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The Architecture of Possibilities: Exploring Opportunities, Tensions and Challenges in the Establishment of Four Secondary-Level TVET Institutes to Inform a Framework to guide Models for TVET System Development in Small Island Developing States (SIDS)

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A DISSERTATION

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DECLARATION

I hereby declare that this dissertation entitled “The Architecture of Possibilities: Exploring Opportunities, Tensions and Challenges in the Establishment of Four Secondary-Level TVET Institutes to Inform a Framework to Guide Models for TVET System Development in Small Island Developing States (SIDS)” is my original work. The content presented except for where referenced is the result of my own research and investigation. It has not been submitted, either wholly or in part, for any other degree or academic qualification at any institution of higher learning.

This work is submitted in fulfillment of the requirements for the degree of Doctor of Philosophy (Ph.D.) in Technical Vocational Education and Training in the Faculty of Arts and Humanities at Selinus University of Science and Literature.

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ABSTRACT

This doctoral dissertation, titled “*The Architecture of Possibilities: Exploring Opportunities, Tensions and Challenges in the Establishment of Four Secondary-Level TVET Institutes to Inform a Framework to Guide Models for TVET System Development in Small Island Developing States (SIDS)*”, investigates the complex dynamics of Technical and Vocational Education and Training (TVET) system development within resource-constrained and context-sensitive environments. Drawing on the case of four recently established secondary-level TVET institutes in Saint Lucia, the research explores the structural opportunities, operational tensions, and systemic challenges encountered in their development and implementation.

Using a pragmatic research paradigm and an applied mixed-methods approach, the study integrates quantitative data from surveys with qualitative insights derived from interviews and document analysis. Findings reveal that while TVET institutions in SIDS can act as vital conduits for youth empowerment, labor force readiness, and economic diversification, their potential is constrained by fragmented policy ecosystems, under-resourced infrastructures, sociocultural stigmas, and limited alignment with labor market needs. Nevertheless, the institutes demonstrate notable promise in fostering entrepreneurial mindsets, aligning with regional certification standards (CVQ/NVQ), and cultivating locally relevant training pathways.

The study proposes a contextually responsive framework to guide the development of sustainable, scalable, and adaptive TVET system models in SIDS. This framework emphasizes stakeholder integration, curricular flexibility, governance coherence, and institutional resilience. Grounded in human capital, social capital, and skills development theories, the research contributes a novel architectural metaphor for TVET reform—viewing system development as a dynamic process of design, structure, and adaptation. The findings have implications for policymakers, educators, and development agencies seeking to reposition TVET as a central pillar of national development in SIDS.

By situating local experiences within broader theoretical and global policy discourses, this dissertation not only enhances the understanding of TVET in St. Lucia but also provides a strategic blueprint for shaping inclusive, future-ready education systems similar contexts.

ABBREVIATIONS AND ACRONYMS

CANTA	Caribbean Association of National Training Agencies
CARICOM	Caribbean Community
CNG	Center for New Global Economy
CPEA	Caribbean Primary Exit Assessment
CSEC	Caribbean Secondary Education Certificate
CSC	CARICOM Skills Certificate
CTE	Career and Technical Education
CVQ	Caribbean Vocational Qualification
HIC	Higher Income Countries
ILO	International Labour Organization
LAC	Latin America and the Caribbean
NSDC	National Skill Development Corporation (India)
NVQ	National Vocational Qualification
NQF	National Qualifications Framework
OECS	Organisation of Eastern Caribbean States
RPL	Recognition of Prior Learning
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SLCTVET	Saint Lucia Council for Technical and Vocational Education and Training
SLNQF	St Lucia National Qualifications Framework
TAFE	Technical and Further Education (Australia)
TVET	Technical and Vocational Education and Training
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEVOC	UNESCO International Centre for Technical and Vocational Education and Training

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 Introduction

Many developing Caribbean states grapple to reconcile the long-standing models of education that has evolved largely from colonial times, with the demands of the contemporary social, economic and political landscape. This has largely spurred the education systems to constantly revisit and add on to the already existing priorities, structures and practices to keep up with the trends and demands of the more developed countries. Technical Vocational Education and Training (TVET), has recently gained new currency in the education systems of many Small Island Developing States (SIDS) such as the Caribbean, in response to labor market needs and as a strategy to contribute to economic development.

With limited resources, these small island states face unique economic challenges that now necessitates them to look towards the development of their human resource to create a skilled workforce. TVET has now become crucial towards achieving economic resilience and this is actualized in its prioritization on the national agendas of these SIDS. TVET holds the promise of bridging the skills gap, thus aligning education and industry. Additionally, TVET offers the opportunity to empower individuals by offering focused pathways towards employment and entrepreneurship. In a UK based TVET blog, one post stated that “TVET is integral in the global pursuit of the United Nations Sustainable Development Goals (SDGs)”. The education systems are tasked with implementing TVET models that are contextualized and efficient in order to drive economic diversity and resilience, and build capacity for emerging industries. Whereas there is a general tendency to replicate the TVET models of the Higher Income Countries (HIC), a collaborative report by the World Bank, ILO and UNESCO, advises against replicating the TVET policies and institutions without paying adequate attention to a country’s specific characteristics (2023). The architecture of TVET in the education system requires a two layered design that responds to current

and projected labor force needs, as well as direct training towards developing skills capacities that will create the work force necessary to achieve future economic visions for development of the SIDS.

1.1 Background to the Study

The incorporation of Technical and Vocational Education and Training (TVET) in the education system in Small Island Developing States (SIDS) has been a response approach in the formal education system to occupy students unable to cope with the mainstream academic program. These TVET programs are usually not based on any clear guiding principles and perpetuate the stigma of TVET for the non-academic. The absence of a framework to shape TVET models to suit the context of each unique small economy state, accounts for largely unplanned or well thought out implementations of TVET in the formal education system. It is likely that the structure of TVET, is usually based on an imitation of fragments of TVET models existing in the developed world and not fully aligned to the needs, context and resource base of SIDS. In other instances, the design of TVET in the education system is heavily dictated by the fulfilment TVET related project deliverables agreed upon with external agencies.

1.2 Overview of TVET in the SIDS

The place of TVET in the education system of the Caribbean has evolved significantly from the post emancipation period to present, shaped by both the economic needs and social transformation of the various islands. After emancipation in the 19th Century, education focused primarily on literacy and religious instruction, with some emphasis on vocational skills. However, with the decline of the agriculturally based plantation economy, the rise of new industries necessitated skilled labor. The late 19th to early 20th century saw the rise of informal community based training offered through apprenticeships with a focus on manual labor rather than academic and professional development in areas such as carpentry, masonry, tailoring, mechanical repairs and other trades essential for the emerging economy. By the mid-20th century the onset of independence in the islands, brought about

more concerted efforts to modernize education with governments recognizing the importance of TVET in driving economic development. Through individual and regional collective education policies and initiatives, the various islands sought ways to incorporate TVET into the formal education system largely targeting post primary, secondary and post-secondary establishments. The Caribbean Community's (CARICOM) growing recognition of the importance of TVET has led to the emergence the Caribbean Association of National Training Authorities (CANTA) to coordinate, quality assure and accredit all National Training Agencies found in each island. CANTA has developed and revised since 2013 a *Regional TVET Strategy for Workforce Development and Economic Competitiveness* aimed at TVET development in the region. In CARICOM, training and certification in TVET towards workforce development is achieved through CANTA endorsed Caribbean Vocational Qualifications (CVQ), and National Vocational Qualifications (NVQ) developed by individual territories.

The establishment of the CVQ's and NVQs as acceptable workforce qualifications was preceded by the Caribbean Secondary Examinations Certificate (CSEC) offered by the Caribbean Examinations Council (CXC). In the 1970's CSEC was ratified by 15 Caribbean territories and eventually edged out the British administered General Certificate Examinations (GCE) which was the traditional order of the day at all secondary schools. The remote administration of the GCE limited the offering of practical TVET subjects. The introduction of CSEC made available a wide range of subjects including those commonly categorized as academic and as well as several technical subjects with a theoretical and practical component. Presently these technical proficiencies constitute largely what is considered TVET at the secondary school level. In recent times, employers have lamented that the CSEC technical proficiency subjects do not adequately prepare students with the skills, knowledge and attitudes required to transition seamlessly into the world of work. These technical proficiency subjects focus on providing an understanding of the science and principles of the various areas accompanied by practicals that prove or demonstrate aspects of the theoretical underpinnings.

Vocational training on the other hand are not considered subjects in the way the technical proficiencies are delivered but instead includes the development of the knowledge, skills and attitudes aligned to industry standards for a specific occupation or job role. It therefore created a conundrum for the education system to integrate competency-based work ready qualifications into the curriculum of secondary schools while maintaining the traditional academic status quo. The challenge for the education system is to reconcile the vocational / academic tension in the structure of the education system particularly at the secondary school level.

Therefore, the establishment of four secondary-level TVET institutes in one Small Island Developing State (SIDS) presents a unique combination of opportunities, tensions, and challenges, which, can inform the development of a framework to guide a sustainable and contextually relevant TVET system model tailored to the specific needs and constraints of SIDS. These institutes, through their effective utilization of available resources, stakeholder engagement, and strategic alignment with national and regional economic goals, have the potential to enhance skill development, promote economic and social resilience, and inform scalable models for TVET systems in similar contexts.

1.3 Statement of the Problem

While TVET has the potential to play a pivotal role in addressing workforce development challenges, many SIDS face significant barriers in establishing and sustaining relevant TVET models aligned to the needs of their regions due to the absence of a clear framework to guide the model for TVET systems development in the SIDS.

1.4 Aim of the Research

To critically examine the establishment of secondary-level TVET institutes in Small Island Developing States (SIDS) by exploring the opportunities, tensions, and challenges that arise in their

development in order to develop a framework for developing comprehensive, context-specific models of similar TVET systems.

1.5 Specific Objectives

The following articulates the specific objectives in this research:

- i) To identify the opportunities derived from the establishment of secondary level TVET institution
- ii) To analyse the tensions and challenges in establishing TVET institutions in SIDS
- iii) To Evaluate the Effectiveness of Existing TVET Models in SIDS and Other Similar Contexts
- iv) Propose a framework to guide flexible, sustainable, and context-specific models for TVET system development in SIDS.

1.6 Research Questions

- i) What tensions and challenges arise in the process of establishing secondary-level TVET institutes in SIDS, and how do local, economic, cultural, and political factors shape these challenges?
- ii) What are the key opportunities and potential benefits associated with the establishment of secondary-level TVET institutes in the context of a Small Island Developing State (SIDS) in its contribution to national and regional development goals?
- iii) How can the integration of local needs, stakeholder engagement, and regional economic priorities inform a sustainable TVET systems framework tailored to the specific realities of Small Island Developing States (SIDS)?
- iv) How can the findings of the research based on the establishment of four secondary-level TVET institutes in SIDS inform a framework to guide scalable, adaptable models for TVET across similar island contexts?

1.7 Significance of the Research

The significance of this research lies in its potential to transform education and economic development in Small Island Developing States by focusing on the lessons derived from the establishment of secondary-level TVET institutes to provide a framework to guide contextually relevant models for other island nations or small economies grappling with similar challenges. The framework developed through this research becomes part of the mechanism to address critical issues such as youth unemployment, skills mismatches, and access to quality education, towards the development of resilience and sustainable growth of these vulnerable nations.

1.8 Scope of the Research

This research has a comprehensive scope, aiming to inform the development of a model for TVET system creation in small island nations. It will explore both the opportunities and challenges that these countries face in establishing secondary-level vocational education institutions, ultimately contributing to a framework that can guide TVET system development across SIDS in a sustainable and contextually appropriate manner.

1.9 Limitations of the Research

Although this research allows for a critical study of the establishment of four secondary level TVET institutes as a basis for forming a framework to guide a contextually relevant model for TVET in the formal education system, its scope is limited to a single island. The research assumes that the context is similar in other SIDS and the finding will be applicable in their contexts.

While TVET may be an area that is better researched in the developing world, the literature that speaks more specifically to its implementation and design in the SIDS, particularly the Caribbean region, is limited and whatever data exists may be sporadic, largely unorganized and inaccessible. UNESCO /UNEVOC houses the larger repository of data related to TVET globally, and this research

further accepts that the data related to the Latin America and the Caribbean (LAC) as well as the rest of the developing world will be relevant to our context.

1.10 Research Method

The applied research method which focuses on solving practical, real-world problems and generating solutions that can directly inform practice, policy, or decision-making is more suitable to this research. This will be conducted through focus groups, stakeholder engagements, document analysis, comparative analysis and framework development in order to generate practical, actionable insights and solutions for the establishment and development of TVET systems in Small Island Developing States (SIDS).

