agencies makes the policies adopted largely ineffective (Chiang et al., 2017; Dirhamsyah, 2006.). Therefore, both top-down and bottom-up approach is necessary, those whose daily lives are dependent on resources are usually the best managers (Vierros, 2017). By connecting disparate sectors, knowledge sharing could play a critical role (Van der Molen, 2018). Collaborations amongst stakeholders with differing normative ideas on developing the coastal tourism industry while protecting the environment has been possible in the cases examined here, particularly through cooperative knowledge generation, knowledge exchange, and expert engagement.

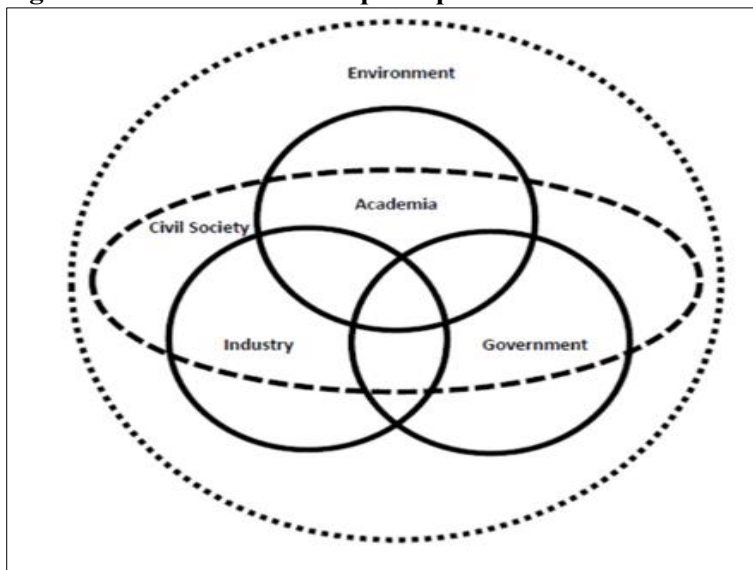
D. Inter-sectoral Knowledge Transferring and Quintuple Helix Model

Integrating is critical in today's knowledge-based economy, which is focused on innovation and, above all, smart, sustainable growth. The spread of the network has had a significant impact on the functioning and performance of numerous processes, including production, experience building, power, and culture (Castells, 2007), and ultimately enhances the development of the knowledge economy.

Currently integrating is used in a variety of models and at many levels, however fresh concepts for its evolution are continually being developed. Global networks are becoming more prevalent. Furthermore, they frequently involve a significant number of different entities, necessitating effective communication and relationship management among network participants. Models and technologies that enhance these processes are useful here, especially in terms of production and knowledge sharing, which allows for innovation. In terms of streamlining the organization and management of network ventures, with a focus on mutual knowledge and innovation flows.

The notion of the quintuple Helix Model, for example, was given to explain the organization and management of network enterprises by focusing on mutual flows of knowledge and innovation between different spheres. It analyses elements that increase networking processes, particularly in terms of the flow of knowledge and creativity between integrated participants and outlines the critical conditions for the growth of networking across organizations linked through networking. Using these models also dynamically shapes and develops the network's structure, as well as contributing to the sustainability of the organization (Pysz & Walancik, 2017).

Figure 1. Five helices of the quintuple helix



Source: Carayannis, E & Campbell, D. (2012).

The most important constituent element of the Quintuple Helix is the 'knowledge' resource, which is through a circulation (circulation of knowledge) between social

(societal) subsystems, changes to innovation and know-how in society and for the economy (Barth,2011a). The Quintuple Helix depicts the collective interaction and exchange of knowledge through five helices: (1) education system, (2) economic system, (3) natural environment, (4) civil society), and (5) political system (see Carayannis & Campbell (2010). To examine sustainability in a Quintuple Helix and determine sustainable development for progress, each of the five subsystems (helices) must have a unique and required asset at its disposal, with social (societal) and academic (scientific) relevance for use (Barth,2011a and 2011b; Meyer, 2008; Carayannis,2004, pp. 49–50). Therefore, in a Quintuple Helix by and with means of the five helices, the exchange of knowledge is being dealt with all its conjunctions, to promote knowledge-based sustainable development.