1.11 Organization of the Study

This research will consist of six chapters that will present the following including this first chapter:

1.11.1 Chapter 1 – Introduction to the study

This section establishes the context for the study and provides a clear background that frames the crux of the research. It also includes a succinct statement of the problem, the relevance of the research, the aims, objectives, research questions and the scope and limitations of the study.

1.11.2 Chapter 2 – Review of Literature

This chapter offers a critical assessment of the literature and compares various models of TVET at the secondary level in other developing countries as well as in the global context. It examines the tensions, challenges and opportunities that confront TVET in other developing nations.

1.11.3 Chapter 3 – Research Methodology

In this section the construct of the research is described. It describes the method and sets the parameters and contexts within which the data is collected and presented.

1.11.4 Chapter 4 – Data Analysis and Discussion

In this chapter the data is collected and presented with discussions that connect the data analysis to the research aim and ensuing questions.

1.11.5 Chapter 5 – Framework for Guiding the Development of TVET Models for SIDS

This most critical chapter embodies the purpose of the research, which is to propose a framework distilled from the findings of the research. The tensions, challenges and opportunities presented from the examination of the four secondary level TVET institutes established will inform this framework which will present a set of guiding principles that should be transferrable to SIDS seeking to determine a contextually relevant model for TVET at this level in the education system.

1.11.6 Chapter 6 – Conclusion

This chapter determines the extent to which the research questions have been answered and the aim achieved. It establishes how its findings and the framework developed as a product of this research will benefit the education system of other SIDS desirous of establishing an effective context relevant TVET model equivalent to secondary school level.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The role of Technical Vocational Education and Training (TVET) in adding value to the mainstream education system remains undisputable, due to its potential to strengthen the link with economic development. Morley (2024), in a blog post titled *Skills, Jobs, and Prosperity: Unpacking the Economic Impact of Vocational Education* sites that “TVET qualifications have been linked to reducing unemployment rates by as much as 40% in some countries” and that it “creates a bridge between education and economic growth”. While the justification for TVET remains sturdy, the design and implementation of a suitable context relevant model poses the challenge for many small economy states. This chapter explores the literature that underpins the premise that a transformed TVET system is critical to transformational development (UNESCO, 2016). It considers the challenges, tensions and opportunities that frames the guidelines for designing relevant and effective models for TVET implementation at the secondary level of the education system.

This review examines the various contextual elements which frame the development of TVET systems in SIDS and the existing theories, models and frameworks of TVET. The literature will establish the relevance of the nexus between an understanding of the contextual challenges, tensions and opportunities with the formulation of guidelines to frame the development of relevant TVET models. This literature review seeks to reconcile the realities of Small Islands Developing States with global mandates to produce a framework guiding the implementation of effective TVET models.

2.1 The Role of TVET in Development

UNICEF (2019) projects that “by 2030, an estimated 825 million are expected to leave school without basic secondary level skills”. It continues to outline that 39% of employers in nine diverse countries (including high income countries) claim that a leading reason for entry level vacancies in diverse economies is due in part to a skills shortage”. As such Technical and Vocational Education and Training (TVET) plays a crucial role in the national development of the more vulnerable Small Island Developing States (SIDS) by addressing both economic and social challenges while contributing to sustainable growth. An article by the German Federal Ministry for Economic Cooperation and Development points out that “with a high proportion of children and young people, it is particularly the worlds poorest countries that have a rapidly growing number of potential workers”. It further states that “this favorable age structure can prove useful for a growing economy” and “can actually be converted into demographic dividend”. If TVET encompasses education and training that equips individuals with the skills, knowledge, and competencies required for specific jobs therefore in SIDS, where economies are small, and resources are often limited, it stands to reason that TVET serves as an essential mechanism for human capital development and poverty alleviation, playing a key role in national development.

SIDS face unique challenges due to their geographical isolation, small populations, vulnerability to external economic and political vacillations, regional and global policy shifts, and climatic events. These challenges highlight the need for an effective TVET system that addresses the labor market demands and equips individuals with the necessary skills to thrive in a globalized and technologically advancing world. According to the International Labour Organization (ILO, 2013), TVET in SIDS has the potential to enhance economic productivity by providing relevant skilled labor to critical sectors determined by labour market needs. Moreover, TVET serves as a catalyst for entrepreneurship, providing individuals with the skills to start small businesses and reduce

unemployment, particularly among youth, who are often disproportionately affected by limited job opportunities (UNESCO, 2015).

Global trends and best practices in TVET

In many of the SIDS, TVET has proven to be an indispensable strategy to achieve the broader sustainable development agenda. In alignment with the United Nations Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth), TVET can help build a resilient and adaptable workforce that is capable of driving sustainable development. For instance, TVET programs that emphasize sustainable agricultural practices or renewable energy technologies can empower the workforce to respond to the environmental challenges faced by many SIDS.

One of the most significant global trends in TVET is the increasing emphasis on aligning education with labor market needs. As economies become more dynamic and technological advancements continue to reshape industries, TVET programs worldwide are focusing on providing skills that are relevant to the current and projected job markets. This shift is seen in the growing integration of digital literacy, green skills, and entrepreneurship into TVET curricula, as these competencies are essential for addressing the challenges of the fourth Industrial Revolution and sustainable development goals. Countries such as Germany and Singapore have led the way with robust apprenticeship models that offer students hands-on training and direct links to industry sectors, ensuring that TVET graduates are better prepared for employment (OECD, 2020). This model has been widely adopted as a best practice, with several countries seeking to replicate its success by attempting to foster closer partnerships between TVET institutions and industry.

Another emerging trend is the recognition of the value of lifelong learning, recognition of prior learning and the development of micro credentials through more flexible TVET systems. In response

to rapidly changing job requirements and the need for continuous skill upgrading, many countries are transitioning towards more flexible and accessible TVET options. This includes access to non-traditional learning platforms, micro-credentials, and short-term certification programs that allow workers to upskills and retool without committing to full-time formal education. For example, Australia's TVET system has incorporated a strong emphasis on Recognition of Prior Learning (RPL) to acknowledge informal and non-formal learning, enabling workers to gain formal qualifications through their experiences. Such arrangements in TVET are helping to make skills development more inclusive and adaptable, and encourages increased participation and access to training and certification.

Best practices in TVET also emphasize inclusivity and gender equality. Globally, TVET programs are increasingly designed to ensure that marginalized groups, including women, youth, and persons with disabilities, have access to the training and skills necessary for meaningful employment. Programs like the European Union's "Skills for Jobs" initiative focus on promoting gender equality and expanding training opportunities for women in sectors traditionally dominated by men, such as engineering and information technology (UNESCO, 2019). Moreover, countries are increasingly adopting dual education systems that combine classroom-based learning with workplace experience, offering more equitable opportunities for diverse learners. These inclusive approaches not only support social equity but also enhance the resilience and diversity of the workforce, positioning countries for sustained economic growth and social stability.

The link between education and employment

The SIDS have the constant challenge of reconciling competing priorities with their very limited resources. While exogenous economic growth theory paints an optimistic perspective on development for SIDS, by positing that despite limited resource and small scale economies, long-term economic growth can be driven by external factors, such as technological progress, rather than

internal factors like capital accumulation or labor force growth experiences have indicated otherwise. The SIDS dependence on external factors such as foreign direct investment (FDI), remittances from the diaspora, and technological transfers from developed countries are not sufficient to leap frog their economies to the level of competitiveness and sustainability of large economies. While technology and external capital inflows can spur growth, in a more realistic application, reliance on external factors may leave these nations vulnerable to external shocks, such as global economic downturns, natural disasters, or shifts in international trade policies. Development strategies must instead turn inward to developing the skill potential of its greatest resource, its people, towards meeting the current and projected labor needs.

The value Technical and Vocational education has been a long raging source of debate in considering the economics of training. Proponents of traditional education may argue that the return on investment on skills training is lower than that of academic secondary education based on educational quantity as a proxy for educational quality. In recent times the discourse has been flipped, and many contemporary global agendas taut TVET as an instrumental mechanism in driving developmental goals. Jane Schueler and Phil Loveder (2020) in *Understanding the Return of Investment on TVET: A Practical Guide*, states that state's return on investment into TVET is complex and context is critical in its determination and by extension the design of the TVET system to attain relevant drawdowns.

An International Labour Organisation report observes that, “supply-driven training, limited resourcing and chronic underinvestment in institutions and programmes have created barriers to the development of the right skills needed by the labour market, both today and in the future” (ILO, 2022, p.47). However, well calculated strategic investment in skills development through TVET can result in “better education and training [which] fuels innovation, investment, economic diversification and competitiveness, as well as social and occupational mobility” (ILO, 2022, p.7).

2.2 TVET Models and Frameworks

TVET system models

While there may be a strong inclination of SIDS towards the whole sale adoption of the TVET system models developed within the context of large scale economies, without considering the contextual factors that may be quite different from the realities of their small economies, it is still a valuable starting point for adapting to their own context. Several TVET system models have proven successful and possess elements that are adaptable to the specific context of SIDS.

The German dual education system is often regarded as a benchmark for TVET worldwide, and it has been emulated in numerous countries. This model combines theoretical education at vocational schools with practical training in real-world work environments, typically through apprenticeships. The key to its success lies in the close knit collaboration between businesses, industry associations, chambers of commerce, vocational institutions, and government agencies. The World Database: Germany explains the beginning of the dual system model stating that “*at lower secondary level (Hauptschule and Realschule) an introduction to the world of work is compulsory in all courses, either in a separate subject, pre-vocational studies (Arbeitslehre) or as part of the material used in other subjects. Initial TVET starts at the upper-secondary level when students, having completed compulsory education (generally at the age of 15), may choose from the range of programmes that include full-time general education and vocational schools and vocational training within the dual system*” (UNESCO-UNEVOC, 2012, p.8). For SIDS, the German model offers an attractive framework in its potential to bridge the skills gap and improve youth employment prospects. In small island states, where there is often a mismatch between education outcomes and market needs, the dual system the significant involvement and influence of industry could help provide relevant training aligned with local industry demands. The key challenge for SIDS would be establishing robust partnerships with the private sector due to limited industrial capacities.

Australia's massive TVET system is renowned for its flexibility, industry relevance, and accessibility. One of the key components of this system is the Australian Qualifications Framework (AQF), which includes a clear structure of qualifications that guide learners from vocational certificates to advanced diplomas and higher education. The Australian system is characterized by strong public-private partnerships, where industry stakeholders are integral in designing curriculum and training standards. For SIDS, the Australian model could offer important lessons in making TVET accessible and relevant to local labor market needs. The AQF's serves as a model for creating clear pathways and the flexibility in expanding access for all. It has been noted that "specific vocational programs within general secondary schools are becoming increasingly popular, and a few specialist vocational high schools are beginning to re-emerge" (Robinson, 2000, p.4). The literature continue to show that this secondary level training pathway is not considered part of the Australian vocational education and training sector but must be supported and endorsed by the Technical and Further Education (TAFE) institutes to attain recognition. Students in lower secondary pursue Certificate I and II levels and upper secondary Certificate III in accordance with the AQF (Payal, 2022, p.78).

Singapore's TVET system is widely considered one of the most advanced globally. The government's *Skills Future* initiative is designed to promote lifelong learning, ensure workers are equipped with industry-relevant skills, and facilitate the transition between different sectors as labor market needs evolve. Singapore has been actively investing in skills development and TVET programmes to adapt to demographic shifts, mitigate a shrinking labour force and respond to increasing economic uncertainty as well as technological change (p.62). Although the system is structured to integrate technical education into the normal secondary school system there has been a shift in emphasis from young students to new graduates and mature workers in order to drive initiatives to upskill and reskill the workforce to be more responsive to job related disruptions and the rapid technological changes to enhance economic growth and competitiveness. Asian TVET system such as Singapore's are increasingly borrowing from the European system to improve their TVET model. This has resulted

in an adaptation of the dual TVET system. In SIDS, where the workforce may need to frequently transition between industries such as agriculture, tourism and hospitality, construction and sustainable energy, fostering a culture of continuous skills upgrading through a system like Singapore's Skills Future could help workers remain adaptable in the face of global and environmental shifts.

Finland is renowned for its high-quality education system, and its TVET model is equally respected for its focus on competence-based learning. The Finnish TVET system emphasizes skills and outcomes over traditional subject-based learning, with a strong focus on practical, hands-on training in collaboration with local industries. The Finnish model also promotes a high degree of student autonomy, allowing learners to take responsibility for their learning while being supported by experienced mentors in workplaces. The Finnish model could be particularly relevant for SIDS because of its adaptability to local needs and the emphasis on student-centered learning. Given that SIDS often have unique industries (e.g., tourism, fisheries, and agriculture) that may require tailored training programs, the Finnish model offers flexibility and strong integration with local employers, making it a potential model for SIDS to adopt.

As countries face variable challenges in different national contexts, there is no “one-size fits-all” policy solution to create and sustain a future-ready skills system. While international labour and vocational training standards provide a solid framework for quality education, skills development and lifelong learning, the rapidly changing world of work and the global challenges pose many additional questions. (ILO, 2022, p.48).

2.3 Challenges of Establishing TVET Systems in SIDS

Infrastructure and resource limitations

An economic analysis presented by the United Nations Department of Economic and Social Affairs states that “several SIDS are experiencing an influx of young people into the workforce [and] between

2020 and 2050, the young working age population in SIDS will increase by 1.2 million”. Although this aggregated statistic seems to propose potentially favorable demographic effects, for the SIDS as a whole, individually they are subject to more vulnerable realities due to geographic, economic and political isolation. Bishop et al (2021) characterizes the SIDS by stating that “they share analogous development challenges and face similar historical, geopolitical and economic trajectories and realities. They uniquely prioritise both land and ocean as integral to their territorial sovereignty and identity”. The writers further expound on the paradox which characterizes the development of the SIDS – “vulnerability on one hand, resilience on the other” (Bishop et al, 2021, p.3).

The geographical location and diminutive sizes of the SIDS exposes them to environmental events such as hurricanes, cyclones, earthquakes, tsunamis, floods and volcanoes which though one occurrence translates to unfavorable long-term economic consequences. Many SIDS owe their formation to volcanic activity and as a result their “geomorphologically immature topography, with hills and mountain tops bounded by steep-sided, often unstable slopes” (Bishop et al, 2021, p.17) pose challenges for infrastructural development and maintenance. These factors though seemingly divorced from TVET systems development, impacts infrastructural development of TVET facilities. Though small, the topography of the SIDS has evolved into complex road networks and public transport systems, which can make access to training facilities difficult.

In SIDS, the physical infrastructure required for delivering quality TVET is often insufficient or outdated. Many countries struggle with the establishment and maintenance of vocational schools, training centers, and TVET workshops in secondary schools to ensure they are equipped with up-to-date or at minimum, adequately functioning machinery or technology. In many cases, TVET institutions in SIDS lack modern training equipment, which is critical for imparting practical skills in sectors such as agriculture, construction, information technology, and engineering (UNESCO-UNEVOC, 2017). The absence of adequate infrastructure also impacts the delivery of specialized training programs that are essential for industries such as tourism, which play a vital role in many

island economies. Without proper facilities and resources, TVET institutions in SIDS often cannot offer training programs that match the evolving needs of industries, thus exacerbating skill gaps in the workforce.

Access to technology is another major challenge for TVET systems in SIDS and includes digital technology as well as industry specific technologies that drive modern day operations in various skill areas. Many of these countries are faced with limited access to modern digital tools, which are essential for delivering up-to-date training and fostering innovation. The lack of access to online platforms, digital learning tools, Internet access and modern computer labs hampers the ability of students in SIDS to acquire skills in emerging technologies related to areas such as IT, robotics, and renewable energy (UNESCO, 2020).

Resource limitations, both financial and human, further complicate the development of TVET systems in SIDS. Many small island nations struggle with budgetary constraints, limiting their capacity to invest in the establishment of modern educational infrastructure or to provide adequate training materials. Additionally, the lack of qualified instructors is a significant challenge. In many SIDS, there is a shortage of experienced TVET teachers who are well-versed in both theoretical knowledge and practical skills (ILO, 2013). The inability to attract and retain skilled educators with training aligned to industry, is partly due to more attractive wages in industry practice versus the teaching profession, lack of relevant professional development opportunities, and inadequate recognition of TVET teaching professionals. Levin et al (2023) describes summarized the difficulty faced by low income countries as follows: “TVET teachers are left unsupported with often inadequate pedagogical skills, lack of industry experience, and poor career prospects. These factors hinder their ability to deliver high-quality training and negatively affect the acquisition of practical skills demanded by the labor market”. The operationalization and success of any TVET system is contingent upon the quality of the human resource. Quality TVET management and leadership poses

its own unique challenges to TVET systems in the SIDS. Many leaders and managers emerge from diverse educational and occupational backgrounds with “few of them have any specific vocational education or context-specific leadership training, yet they are expected to function in a complex and demanding sector marked by regular policy changes and political interference...unstable staffing conditions and no clear leadership career pathways or succession planning strategies” (Robertson & Frick, 2018,p.72).

Curriculum and training deliveries issues

An article by the Commonwealth of Learning (2025), sites that in the Caribbean region, which this research will bring into focus, “key barriers to industry transformation include skills gaps and challenges in attracting talent” and that these SIDS specifically, will require that in the “education sector, vocational education teacher roles are expected to grow by ten per cent, adding three million jobs”. This establishes that the industry activities that will sustain economic sustainability and growth in the Caribbean relies on the development of robust systems of TVET curriculum and delivery.

Globally the structure of the TVET curriculum during the secondary school years varies but the underlying framework bears many similarities. Secondary school lies at the crucible between compulsory primary education and the world of work, higher education and further training. At this level, the curriculum usually includes a range of subjects that are classified at TVET subjects and focus on technical proficiencies which offers students a blend of largely theory understandings and scientific principles in a particular field some experiences in its practical applications. Vocational training is more industry aligned focuses on the developing the skills, knowledge and attitudes that are specific to a job role and are geared towards achieving certificates of competence. The curriculum for vocational training is usually articulated in the form of occupational training standards or competency standards that are designed by various industry sector experts. In the Caribbean region most secondary schools offer TVET subjects where students receive technical proficiency certificates

among a range of other subjects areas. Vocational training has been incorporated into the secondary schools and the extent of the focus on the vocational training varies depending on the model designed by the state. Additionally, there are full trades programs with the primary focus being on training for the workforce.

These SIDS, as in the case of the Caribbean grapple to align their school curriculum to meet the needs of the industry. The Commonwealth of Learning suggests that these island states will have to “develop the capacity of their TVET institutions and staff to offer training more quickly, more flexibly, and with more diverse competencies”. This will require changes to the conventional secondary curriculum to be more flexible and industry responsive, financial support, training of trainers and administrators, industry partnerships, access to certification, and relevant policy adjustments. The solution to the interconnected challenges facing the delivery of TVET lies in the development of suitable context relevant TVET system models.

Policy and governance barriers

The building of a suitable system for TVET sits on the foundation of two critical factors, that being policy and governance. Gyimah (2020) states that in developing countries, although TVET should be administratively under the purview of the Ministry of Education, “by its very nature, the entirety of TVET does not fit within the frame of only one sector” (p. 7). The study goes on to reiterate that “for a TVET System to be able to play its role effectively, it is important to ensure that there exists an enabling and TVET friendly environment nationwide [which] can be achieved by putting in place harmonized national TVET policies” (p.7).

In the Caribbean island of Saint Lucia, TVET the governance of TVET resides primarily in the Ministry of Education and the prioritization of TVET in the national agenda is outlines in the Education Sector Development Plan (ESDP). The Saint Lucia Council for Technical Vocational Education and Training (SLCTVET) established by an act of parliament is charged with overseeing,

quality assuring and issuing certification in the national and regionally recognized vocational qualifications. With the rationalization of a National Qualifications Framework (NQF) for Saint Lucia, and the powers of the SLCTVET, this SIDS is well placed at a governance and policy level to train and certify young persons in occupational competencies for employment in industry. However, the actual operationalization of TVET programs at secondary school level continues to be hampered by policies and structures that are not fluent enablers of the anticipated goals and outcomes.

Funding and sustainability

Although the economic value of TVET has been indisputably established by increasing employability and productivity, inversely, its establishment, sustainability and effectiveness demand much financial investment from the state. Hanni (2019) states that “ in the Caribbean, TVET is mainly financed via the government’s annual budget, typically channeled via the Ministries of Education”. The Caribbean faces serious challenges with the implementation of TVET in schools in relation to the high cost of financing to address problems of inadequate and obsolete equipment and infrastructure, and maintaining the sustainability of relevant training programs. SIDS such as Jamaica, have by policy secured financial support for TVET development from industry partners to support governments capital injection (Mack, 2024).

Cultural and societal perceptions

In addition to the financial demands on SIDS in establishing TVET systems which have been clearly demarcated as a significant strategy to spur economic development, the social benefits of TVET are also evident. As TVET provides a pathway to skills development, it improves the potential of individuals to enter the workforce, reducing issues of underemployment and unemployment. Moreover, TVET fosters social inclusion by offering opportunities to marginalized groups, such as youth and women, contributing to a more equitable society (UNESCO, 2020).

Unfortunately, TVET's potential is plagued by stigmatization and conceptual misunderstandings in the population of the SIDS. The historical progression of TVET in the education system, unfortunately has relegated TVET to be the viable alternative confined to those deemed to be lacking in academic prowess. The challenge is to change the perception from TVET as 'reclamation' education for those who have not experienced academic success (Whiteman, 1992).

2.4 Opportunities in TVET Development in the SIDS

Economic diversification and growth

Research and trends have shown that TVET holds much promise as a strategy in transformational economics and to stimulate developmental growth in the SIDS. It has the power to provide training that will diversify economic activities taking the country in new economic directions. TVET promotes access to decent work and inclusivity in training and employment, thus creating a more just and stable society. The inclusion of employability skills that are transferable across jobs, all contribute to creating the ideal workforce.

Globalization and regional collaboration

TVET can serve as a catalyst for collaboration in the SIDS. TVET provides a significant opportunity for regionalization in the Caribbean by fostering greater collaboration among Caribbean countries in addressing shared challenges such as skills development, labor mobility, and economic diversification. Regional initiatives, such as the Caribbean Association of National Training Agencies (CANTA) and the Caribbean Community (CARICOM) Skills Development Framework, promote the standardization of TVET programs across member states, allowing for greater portability of qualifications particularly the Caribbean Vocational Qualification (CVQ) and facilitating regional workforce mobility for skilled nationals wishing to gain employment in territories that are party to the CARICOM treaty by obtaining a CARICOM Skills Certificate (CSC) (Brathwaite, 2020). This regional approach helps to reduce disparities in skill levels across countries and encourages a shared

response to the demand for skilled labor. Moreover, regional collaboration in TVET enhances the Caribbean's competitiveness on the global stage by aligning educational systems with international standards, thus supporting both national and regional economic growth.

The Organization of Eastern Caribbean States (OECS), a subgrouping of CARICOM and the Caribbean islands established in 1981 under the Treaty of Basseterre, linked by a common currency and shared government sector goals, articulates the following shared ideal for TVET: “Competency based curricula linked to the CVQ framework established across secondary and tertiary education”. This is with the view to allow for seamless articulation of qualifications and facilitate the free movement of skilled workers through the OECS as a component of their education sector strategy.

Innovation and technological advancements

Shah (2021) notes that the “SIDS remain among the most disadvantaged countries in terms of access to technological innovations in the last five decades”. He observes further that the United Nations recognizes that “access to modern, affordable and environmentally–benign technologies are critical to achieve SIDS’s sustainable development objectives and emphasizes on the creation of an environment that promotes innovation and entrepreneurship” (Shah, 2021). Anton Edmunds, past ambassador of Saint Lucia to the United States, has been noted to observe that developments in technology facilitates repositories of data which in turn serve the SIDS in improved data driven decision making (Shah, 2021). This data is critical in TVET systems in terms of maintaining relevance of training to industry, matching skills with employment and driving economic trajectories towards developmental goals. Most importantly to the discourse on the value of technology to TVET, Levin, Santos & Weber (2023) notes that “leveraging technology in course design, program delivery, work-based learning, and quality assurance can enhance accessibility, relevance, and efficiency of TVET”.

Youth power and entrepreneurship

Technical and Vocational Education and Training has already been established as a key component of development for SIDS by enhancing the human capacity. The demographics of many of the SIDS also emphasizes the myriad of vulnerabilities characterizing them and identifies its reliance on its most valuable asset – its human resource and particularly its youth population. TVET empowers secondary school students in SIDS by equipping them with practical skills, knowledge and work-related dispositions that enhance employability and social mobility. TVET programs provide learners with the competencies needed to succeed in the workforce, thereby increasing their chances of securing employment. Levin et al (2023), concurs that “skills development through technical and vocational education and training (TVET) holds immense promise for empowering youth and contributing to sustainable economic transformation”.