III. METHODOLOGY

This qualitative research study aims to explore and identify the role of inter-organizational knowledge transfer in the sustainable development of the coastal tourism industry in Sri Lanka, utilizing the quintuple helix model. Drawing upon the collaborative Quintuple framework that integrates the perspectives of the public, private, community, and academic sectors, the study adopts a qualitative approach to gain a comprehensive understanding of the impact of the knowledge transfer process. Further, participants for the in-depth interviews were selected through a purposeful sample method and the selection criteria were guided by the need to include voices from the different groups of stakeholders actively involved in the coastal tourism industry in Sri Lanka. This ensured a diverse range of perspectives crucial for a holistic understanding of inter-organizational knowledge transfer and sustainable development.

The researcher's extensive experience in the tourism industry for nearly 8 years and strong partnerships with industry stakeholders facilitated access to interviewees through gatekeepers. The total number of participants was 26. The researcher selected 7 from the government, 9 from academics, and 9 from community and industry staff respectively. Industrial participants also reside in coastal regions. Therefore, the researcher interviewed the same participants again to find out how they experience and deal with the same issues as a coastal community member. However, industry and coastal tourism participants were selected from one specific coastal area called "Hikkaduwa". Hikkaduwa has been a well-established tourist destination for many years, attracting visitors from all over the world. The presence of diverse tourism activities, including beach resorts, water sports, and local markets, offers valuable insights into the complexities of integrated coastal tourism management. Despite its popularity, Hikkaduwa is grappling with a range of sustainability challenges. Issues such as environmental degradation, waste management, and ecosystem preservation demand urgent attention and effective management strategies (Gunawardena, 2017).

By focusing on this area, the study aims to gain a comprehensive understanding of stakeholder perspectives on integrated coastal tourism development. However, for the community group interviews, which were conducted in Sinhalese, the researcher, being a native and fluent Sinhalese speaker in Sri Lanka, facilitated effective communication. The researcher employed an in-person and online interview method to gather data and adopt a qualitative approach. It took nearly 1 1/2 to 2 hours for an interview. Therefore, the researcher's extensive experience in the industry and living experience in a research-based area certainly support the research analysis. The researcher's reflexivity is essential throughout the process. It involves critically reflecting on one's own viewpoints,

assumptions, and biases, as well as how they may have influenced data interpretation and theme identification. Reflexivity ensures that the analysis is founded on data and isn't influenced by preconceived beliefs or expectations. Further, the study promotes smooth communication during community group interviews by using the researcher's fluency in the local language and cultural understanding. This linguistic proficiency generates a mutual understanding and respect environment, allowing the researcher to delve deeper into the cultural nuances and complexities of stakeholder experiences. The study attempts to capture the real spirit of local perspectives by embracing a reflective approach to communication, combining data analysis with a profound awareness of the cultural structure that drives coastal tourism dynamics. Reflexive thematic analysis is considered a reflection of the researcher's interpretive analysis of data. (Braun & Clarke 2019). Hence, the data of this research are analyzed using the Braun and Clarke reflexive thematic analysis method. The reflexive thematic analysis approach facilitated the identification of key themes, patterns, and interrelationships within the data, allowing for a comprehensive exploration of the research aims and questions (Braun & Clark, 2021). Therefore, this approach is underpinned by a commitment to uncovering the underlying themes, perspectives, and experiences of the stakeholders related to the coastal area. By immersing oneself in the data, this approach enables the identification of latent patterns and interconnected themes, thereby contributing to a holistic and informed understanding of the integrated coastal tourism landscape. Visualising the relationships between different themes and sub-themes is a crucial step in the reflexive thematic analysis process. This step helps to organize the data and demonstrate the connections and associations between various concepts, ideas, and theories. As a result, the conceptual framework was constructed based on the data analysis patterns and results, integrating the perspectives of the public, private, community, and academic sectors with sustainable concepts in accordance with the quintuple helix model. This framework explains the multifaceted interactions and interdependencies among these sectors, highlighting the critical role of inter-organizational knowledge transfer in fostering sustainable development within the Sri Lankan coastal tourism industry.