2.5 Tensions and complexities in TVET System Development in “SIDS

Balancing traditional training and vocational education

Despite the recent value of TVET in the developmental agenda for both the developing world and the SIDS, the tensions and complexities of TVET versus traditional academic continues to color the discourse. Campbell (2022) states clearly in reference to the Caribbean that “historically, our students have stayed away from careers in technical and vocational education and training (TVET) because of the stigma associated with that pathway”. Burchell Whiteman (1992) has long dispelled the advancement of academia over TVET by stating that “TVET is not therefore ‘reclamation’ education for those who fail to achieve academic excellence” (p. 2). Campbell (2022) in his article based in Jamaica goes on to report the uncomfortable fact that “there are two extremely different school systems ... one that is world-class and serves mainly the haves, the other serves the have-nots, which comprise the vast majority, and is largely failing”. This may be linked to the situation where many secondary schools in the Caribbean are patterned on the colonial models of grammar schools with an elitist emphasis on academic achievement.

Although the genesis of skills education could be traced to the 19th century, the formal integration of TVET at secondary school level with achievable certification began with the introduction of TVET subjects from the Caribbean Examination Council. Because of the practical component that formed an important part of the TVET subjects, it created a mindset that TVET was for students who failed in the academic construct, which lead to the overgeneralization that these students were less intelligent. The misunderstanding of TVET as training for low paying manual jobs usually requiring physical effort concretizes the stigmas associated with TVET. Although, efforts to sensitize and promote TVET has expanded, the polarities between TVET and the academics is evidenced in the fear of departing from the time tested and accustomed academic construct. Administrators, policy makers, educators and stakeholders, laud the advances in TVET in the education system but continue to exhibit trepidation when walking the TVET gangway and continue to seek safety nets in traditional academics. Reconciling the globally mandated prioritization of TVET with policy inertia and deep-seated stigmatization may be the greatest tension in the discourse and implementation of TVET and has to be addressed in the design of any TVET system model for SIDS.

The further hesitancy to fully embrace TVET lies in the seeming inability of secondary level TVET student to articulate seamlessly into post-secondary, advanced and college/university level TVET programs. Many higher education programs that advance skill acquisition are not marketed under the categorization of TVET in the Caribbean and so the connection between secondary level training is not established with higher education programs. Colleges continue to rely on academic qualifications for admittance to TVET related programs and do not adequately and convincingly list the vocational certification such as the National Vocational Qualification (NVQ) and Caribbean Vocational Qualification (CVQ) as acceptable qualifications to facilitate access to higher level program.

Campbell (2022), observes that “at approximately 10 years old, the majority of children in low- and middle-income countries are unable to read and understand a simple text” and that these “foundational skills are the building blocks for further learning and skills development”. Those who fail to make progress are channeled into the TVET streams absolving the academic programs of the consequences of their shortcomings and the association of TVET with underachievers is reinforced. The missing tile in this mosaic discourse on academia versus TVET is that several of these very same students through the training processes develop competencies that make them employable. This leaves it to further research to establish the possibility that the competence-based approaches that drive technical vocational training could be applied to academic instruction to improve performance in foundational academic studies.

Alignment of TVET programs with labor market needs

The tension between training programs and industry is the focus of a conversation of growing discontent. TVET has the power to play a crucial role in addressing labor market challenges by equipping individuals with the skills needed to fill existing job gaps, particularly in sectors like tourism, construction, and agriculture, helping to combat high youth unemployment and skill mismatches while contributing to economic growth in the region. However, in the Caribbean, challenges remain like ensuring quality training, aligning TVET programs with industry demands, and improving access to training. There is a need the nature of the partnership between training and industry to the mutual benefit of both. In Jamaica, industry is by required by policy to contribute to financially to TVET development. Many of the TVET programs at secondary schools may not be determined by industry but by interest, popularity and because they fit comfortably into their facilities and training capacities. Industry partnerships are critical to ensure alignment by guiding the training areas, standards and investing in support mechanisms for training such as facilitating work experiences for trainees. “Mobilizing private financing can infuse additional resources into TVET, often needed given that low- and middle-income countries spend less than 0.2 percent of GDP in

TVET compared to 0.46 percent for high-income countries” (CNG, 2023). Financial investments and technical support from industry will also ascertain that the training facilities are sufficient and suitable. The employers in return are assured of a supply of job ready employees.

Political and economic pressures

Political and economic pressures significantly impact TVET systems SIDS. Politically, many SIDS face challenges such as developmental goals based on political party manifestos, limited policy continuity with change of governments, and weak institutional frameworks. This hampers the ability to develop and implement long-term TVET strategies that meet the needs of their economies. Additionally, political decisions regarding funding will determine where TVET falls on the list of government priorities.

Economic pressures such as limited resources and the consequent dependence on external aid further impacts these systems by forcing SIDS to become subject to the agenda of the external funding agency which may not align to the exact priorities of the recipient. This perpetuates the gap between the skills required by the labor market and those provided by the education system, leading to movement in TVET and national development that does not necessarily translate to progress.

2.6 Comparative Analysis of TVET Systems

The evolution of TVET systems across various global contexts presents a compelling paradigm for analysis, particularly when considering the unique challenges faced by SIDS which often grapple with unique socio-economic constraints and cultural influences that shape their educational frameworks. A comparative analysis of TVET models, reveals the hybrid nature of these systems and their responsiveness to local needs. For instance, Seychelles’ educational landscape illustrates a paradoxical reconciliation of colonial legacies and contemporary aspirations, highlighting the complexities in curriculum development and governance (Persaud et al., 2017). The Anglophone

Caribbean faces similar disparities evidenced by systemic barriers and inequities that permeate educational policies (Blancaneaux et al., 2022). Understanding the dynamics within SIDS help frame critical insights into the necessity for tailored approaches that enhance the efficacy and relevance of TVET in fostering sustainable development.

TVET serves a pivotal role in addressing the skills gap prevalent in various global education systems, particularly through its emphasis on practical and employable skills. As world economies increasingly pivot towards meeting demands of the knowledge industry and the Fourth Industrial Revolution (4IR), TVET provides essential pathways for marginalized groups, promoting inclusivity and social mobility. In SIDS, TVET becomes even more significant in assisting these nations face their unique socio-economic challenges that hinder traditional educational outputs. Additionally, the integration of indigenous beliefs and practices into TVET frameworks, as noted in the context of Vanuatu, exemplifies how such programs can foster cultural relevance while advancing educational objectives in a globalized context (McCormick et al., 2016). This is further evident in Saint Lucia's traditional sea moss farming which was formalized into the TVET system, allowing for standardization and certification in a traditional practice. Similarly, Trinidad and Tobago's cultural practice of Masquerade Design and Jamaica's Dance Hall Dancing have all been assimilated into the formal TVET system validating the contribution of indigenous cultural practices to the economy.

TVET can exist in three forms: **informal**, **non-formal**, and **formal**. **Formal TVET** is the most globally recognized and is subject to clear institutional, legal, and academic frameworks. **Non-formal TVET** occurs outside of the formal education framework providing training to a targeted population. **Informal TVET**, the least recognized, is typically unstructured and is not guided by any set curriculum. In developed countries, formal TVET is the dominant model, with non-formal TVET also playing a role to a lesser extent. However, in less developed countries, conditions necessitate

the coexistence of all three types of TVET. Additionally, various TVET models are classified based on their degree of practice-orientation.

There are several TVET models globally, each reflecting diverse educational, cultural, and economic contexts. The **dual system** (commonly practiced in Germany, Austria, and Switzerland) is one of the most well-known, combining theoretical education in schools with practical training in companies. This model fosters strong collaboration between employers and educational institutions, ensuring that training is highly relevant to the labor market. It has been credited with lowering youth unemployment by providing students with employable skills directly aligned with industry needs (OECD, 2010).

In contrast, the **school-based model** found in many countries, such as the United States, focuses on delivering theoretical and practical training within formal educational institutions. In the US, TVET is referred to as Career Training Education (CTE) with training aligned to National Career Clusters and are “taught in non-parallel subsystems with few structural connections between them” (UNESCO-UNEVOC). While it provides comprehensive academic instruction available in high schools to college to specific government programs, it can be less aligned with specific job market demands. Similarly, “the **state regulated bureaucratic model** is common in countries such as France, Italy, Sweden, Finland, and also countries in the Caribbean region. TVET is primarily provided and financed through the central ministry responsible for education” (Dixon & Hutton, 2016). In the Caribbean many secondary schools offer an orientation to TVET subjects in lower secondary grades and upper secondary studies lead to a technical proficiency certificate from a selection of approximately fourteen areas offered by the Caribbean Examinations Council (CXC) and in some schools in only some islands students are able to access vocational training and certification (CVQs and NVQs). Some Caribbean post-secondary institutions have offered and some continue to offer British technical vocational certification through City and Guilds (C&G) and Business and Technical Education Council (BTEC).

On the other hand, the **apprenticeship model** found in the UK and Australia allows individuals to learn on the job under the supervision of skilled workers, providing a more hands-on approach but often lacking formal classroom education. These models highlight the varying priorities: while the dual system emphasizes close employer-education collaboration, the apprenticeship system is more industry-driven with less formal classroom training. The **liberal market economic model**, common in countries such as Australia, Great Britain, Canada, and New Zealand, uses a sector approach to TVET that supports rapid economic change. Industry-sector skill councils determine the occupational qualifications required by industries and supporting firms to train their workforce. Private industries and firms are also eager to sponsor training programs and apprenticeships for their workers (Dixon & Hutton, 2016).

Further to this discussion of systems found globally, in India with a workforce of 520 million, their TVET system primarily follows a **school-based model** with elements of the **apprenticeship model**. The system is largely structured around formal education within institutions, such as polytechnic colleges and vocational schools, offering programs in various technical and vocational fields. These programs typically include theoretical instruction alongside practical training, but the integration with industries is often limited compared to the **dual system** used in countries like Germany. However, India has also incorporated apprenticeship elements, particularly through schemes like the National Apprenticeship Promotion Scheme (NAPS), which provides hands-on training in collaboration with industries. While the system is primarily school-based, the inclusion of apprenticeships helps bridge the gap between classroom learning and industry requirements (MSDE, 2015). “The challenges in the Indian TVET are twofold – making vocational education aspirational and integration of informal sector (as almost 85 percent of workforce is engaged in unorganized sector) in the skill development ecosystem” (NSDC, 2020).

Hamdard (2019) identifies key determinants in the design or selection of the model of TVET system depends largely on “recognition, financing, governance, relationship to the education system, linkage to the labor market and integration”. The major TVET system models—dual, school-based, and apprenticeship—each have distinct advantages and drawbacks. However, it often lacks formal academic components, which may limit broader educational outcomes for students (OECD, 2010). of educational systems to integrate industry requirements.

2.7 Theories and Frameworks Related to TVET Systems Development

Theoretical foundations for TVET systems

Several theories are commonly applied to the development of Technical and Vocational Education and Training (TVET) systems, providing frameworks for understanding how they evolve and how they can be optimized to meet economic, social, and technological needs.

Human Capital Theory initiated by economists Gary Becker and Theodore Shultz, emphasizes that individual investments in education and training increase their productivity and earnings which was considered analogous to firm’s investments physical capital . In the context of TVET, it suggests that providing vocational skills can directly enhance the productivity of workers and contribute to overall economic growth. TVET systems are seen as critical in developing a skilled workforce, improving individual employability, and fostering economic competitiveness (Becker, 1993).

Skills Development Theory focuses on the relationship between education and labor market needs. It argues that TVET systems should align training with the specific skills required by the labor market to reduce skill mismatches and ensure that graduates are employable. Skills development theory underlines the importance of market-responsive curricula, emphasizing practical, hands-on learning and direct engagement with industries (Kuczera et al., 2016).

Social Capital Theory suggests that TVET systems should not only focus on individual skills but also on the social networks and relationships that facilitate job opportunities and social mobility. In this context, TVET systems are seen as networks of cooperation between educational institutions, businesses, governments, and communities, which can foster collaborative learning and create pathways to employment (Putnam, 2000).

Capability Approach proposed by economist Amartya Sen, focuses on individual freedom and the ability to achieve well-being. It suggests that TVET should not only enhance job-related skills but also equip individuals with broader capabilities such as critical thinking, adaptability, and social skills. The capability approach highlights the role of TVET systems in empowering individuals to lead fulfilling lives, contributing to human development and social equity (Sen, 1999).

Theories of Work-Based Learning (WBL): These theories emphasize the importance of integrating practical, on-the-job training with formal education. WBL theories argue that learning in real work environments helps students gain the tacit knowledge and skills necessary to thrive in the workforce. In the context of TVET, this theory supports models like apprenticeships and the dual system, where learning takes place both in the classroom and in the workplace (Raelin, 2008).

Each of these theories provides valuable insights into how TVET systems can be designed, implemented, and improved to enhance individual and national outcomes in terms of employability, economic growth, and social equity.

Conceptualizing a framework for TVET in SIDS

Conceptualizing a framework for TVET in SIDS requires a focus on aligning education with local economic needs, emphasizing skills that enhance both individual employability and national development. This requires fostering strong partnerships between governments, industries, and educational institutions to ensure TVET programs are responsive to labor market demands,

particularly in sectors like tourism, agriculture, and renewable energy. The framework should integrate both formal and informal learning pathways to cater to diverse learner needs and experiences. Additionally, it should address the challenges of limited resources by promoting cost-effective, flexible delivery models. Emphasizing sustainability and resilience in the curriculum, particularly in the face of existing challenges and anticipated disruptions, is essential for building a workforce capable of navigating the unique vulnerabilities of SIDS. Finally, a strong monitoring and evaluation system is crucial to continuously improve TVET policies and ensure that training outcomes lead to tangible economic and social benefits. While secondary school level TVET models may attempt to capture these key points, it has the major role of adding value to the mainstream education system by ensuring the development of skills, knowledge and attitudes for creating ideal workers for immediate entry into the job market or for further training. This framework must be based on the principle of life-long learning.

2.8 Gaps in the Literature

Identifying gaps in research

Although the literature covers a comprehensive study of TVET significance and its structure globally, there is a lack of sufficient, specific and current research related to SIDS and particularly the Caribbean region. However, there is adequate theoretical literature and TVET studies from developed countries to frame this research.

Potential areas for further research

While this study examines TVET at the secondary school level and considers the experience of other SIDS and the specific TVET Institutes that serve as models for informing a framework to guide TVET models for SIDS, there is the potential to extend this framework into further research that investigates the best procedures for implementation of the framework and a measure of its subsequent effectiveness through more longitudinal studies. Further to this research, lies the need for additional

exploration into the application of the proposed framework to a more-wide ranging TVET system model that includes levels preceding and extending beyond secondary school level.

2.9 Conclusion

Summary of key findings

TVET has become a priority to the SIDS as a strategy for economic development, social stability and human capital resiliency in facing the multitude of unique challenges affecting these regions. The more developed nations have well established TVET models that are supported by finance, government, industries and their developmental priorities. Though these larger TVET systems serve are valuable foundational models for SIDS, without the support systems of first world countries, adjustments have to be made to design a more context relevant model for SIDS. Additionally the literature does not establish an ideal pathway to establish TVET at the secondary level but rather considers the mainstream education system within which it falls.

Implications for the framework development

The literature implies strongly that TVET at the secondary school level requires a carefully crafted framework that is designed to develop the human resource at its earliest portal to the world of work and higher education. While certain TVET models dominate the global TVET discourse, the SIDS like India, must adopt an eclectic approach to developing a context relevant model in order to shift the needle on the developmental scale.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

There is no one research model that is specific to TVET but rather the field draws on research philosophies and methods applied to various disciplines, therefore TVET researchers select based on the slant the research takes and may require an eclectic approach. This chapter will examine the methodology which will be employed to extract the relevant data and conduct suitable analysis in order to determine the key challenges, tensions and opportunities in the establishment of four secondary-level TVET Institutes on the island of **Saint Lucia** as a basis for developing a framework to guide the development of context relevant TVET model in the SIDS. The initiative to establish the schools took effect in 2023 but the official commissioning of the institutes under the nomenclature **St. Lucia TVET Institute** on August 01, 2024.

The methodology utilized in this research aims to connect the analysis of a real-world structure to the formulation of guidelines for similar context. This chapter describes the procedures, instruments and method of capturing the relevant data as well as the processes and tools used to analyze the findings in relation to the critical questions posed by the research. It will include the description of the research population and sample size. Additionally, it justifies and outlines the advantages and disadvantages as well as the ethical considerations of the research methodology.

3.1 Research Paradigm

A *paradigm* is at its simplest the “philosophical assumptions or the basic set of beliefs that guide the actions and define the worldview of the research (Lincoln et al., 2011). *Pragmatism* is based on a rejection of traditional assumptions and looks at what works. A **pragmatic research paradigm** “takes a more practical and flexible approach, focusing on the usefulness and applicability of research

finding” (Jansen, 2023). The pragmatic paradigm is based on a synthesis of both quantitative and qualitative research to create a mixed methods approach. Pragmatism focuses on solving practical problems and is often used in applied research where the goal is to find solutions to real-world issues. In the context of TVET, this paradigm is applicable to the goal of this research to **create a practical framework** for TVET models that can guide TVET systems development in SIDS. This research takes a pragmatic approach as it seeks construct a applicable framework from the existing experiences found in a similar context, and thus it “prioritizes the practical implications of the research outcomes in solving the problem” under investigation” (Elgeddawy & Abouraia, 2024).

3.2 Research Methodology

Applied research methodology is particularly well-suited for the topic of exploring opportunities, tensions, and challenges in the establishment of secondary-level TVET institutes in Small Island Developing States (SIDS) because the focus is on solving real-world problems and improving existing systems. This research aims to not only understand the current state of TVET systems but also to develop actionable recommendations that can directly inform the creation and improvement of TVET frameworks in SIDS. Applied research is grounded in practicality, emphasizing real-world impact, and is designed to generate solutions that are directly applicable to policymakers, educational institutions, and communities. Given the challenges faced by SIDS, such as limited resources, geographical isolation, and small economies, the research must provide tangible insights and frameworks that can be implemented in these specific contexts, making an applied approach ideal.

Moreover, applied research methodology is adaptable, allowing for the integration of both qualitative and quantitative methods to capture a comprehensive picture of the TVET landscape. This flexibility is crucial for studying the multifaceted nature of TVET systems in SIDS, which involve diverse stakeholders including students, teachers, employers, and government bodies. Through applied

research, the study can examine practical challenges, such as curriculum development, alignment with labor market needs, and the role of TVET in economic development, while also testing potential solutions and evaluating their effectiveness. Ultimately, applied research ensures that the findings are not merely theoretical but can be used to directly influence policy and practice, driving improvements in TVET systems that are both sustainable and tailored to the unique needs of SIDS.

The applied research method aligns seamlessly with the pragmatic paradigm in relation to the exploration of TVET systems in Small Island Developing States (SIDS) because both prioritize **practical solutions** to real-world challenges. Pragmatism emphasizes the use of whichever methods or approaches are most effective in addressing a specific problem, valuing outcomes that are directly applicable and actionable. In the context of this research, the goal is not merely to generate theoretical knowledge but to develop pragmatic, context-specific recommendations that can guide the development of effective TVET frameworks tailored to the unique needs of SIDS. Applied research, with its focus on real-world impact and problem-solving, embodies the pragmatic approach by combining qualitative and quantitative methods to gather relevant data, testing practical solutions, and providing insights that directly inform policy, practice, and system design, ensuring the research addresses the pressing issues faced by the formal TVET systems in SIDS.

3.3 Research Design

For the research topic exploring the opportunities, tensions, and challenges in establishing secondary-level TVET institutes in Small Island Developing States (SIDS), a **mixed-methods research design** is most appropriate. This design combines both **quantitative** and **qualitative** approaches, enabling the research to offer a more comprehensive and nuanced understanding of the subject. The **quantitative** component, through tools like surveys and questionnaires, will provide objective data on measurable aspects of TVET systems, crucial for identifying patterns, trends, and correlations

from the context of the four TVET Institutes that can inform the development of the various aspects of the TVET framework to guide context relevant TVET models across the SIDS.

Marshall and Rossman (2011), posits that *qualitative* research is assured by ensured by the aspects of validity, reliability, generalizability and objectivity. The qualitative component, will allow for in-depth exploration of the lived experiences of key stakeholders, including students, teachers, policymakers, and employers. Interviews, focus groups, and contextual studies offer rich insights into the specific challenges and opportunities faced within these TVET systems, including curriculum design, alignment with labor market needs, policy, finance, governance and socio-economic impact.

Combining both qualitative and quantitative data will provide a holistic view of the issues, ensuring that the research not only identifies statistical trends but also captures the complexity of institutional and systemic dynamics and local contexts. This mixed-methods approach is ideal for creating a practical framework that can guide TVET system development in SIDS, ensuring that it is both data-driven and context-sensitive.

3.4 Research Population

This research will focus primarily on the four TVET institutes recently established in Saint Lucia under the nomenclature St Lucia TVET Institute with each campus being differentiated by the title of their flagship programs. In order to capture the various dimensions of the establishment of the four institutes a range of stakeholders will form the research population. Data will be derived from a population of TVET instructors/ teachers representing the various industry training areas in each of the four institutes. For the purposes of the research the entire student population will be limited to a random sampling of student in each occupational training area. Stakeholder engagements with a cross section of participants instrumental to the establishment of the TVET Institutes. This will include the following sample population which speak to the various aspects of the establishment of the institutes:

- *Administration* – The principals, guidance counsellors and TVET coordinators of the four TVET Institutes will provide the overview of the establishment process from a management standpoint.
- *Policy and governance* – The data related this aspect will be derived from the Minister of Education, the Permanent Secretary, the Chief Education Officer
- *Finance, resource mobilization, sustainability* – The insights of the Chief Planning Officer and the Financial Analyst in the Ministry of Education
- *Curriculum Design & Delivery* – This will include a random sampling of the TVET teachers at the four institutes to represent the various occupational areas and the TVET Curriculum officer.
- *Certification and Industry alignment* – The perspective of industry and the alignment with labor market need will be represented by a representative of the Ministry of Labor and certification will be addressed by the Executive Director of the St Lucia Council for TVET
- *Infrastructure* – The experiences of Director of Works in the Ministry of Education in relation to improving the infrastructure to meet the requirements of the TVET institutes

3.5 Population Size and Sampling

The choice of sampling method depends on the research objectives, available resources, and the level of precision needed. **Probability sampling** is ideal when you need to generalize findings to a larger population and ensure representative data, while **non-probability sampling** may be more useful when the research focuses on specific groups or practical constraints limit the ability to randomly select participants. Although each sampling method has its strengths and limitations, the selection will align with the research goals to ensure the data gathered is relevant and reliable.

This research will utilize *non-probability sampling* which does not guarantee that every individual in the St Lucia TVET Institutes has a chance of being selected. This method is often used when probability sampling is impractical or when the focus is on specific characteristics and in this case will use two non-probability sampling methods; *purposive sampling* and *quota sampling*. The interview population sample will be determined using *purposive sampling*. The researcher selects individuals or representative agents based on specific criteria or judgment, often because they possess certain knowledge, experience, or characteristics relevant to the research. *Quota sampling* will capture a larger group of participants based on specific characteristics or quotas to ensure certain groups are represented in the sample and in this instance the participants will be derived from all four TVET Institutes. Therefore questionnaires/ surveys will be administered to TVET teachers/instructors representing a cross section of the various occupational training areas, resulting also in variations in gender and teaching experience. The same will apply to students to represent a cross section of students of various grade levels, gender and occupational training areas.

3.6 Data Collection Methods

When exploring the opportunities, tensions, and challenges in the establishment of four secondary-level TVET institutes in St Lucia, a mixed-methods research design is particularly well-suited to capture the complexity of this topic. SIDS face unique socio-economic, geographic, and resource constraints, which require a nuanced understanding of both quantitative trends and qualitative experiences. This requires an eclectic approach to the data collection and as such the proposed data collection methods will include: surveys, interviews, and document analysis.

The survey instruments are valuable in gathering quantitative data from larger research populations to quantify the attitudes, experiences and opinions on aspects of the TVET institutes such as human resource issues, curriculum, training and institutional support. Further it allows for sharing of quantitative data on their perceptions of opportunities, challenges, and the feasibility of establishing

TVET institutes that can be applicable to similar contexts. The use of digital data collection survey instruments will save time, more cost effective than paper based, improve likelihood that participants will respond due to ease of use, and allow more confidentiality in uploading responses.