IV. RESULTS AND DISCUSSION

While the researcher is still gathering initial findings and still transcribing and listening to interview audio recordings, the Author has summarized the identified issues and challenges in establishing sustainability in the coastal tourism industry as follows:

Table 1. Summary of issues & challenges to sustainable coastal tourism development

Sustainable Development Theme	Issues and challenges
Environment	<ul style="list-style-type: none"> • Poor solid waste management • Poor water quality from high levels of sediment, sewage, and point and non-point source pollution • Poor tourism/urban environment • Ineffective sanctuary management • Reef degradation
Social	<ul style="list-style-type: none"> • Poor understanding of sustainable development • Lack of alternative sustainable livelihoods • Low level of local business capacity

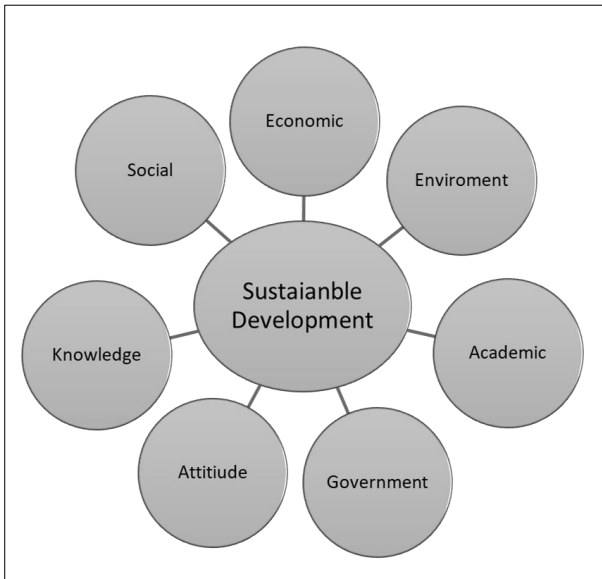
Sustainable Development Theme	Issues and challenges
Academic	<ul style="list-style-type: none"> • Lack of trust in the public sector • Lack of environmental and disaster education • The complexity of jurisdictions within the coastal zone • Lack of collaboration between industrial and academic researchers • Less pay for local academic staff for their research contributions • Conduct research on personal interest, funding purposes, and data generation purposes and not for industrial or country needs
Economic	<ul style="list-style-type: none"> • Lack of tourism marketing capacity • Poor quality tourism product • Lack of alternative sustainable livelihoods (over-reliance on tourism) • Dependency on external donor support for post-project plan implementation
Governance	<ul style="list-style-type: none"> • Regular staff transferring/changing (regional level staff transfers every 5 years) • Lack of legal authority for the community co-ordinating committees (ccs) • Lack of stakeholder unity/common views in dealing with political interference/external interference • “Top-to-bottom” and “bottom-to-up” approach, versus a weak “bottom-up” approach • Lack of statutory authority underpinning the right to participate • Too short time frame to effect lasting social and institutional change • A severe lack of monitoring and evaluation • Lack of political accountability in decision-making • Lack of interagency coordination and cooperation • Lack of regulation and enforcement of existing laws
Attitude	<ul style="list-style-type: none"> • Senior staff members are resistant to change. • Lack of trust in the public sector • Ego-driven behaviours and attitudes of staff
Knowledge	<ul style="list-style-type: none"> • Rigorous procurement procedures • Lack of transparency • Government top management are good listeners but have no implications as per the discussions • Differential interpretation of participation between written policy and practitioners focuses on conservation rather than integration with local sustainable development strategies

Sustainable Development Theme	Issues and challenges
	<ul style="list-style-type: none"> • Lack of legitimacy and the suitability of external interventions • Lack of career development training • Most businesses in tourism are family-run and rely on generations of experience. • Using traditional management and strategic system • Outdated policies/regulations/laws • No clear rules, policies, and regulations • Lack of a proper system for accessing data • No proper data-sharing management and policy • No proper platform for discussion and transfer of knowledge • Lack of new technology resources

Source: Author’s compilation.

Therefore, this preliminary research aims to present initial findings on the coastal resource management practices and existing challenges related to the tourism industry in the coastal zone. the research reveals that academic, private, public, social, environmental, knowledge, and attitude have a significant impact on the sustainability of the coastal tourism industry.

Figure 2. Multi-dimensions impact on sustainable development



Source: Author’s compilation.