Interviews would complement the survey by providing in-depth qualitative insights into the personal experiences and perspectives of stakeholders. Semi-structured interviews with key informants particularly on the level of governance, policy, finance and infrastructure to uncover nuanced challenges and opportunities that may not be captured in survey data. These interviews would allow for open-ended questions that explore specific barriers, considerations, and the practicalities in the development of the TVET Institutes in St Lucia. The flexibility of the semi-structured format would also allow for follow-up questions to probe deeper into emerging themes related to the local context, such as finance and resource limitations, institutional and industry collaboration, and the role of community engagement that can be applied to the development of context relevant TVET models in similar settings.

Furthermore, document analysis and digital media content would serve as an effective supplementary method to triangulate the data gathered from surveys and interviews. Analyzing policy documents and frameworks, labor market reports, concept notes, government reports, and official digital media content would provide secondary data that can offer insights that are critical in its application to the broader context of TVET development.

A mixed-methods approach is ideal for exploring the establishment of secondary-level TVET institutes in SIDS because it captures both the **breadth** of quantitative trends and the **depth** of qualitative experiences. Surveys provide measurable data on key indicators, interviews groups uncover stakeholder perspectives, and document and media analysis offer contextual insights. Together, these methods enable researchers to develop a nuanced understanding of the opportunities,

tensions, and challenges involved, providing actionable recommendations to inform the development of a comprehensive framework for TVET system models in similar regions.

3.7 Data Analysis

For a research study using purposive sampling through interviews and quota sampling using surveys/questionnaires, the best data analysis methods will involve a combination of *qualitative* and *quantitative* analysis techniques. These methods will allow the researcher to analyze the rich, context-specific data from interviews and the structured, quantifiable data from surveys.

Since purposive sampling targets specific individuals with particular expertise or characteristics, the data gathered through interviews is typically rich and in-depth. The most suitable method for analyzing interview data is ***thematic analysis***. This method involves identifying and analyzing patterns within the interview data. It allows for systematically cyphering through the data to identify common themes, concepts, or patterns related to the research questions. For example, to synthesize how different stakeholders in TVET systems (teachers, administrators, students) perceive the challenges and opportunities in establishing the four secondary-level TVET institutes in St. Lucia.

For the survey or questionnaire, data collected through *quota sampling*, a statistical analysis approach is best. The goal is to identify patterns, relationships, and trends in the data based on predefined categories established in the research questions. In the case of this research a simple *descriptive statistics* will be used to summarize and describe the basic features of the data, such as frequencies, percentages, means, and standard deviations. For example to determine the most common challenges faced by teachers/ instructors in adapting to new TVET paradigm at the established schools.

In conclusion, using both qualitative (interviews) and quantitative (surveys) data, integrating the findings from both methods in a *mixed-methods approach* will be inevitable. The qualitative data can help explain the context and nuances behind the statistical trends observed in the survey data. For instance, if a survey shows a low level of satisfaction with TVET resources, the interview data can

provide deeper insights into why this is the case, such as issues with finance, procurement issues, or maintenance.

Steps in Mixed-Methods Analysis:

- **Compare findings:** The research will use the qualitative themes to interpret the quantitative results. For example, if survey data reveals that many students are dissatisfied with the program, use interview data to identify specific reasons (e.g., outdated equipment, lack of practical experience).
- **Complement findings:** The second step is to use the quantitative survey data to complement the insights from the qualitative data. If the survey reveals patterns in responses, the qualitative data can help contextualize these findings and offer explanations.
- **Integrate conclusions:** Synthesize the qualitative and quantitative findings to provide a holistic understanding of the research problem, drawing on the strengths of both data sources. Herein lies the basis for creating a framework to guide TVET models using the lessons generated from the synthesis of data.

3.8 Ethical Considerations

Okorie et al. (2024) states that “core ethical principles in data collection and analytical processes are fundamental to ensuring the integrity and societal acceptance of data science practices”. They further emphasize the significance of ethical considerations in positing that “it encompasses not only the protection of individual privacy and rights but also the broader implications of data usage on societal norms and values”. When using **purposive sampling** through **interviews** and **quota sampling** with **surveys/questionnaires** for research focused on the newly established TVET Institutes in St. Lucia several ethical concerns arise. First, there is the **issue of informed consent**, particularly for interviewees who may be directly impacted by the research such as government officials or politically exposed officials. It is crucial to ensure that all participants understand the purpose of the research,

their rights to confidentiality, and their ability to withdraw at any time without consequence. This is especially important when interviewing individuals who may hold sensitive positions in TVET institutions, though they might feel pressured to participate. The researcher must also tactfully frame questions to avoid causing compromising their office, or orchestrate a bias in responses, particularly when discussing potentially controversial topics such as the policy stances, administrative inefficiencies, or financing of TVET.

Another ethical concern is confidentiality and privacy, especially when dealing with quota sampling in surveys where personal demographic information is often collected. While quotas ensure representation from specific groups (e.g., gender, program type, or employment status), it is vital that the researcher anonymize data as much as possible to protect participants from identification. For example, in the case of student respondents and teacher respondents, the researcher must be careful to avoid linking them to their responses in the presentation of data to prevent victimization by authority figures whose leadership may not have been captured in a favorable light. The digital format for the surveys will not require names but the record of email address for the respondents will be available to the researcher as the identification marker to ensure participants do not duplicate responses. For both interviews and surveys, the data must be handled securely, stored appropriately, and only shared with authorized personnel.

Additionally, there is a potential ethical issue with **power dynamics**: if the research involves institutional leaders or policymakers, there may be a risk of influencing responses or gathering biased data due to their perceived authority. The regular role of the researcher as party to the establishment of the TVET Institutes may also inadvertently cause responders to align their responses to what they perceive would be the expected outcome. To mitigate these risks, researchers should be transparent, neutral in their approach, and ensure that all participants feel safe and respected throughout the data collection process.

3.9 Limitations of the Research

Several research limitations may arise when researching the establishment of four secondary-level TVET institutes in St. Lucia using purposive sampling through interviews and quota sampling via surveys/questionnaires.

1.Sampling Bias:

Using purposive sampling can introduce bias because it relies on selecting participants based on specific characteristics, which may not represent the broader population. For example, if only certain experts, policymakers, or key stakeholders are interviewed, the findings may reflect a narrow perspective rather than the experiences of a diverse range of individuals within the TVET system. Similarly, quota sampling ensures that certain demographic groups are represented, but it can limit diversity within those groups, potentially leading to an incomplete or skewed understanding of the broader population's views or experiences.

2. Generalizability:

Given that the research focuses its data findings on the four TVET Institutes located in St. Lucia only, there is no guarantee that the findings may be generalizable to other SIDS. The unique opportunities, challenges and threats faced by St. Lucia, may not translate to that face TVET systems in other settings. This limitation reduces the broader applicability of the conclusions drawn from the study, especially if the findings are to be used as a framework for TVET development in other regions. Further research will have to be done to determine its applicability. Although St. Lucia may be a SIDS, it is uniquely colored by its own cultural nuances that may impact the establishment of the four TVET Institutes. This can include basic differences such as language, mindsets, demographic dynamics and stigmatization. The political landscape and developmental priorities on each small island developing state tend to have their own uniqueness that can impact the effectiveness of a framework devised from one SIDS.

3. Response Bias:

In surveys and interviews, **response bias** may occur, especially in settings where participants feel pressured to provide answers that align with the desire to record national successes or institutional expectations. For example, TVET staff, administrators, or policymakers may provide overly positive feedback about the effectiveness of TVET programs due to their professional role or fear of scrutiny. This could distort the actual effectiveness of the programs being studied. Moreover, in purposive sampling, participants who are specifically selected for their expertise may feel a sense of obligation to give responses that reflect well on the institutions or policies they represent, leading to biased or incomplete data.

4. Data Access and Availability:

In SIDS, there may be challenges related to access to data or resource constraints, such as difficulty obtaining detailed records or survey responses due to limited infrastructure or digital access. Some institutions may have limited capacity for data collection and management, archiving, or reporting, which could affect the availability of reliable information. Additionally, the size and scope of TVET systems in small island contexts may mean that data on all the necessary variables may be scarce or incomplete.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter which focuses on data analysis and the ensuing discussion, delves into the insights gleaned from the research on the establishment of four secondary-level Technical and Vocational Education and Training (TVET) institutes in the Caribbean island state of St. Lucia. It examines the key opportunities, tensions, and challenges that have emerged throughout the process, offering a nuanced understanding of the factors influencing the design and implementation of TVET systems in these unique contexts. By analyzing both qualitative and quantitative data collected from a variety of stakeholders, including policymakers, technical officers, institutional administrators and teacher/trainers, this chapter explores how the experiences and outcomes from these four institutes can articulate into the development of a comprehensive guiding framework. This framework aims to distill the guiding considerations for future models for TVET system development that are adaptable to the specific needs of SIDS, fostering sustainable growth, innovation, and socio-economic development in these regions. The findings presented in this chapter serve as a critical step in bridging evidence provided through the data with the questions framing this research, offering valuable recommendations for the optimization of TVET structures in similar island settings.

The data presented and discussed is based on responses from the various agencies involved in the establishment and operationalization the four St. Lucia TVET Institutes. For the purposes of this research the anonymity of the four individual campuses will be established by referring to them where necessary as Campus A, Campus B, Campus C and Campus D, respectively. However, responses extracted from the administration and teacher/trainers of the four campuses will be aggregated and presented thematically in alignment with the dimensions of the SWOT analysis. Responses have been sought from the policy makers and administrators in the Ministry of Education in St Lucia and

includes the Minister of Education, Permanent Secretary, Chief Education Officer, Chief Planning Officer and four of the ministry's TVET technical officers with direct responsibility for creating the operational plan, establishing and monitoring the various aspects of the St Lucia TVET Institutes. The data will be further enriched by the perspective of the executive director of the St. Lucia TVET Council which is tasked with oversight over TVET within the country and is authorized by CANTA to assess and certify the Caribbean Vocational Qualification (CVQ) and the National Vocational Qualification (NVQ). The data is further augmented by responses from the administrative staff of the TVET Institutes comprising of principals, vice principals, school guidance counsellors and TVET coordinators or heads of department. Data from the aggregated responses of sixty six (66) teaching staff at the four TVET Institutes further enriches the overall analysis.

4.1 Data alignment

This chapter presents an integrated analysis of qualitative data collected from a combination of respondent groups including:

- i) administrators within recently established TVET Institutes with responsibility for operationalizing the design intentions of the TVET Institutes,
- ii) policy-level and technical officers from the Ministry of Education
- iii) teacher/trainers responsible for instruction and delivery of curriculum
- iv) executive director of the St Lucia Council for TVET

The data was synthesized to draw out converging and diverging themes related to the implementation, impact, and prospects of the TVET transformation in Saint Lucia. The responses reflect on operational realities, policy direction, and institutional capacity. Thematic coding was used to identify parallels and contentions, guided by the SWOT framework. The analysis is thus organized into four main sections corresponding to the SWOT framework. Each section discusses the most frequently identified themes and provides illustrative commentary based on participant responses.

4.2 Strengths of the Established TVET Institutes

Teacher and Administration: What are the four main strengths of the St Lucia TVET Institute you work at?

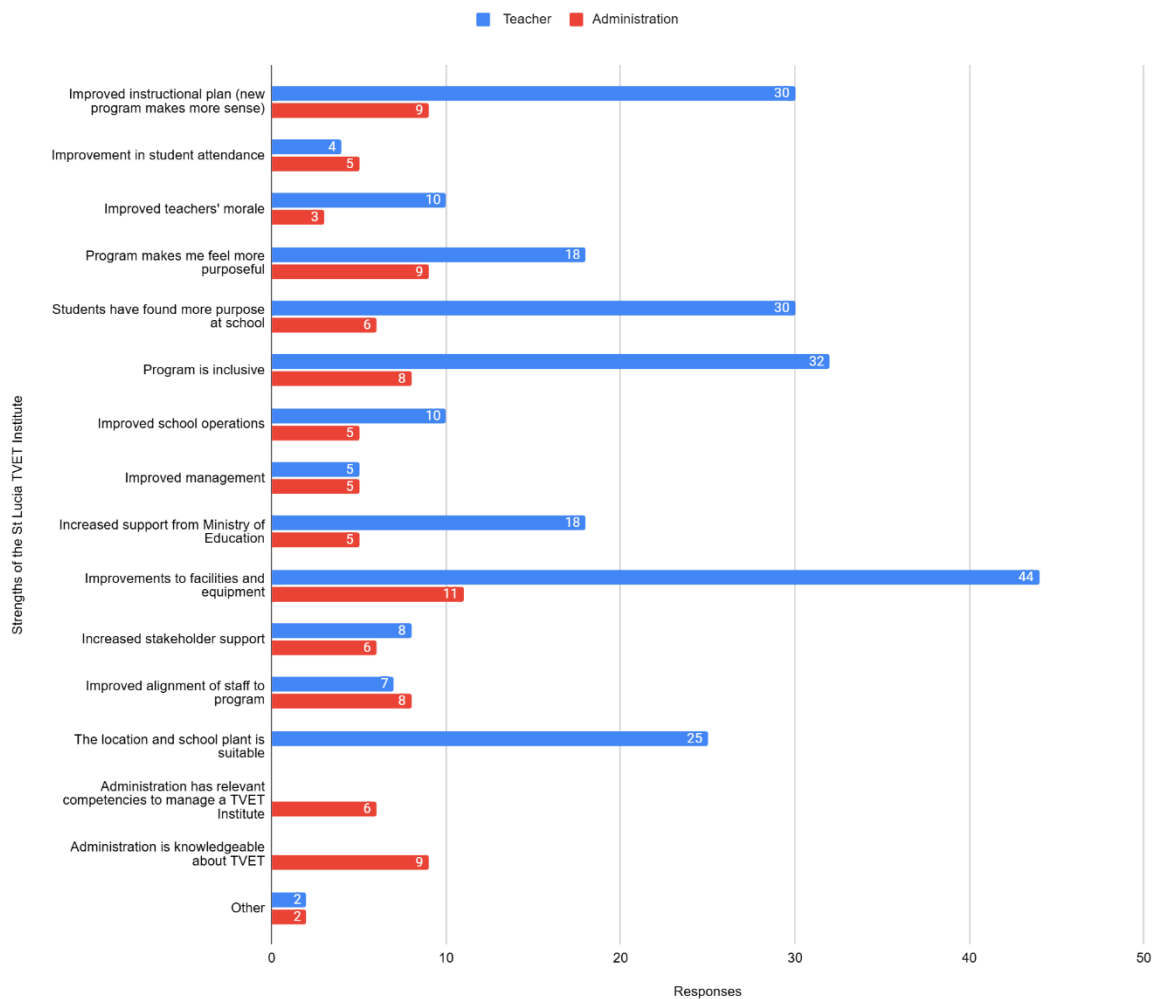


Fig. 1 Bar graph compares the responses of 66 teachers with 11 administrative responses to the question: What are the four main strengths of the St Lucia TVET Institute you work at?

Teachers identified several internal strengths that have positively contributed to the operationalization of the TVET transformation. These strengths reflect both the structural enhancements introduced by the reform and the professional attributes of the teaching staff.

All respondents but most pointedly the administrative and technical level respondents recognized the transformation as a strategic response to economic and labor market pressures. Administrators and

teacher/trainers often cited improved instructional design and more purposeful learning as key strengths of the TVET Institutes that has clear benefits for students, while policy officers emphasized labor alignment and workforce development. The response from Minister of Education for St. Lucia encapsulates the ministry's and by extension the current government's rationalization of the establishment and strengthening of TVET at secondary school level by clearly stating that *"TVET is informed by Labour Demand studies/Workforce surveys. This new drive seeks to address critical skills deficits in the workforce and to prepare young people for entrepreneurship"*. Together, these perspectives confirm that the motivation behind TVET restructuring aligns with UNESCO-UNEVOC (2017) recommendations on increasing relevance and responsiveness of education to employment pathways.

4.2.1 Enhanced Physical Infrastructure and Learning Environment

A significant number of respondents highlighted improvements to facilities and equipment as one of the most notable strengths of the transformed institutes. These improvements include the retrofitting of workshops, provision of new tools and machinery, and better-maintained school environments. Teachers who along with the learners are directly impacted by the infrastructure and learning environment reported that these changes and improvements have enabled a more hands-on, competency-based approach to teaching and learning, which is central to TVET.

One respondent confirms that "the labs are more equipped now than they were before. Students can actually work with tools that are used in industry." This infrastructural improvement supports both the practical and theoretical aspects of instruction and is foundational to delivering high-quality vocational education.

4.2.2 Inclusive and Purposeful Program Structure

Another recurring theme was the inclusive nature of the TVET program. Teachers appreciated that the curriculum caters to a wider range of learning styles and capabilities, especially among students who may not thrive in traditional academic environments.

“The program allows every child a chance to succeed through a skill. It's not all about book work anymore.” Furthermore, the transformation has been associated with a more purpose-driven school culture, where students are more engaged and goal-oriented. Teacher/trainers noted that students have begun to understand the relevance of their education in relation to real-life careers.

Several participants emphasized that secondary-level intervention is critical for equipping students with foundational skills before they become disengaged from the education system. *“The secondary education cohort offers the most significant and realistic chance to shape productive work values,”* one official observed. This view echoes Oketch (2007), who argues that TVET is a viable avenue for youth empowerment and national productivity when integrated early in the education pipeline.

4.2.3 Ministry Support and Administrative Direction

Several participants from both the school administrators and teacher/trainers acknowledged increased support from the Ministry of Education, particularly in the early stages of the transformation. This support was most evident in the form of program design, physical upgrades, policy initiatives, and training workshops. One respondent echoes the view of others in stating that *“there has been a clear effort from the Ministry to make the program work. We’ve had better communication and resources than in the past.”* However, it is important to note that while initial support was acknowledged, sustainability of this support remains a concern (discussed later under threats).

4.2.4 Teacher Competence and Industry Experience

Respondents also cited their own technical competence, CBET training, and industry knowledge as strengths. Teachers who are CBET-trained or have backgrounds in industry emphasized their ability

to bridge the gap between academic instruction and occupational relevance. One teacher notes that *“being certified in my trade area and trained in CBET helps me better guide my students through the units and competencies”*. This self-awareness of professional capability signals a growing culture of teacher professionalism within the TVET context.

4.3 Weaknesses in the Transformation Process

While there is broad support for the transformation in principle, respondents also identified persistent institutional and operational weaknesses that limit the effectiveness of implementation.

Teacher and Administration: What are some of the perceived weaknesses in this transformation process?

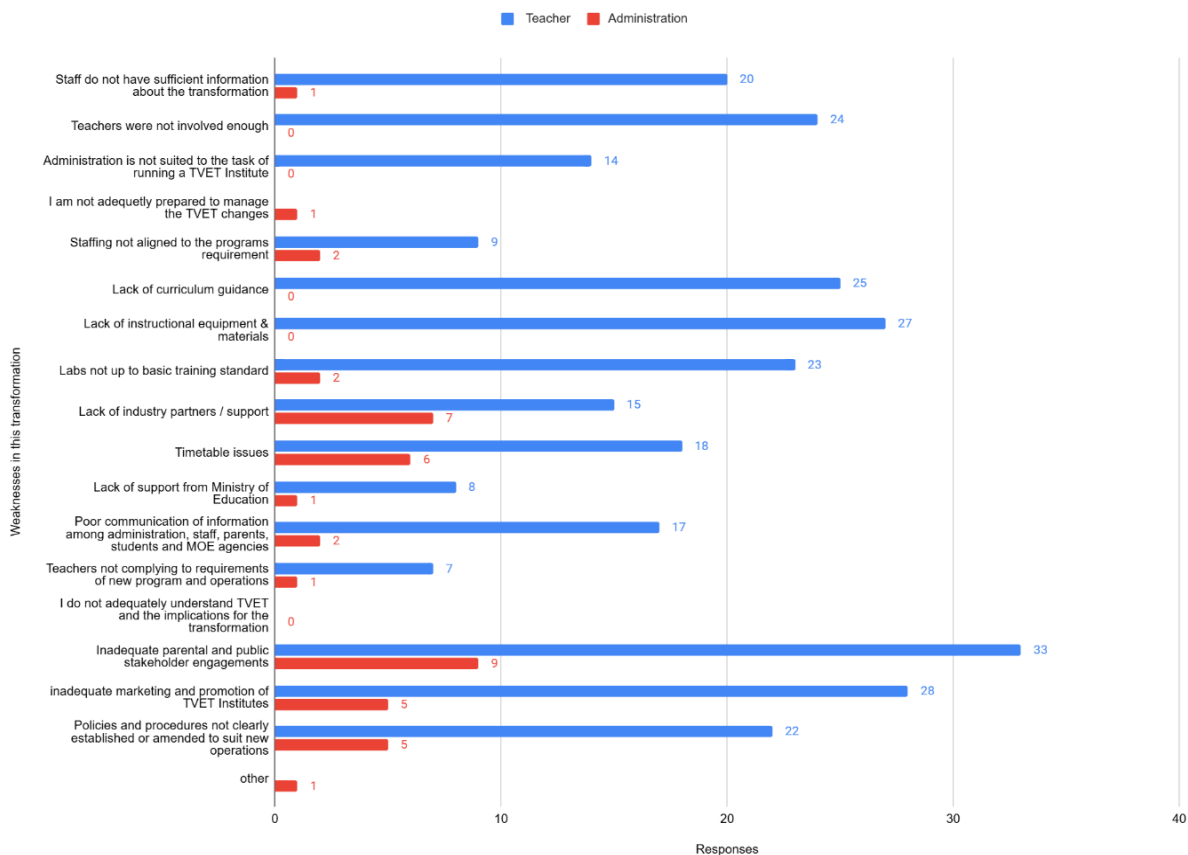


Fig. 2 Bar graph presenting the weaknesses identified by 66 teachers in comparison to 11 administrative staff in relation to the TVET transformation process

4.3.1 Misalignment of Staffing and Curriculum

A critical concern raised was the inadequate alignment of staffing to the program requirements. Many teachers reported that the staff complement was insufficient in number or lacked the qualifications necessary to deliver specialized TVET instruction. This is evidenced in statements such as: *“we do not have the right people in place for all the subject areas. Some teachers are teaching out of field”* and *“getting the physical and human resources to adequately deliver the program is our biggest problem”*.

Multiple participants flagged shortages in qualified instructors in the country, inadequate facilities, and outdated equipment as critical hurdles. This is consistent with studies that highlight infrastructure and staffing as foundational pillars for effective TVET implementation (Afeti & Adubra, 2012). In addition, there was confusion surrounding curriculum guidance, with teachers stating that documentation was either unclear, outdated, or non-existent for new CVQ/NVQ courses. The crux of the challenge with the curriculum resides in teachers who were not adequately familiar with the delivery of standards training versus using traditional academic style syllabuses.

4.3.2 Exclusion of Teachers from Decision-Making

Teachers expressed frustration at having been excluded from key planning and implementation stages of the transformation. This has led to confusion, miscommunication, and, in some cases, resistance to change. *“We were not consulted. Most of us only learned of the new requirements after they were already implemented.”* This lack of inclusive planning undermines teacher ownership and diminishes the effectiveness of implementation.

4.3.3 Poor Internal Communication and Coordination

There were widespread reports of ineffective communication channels between administration, teaching staff, and the Ministry of Education. Teachers felt that critical updates were often delayed or poorly explained. This is reflected in claims such as *“information trickles down too slowly, and*

sometimes we're left to figure things out on our own". This communication gap has had a negative impact on timetabling, assessment scheduling, and overall operational efficiency.

4.3.4 Inadequate Teaching Materials and Equipment

Despite some infrastructural improvements and availability of equipment, many teachers reported a lack of teaching materials, referencing the consumable required especially for newly introduced CVQ training areas. Tools were sometimes outdated, in limited supply, or shared between departments, which restricted instructional delivery.

4.4 Opportunities Created by the TVET Institutes

Teachers expressed optimism about the transformational potential of the reform, highlighting several key opportunities. Respondents unanimously cited workforce development, employability, and reduction in unemployment as key potential benefits. *"We're bridging the skills gap and contributing to economic growth,"* one stakeholder wrote. These outcomes align with the human capital theory, which posits that investment in skills development yields socio-economic returns (Becker, 1993).

Teacher and Administration: What do you perceive as opportunities created by the transformation of the schools to TVET Institutes?