Further, within these preliminary findings, the following suggestions emerge to enhance institutional coordination:

1) Streamline and Consolidate Agency Mandates: To achieve more efficient and effective coastal Zone management, it is recommended that relevant government agencies responsible for development planning and coastal Zone management review and consolidate their mandates. This process should aim to eliminate overlapping responsibilities and clarify roles, ensuring a unified and coordinated approach.

2) Foster Inter-Agency Collaboration: To enhance coastal resource management, it is crucial to strengthen the linkages and collaboration between all levels of the department. By working together, these departments can undertake demand-driven, bottom-up, and transparent spatial development planning at the district and village levels. This collaborative approach will better integrate local communities' needs and perspectives, leading to more sustainable development practices.

3) Capacity Building for Effective Stakeholder Response: Building key stakeholders' capacities is crucial for effective stakeholder response. These stakeholders include government officials, academics, research institutions, think tanks, the private sector, and coastal communities. To give stakeholders the skills and knowledge they need to effectively address the challenges of integrated coastal tourism management, training programs, workshops, and knowledge-sharing initiatives should be put in place.

4) Embrace an Integrated Coastal Zone Management (ICZM) Framework: Adopting an ICZM approach, particularly when coupled with spatial planning, is recommended to address climate and environmental risks in the coastal zone comprehensively. ICZM encourages a balanced consideration of ecological, social, and economic aspects, ensuring a sustainable and resilient approach to coastal industry development.

5) Long-Term Focus on Coastal Resource Capacity: A well-coordinated inter-sectoral approach with a long-term perspective on the capacity of coastal resources to support economic development is vital. By considering the sustainability of coastal resources and ecosystems, decision-makers can foster economic growth while safeguarding the environment and coastal communities' well-being.

After completing the findings and data analysis, the research will proceed to refine the conceptual framework for integrated sustainable development of the coastal tourism industry, guided by the Quintuple Helix Model. The refined framework will focus on strengthening stakeholder collaboration, promoting sustainable tourism practices, emphasizing environmental conservation, and building stakeholder capacity.

Upon completing the refinement of the conceptual framework, the research will propose an integrated strategy for sustainable development in the coastal tourism industry. The strategy will involve multi-stakeholder partnerships, informed decision-making processes, and sustainable tourism practices. It will prioritize the preservation of coastal ecosystems and the well-being of local communities while promoting economic growth and opportunities in the tourism sector.

V. CONCLUSION, IMPLICATION AND FUTURE RESEARCH

The preliminary research highlights the existence of numerous challenges in establishing sustainable development in the coastal tourism industry. These challenges necessitate

addressing key areas such as economic, environmental, social, academic, private, knowledge and attitude.

Hence, the knowledge transfer aspect is essential in disseminating best practices, innovative ideas, and scientific findings among academia, government, industry, civil society, and coastal communities. Building a collaborative network for knowledge exchange will empower stakeholders with up-to-date information and enhance their capacity to make informed decisions.

Furthermore, inter-organizational collaboration is crucial for successful coastal resource management and tourism development. By fostering synergies between government agencies, businesses, NGOs, and local communities, the framework can strengthen stakeholder collaboration and participation, resulting in more effective and inclusive policy-making processes. The integration of sustainable development principles into the ICM system is vital to ensure that economic growth in the coastal tourism industry does not compromise the natural environment and local livelihoods. This requires a holistic approach that considers the socio-economic and environmental dimensions of coastal tourism development.

Through in-depth studies and engagement with diverse stakeholders, the refined conceptual framework will be enriched. The research findings will guide the development of the integrated strategy tailored to the specific needs and context of the coastal tourism industry.

Further, this study is notable for focusing on previously unexplored areas of knowledge transmission and collaboration across sectors in the Sri Lankan context. The research intends to highlight the need to increase awareness and emphasize the benefits of inter-organizational collaboration within the coastal tourism industry by clarifying the lack of awareness and comprehension of knowledge transfer dynamics. Notably, the application of the quintuple helix model in tourism is relatively unexplored in the existing literature, particularly in the context of South-Asian countries versus Asian Pacific countries. Consequently, this research stands out as a pioneering endeavor that contributes not only to the practical enhancement of the Sri Lankan coastal tourism industry but also to the academic field, offering a fresh perspective and novel insights that can pave the way for future research initiatives and policy recommendations.

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