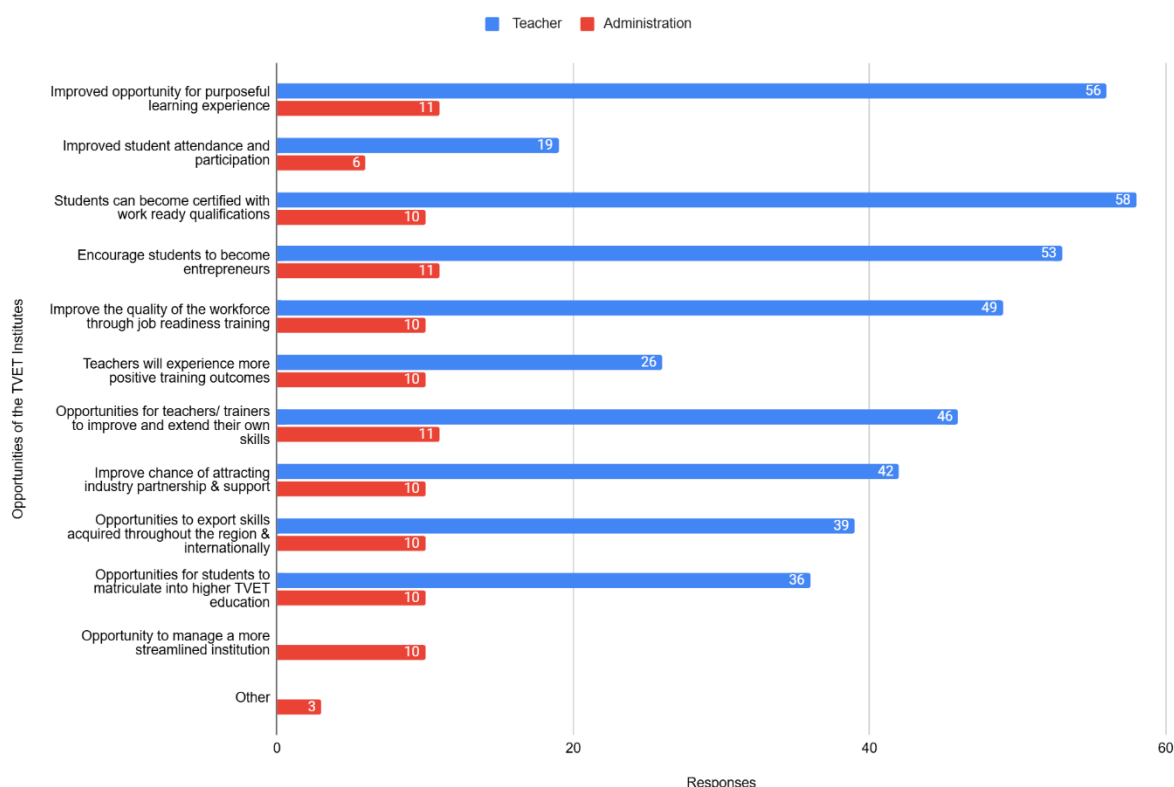


Fig. 3 Bar graph illustrating the opportunities afforded by the establishment of the TVET Institutes as identified by 66 teacher respondents and 11 administrative staff respondents.

4.4.1 Industry-Recognized Certification and Global Mobility

The transition to a TVET model allows students to earn CVQ/NVQ qualifications that are recognized across CARICOM and internationally. Teachers emphasized the value of this portable certification in enhancing student employability and mobility. Key policy and technical respondents confirmed that *“these students can go anywhere in the region with their qualifications. That’s a huge opportunity.”*

Some noted the opportunity to engage industry leaders, co-develop curricula, and expand internships, thereby enhancing real-world application. *“Strengthen industry partnerships to ensure student*

placement,” one technical officer advised. This supports the dual training model praised in Germany and other OECD nations (OECD, 2010).

4.4.2 Promotion of Entrepreneurship and Self-Reliance

The curriculum has also been designed to encourage **entrepreneurship**, with many teacher/trainers and administrators noting that students are learning to generate income through their skills, such as culinary arts, cosmetology, or construction. This respondent corroborates this view by stating that *“we are not just training workers; we’re growing future business owners.”*

This shift toward entrepreneurial education is well-aligned with national development goals and economic diversification.

4.4.3 Teacher Professional Development

Many respondents identified opportunities for professional growth, such as CBET training, upskilling workshops, and exposure to new technologies. This has the potential to elevate teaching standards and build a more professional and competent workforce.

4.4.4 Partnerships with Industry and Regional Integration

Teacher/trainers, forming the largest group of respondents, noted the opportunity to establish stronger partnerships with local businesses, NGOs, and regional educational bodies, which could help provide internships, mentorship, and technical and material support. This was expressed in statements such as, *“if we align with industry, our students get real-world experience, and our programs become more relevant”*.

4.5 Threats to the Sustainability and Success of TVET Institutes

Despite these opportunities vocational training affords, the policy makers themselves, technical officers, teacher/trainers and administration remain concerned about systemic and contextual threats

that could derail the success of the TVET initiative. The data from teacher/trainers in particular indicate concern over the capacity of the Ministry of Education to support and maintain the quality of facilities and material needs to sustain vocational training programs especially in lieu of maintaining alignment to constantly evolving industry standards which is echoed in the statement from the Executive Director of the SLCTVET: “*keeping up with rapid technological changes and integrating them into training programs*”. Data suggests that sustainability ties into other factors discussed such as continuity of policy direction, availability of finance, political priority, level of support from industry partners, and even the impact of physical threats such as weather events damaging existing infrastructure creating unanticipated setbacks.

Teacher and Administration: What are the possible threats to the success of this TVET transformation?

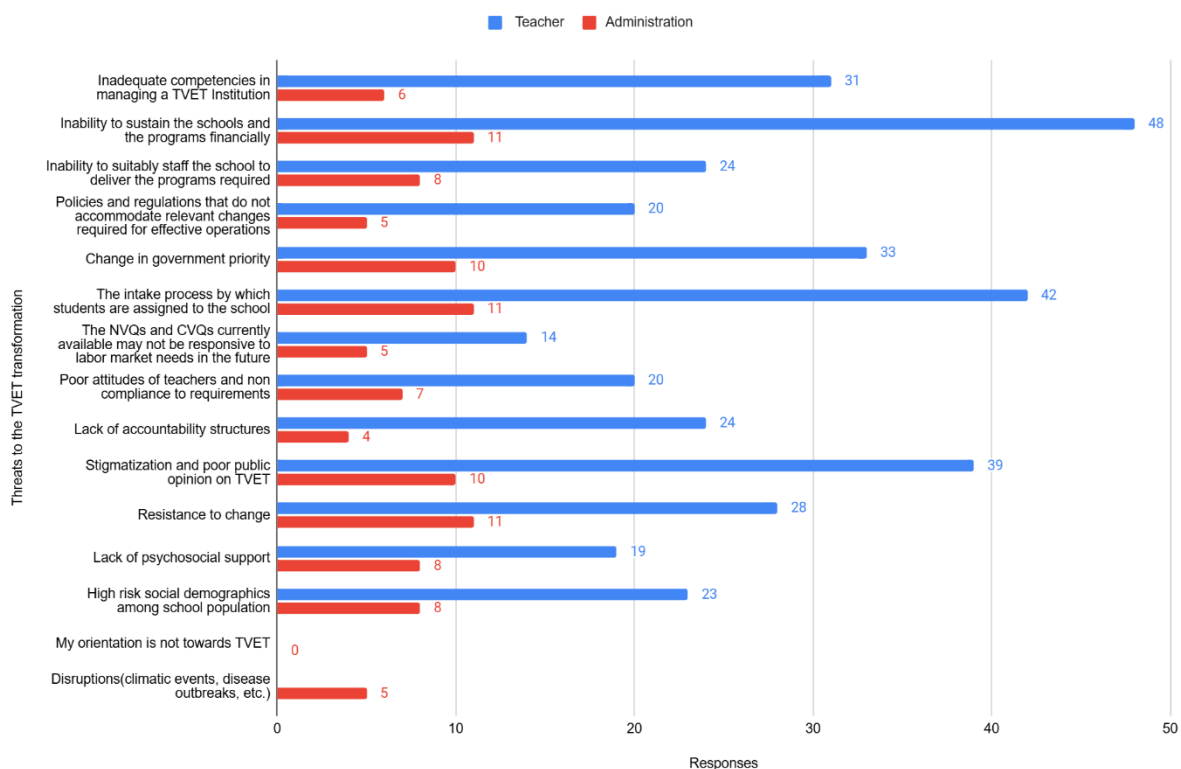


Fig. 4 Bar graph comparing the threats to the establishment of the TVET Institutes as identified by responses from teachers and administration.

4.5.1 Leadership and Policy Constraints

Administrators were generally positive about the knowledge base of their school-level leadership, although some cited gaps in administrative support and communication. In contrast, policy makers, technical officers and teacher/trainers were more critical of institutional leadership, viewing it as resistant or underprepared for the strategic demands of TVET management. This conflict in the data reveals a perceptual gap in what constitutes readiness for the challenges of transformational leadership.

Teachers particularly expressed the view that many administrators lacked the technical knowledge or training necessary to manage a TVET institution. Responses revealed that school leadership was often ill-prepared for the TVET shift, lacking the management acumen to navigate the transition. *“Existing leadership failing to be on board to champion the cause”* and *“running a TVET school is not the same as running a regular school. Leadership needs to change”* were typical sentiments expressed by the teacher/trainers. Without transformational leadership, institutional change remains superficial (Bass & Avolio, 1994).

There was concern about policy rigidity, where outdated policies hindered the flexibility needed for the operationalizing of modern TVET programming. Outdated policies and bureaucratic red tape aligned to an academic system were also seen as impediments and expressed in statements such as: *“inflexible and outdated education policies”*. This points to the need for policy harmonization and institutional autonomy to allow innovation in TVET delivery (ILO, 2020).

4.5.2 Financial Unsustainability

Respondents cited **inconsistent funding** as a major threat. Teachers expressed doubts about the government's ability to maintain equipment, fund new programs, and expand staffing in the long term. *“The transformation is great, but can we afford to sustain it?”* expresses this anxiety concerning

financial sustainability. The executive director of the St. Lucia Council for TVET (SLCTVET) emphasizes these concerns in citing the following threats to the sustainability of the institutes: *“Funding and Financial Constraints; Insufficient financial resources to sustainably support and maintain existing infrastructure, training programs, and operational costs [supported by] Regulatory and Policy Challenges”*.

4.5.3 Student Intake Process and Readiness

Several teachers pointed to the mismatch between students and the programs they are assigned to TVET Institutes via traditional channel based on the measure of academic outcomes through the Caribbean Primary Exit Assessment (CPEA). Responses indicate that some students assigned to the institutes lack basic literacy and numeracy skills or show no interest in vocational education. *“We’re receiving students who are not prepared and do not want to be here. That sets the program up for failure.”* This misalignment affects classroom discipline, retention, and overall student outcomes.

4.5.4 Stigma and Public Perception

Stigma around TVET, resistance to change, and a legacy of academic elitism were threats noted throughout the data. Respondents describe an ongoing struggle to legitimize vocational pathways. Teachers expressed frustration that despite the potential of technical education, it is still viewed as a "second-tier" option and is expressed in the following statement by a respondent capturing the general view of others: *“Until the public sees the value of TVET, we will always be fighting for legitimacy.”* Technical officer responses also highlighted outdated education structures that do not prioritize or legitimize TVET, while administrators and teacher/trainers identified inadequate marketing as a cause of continued misunderstanding and poor public perception. These sentiments echo Billett (2014) on the need to reshape societal narratives around vocational learning.

4.5.5 Resistance to Change and Institutional Inertia

Lastly, several teacher/trainers highlighted resistance to change from both staff and students. Some educators remain committed to old methods, while others lack the motivation to adapt.

Respondents from all groups repeatedly singled out resistance to change among educators and policymakers, citing cultural attachments to academic models and stigmatization of TVET.

“The stigma that TVET is for academic failures is a major barrier,” observed one respondent.

This aligns with Billett (2014), who further notes that social and institutional bias continues to undermine the perceived legitimacy of vocational education worldwide.

4.5.6 Political risk and Policy Fragility

A key threat identified by respondents was the volatility of policy across electoral cycles. The data points to government turnover, which extends risks to TVET priorities articulated through policy continuity and budgetary allocation. This concern is evidenced in statements from the data showing that *“change in political administration [have] implications for policy continuity”*. TVET reforms require long-term planning, gradual implementation and bipartisan support to withstand electoral cycles (Tripney et al., 2013).

While administrators focused more on operational threats, the underlying concern about sustainability and institutional resilience was evident from all respondents. This underscores the argument by the World Bank (2019) that TVET frameworks must be enshrined in robust, apolitical policy instruments in order to endure.

4.6 Summary of Key Findings

The SWOT analysis reveals a complex and nuanced picture of the TVET transformation in Saint Lucia:

- Strengths include improved infrastructure, inclusive programming, dedicated teachers, and Ministry support.

- Weaknesses revolve around staffing gaps, lack of guidance, poor communication, and inadequate resources.
- Opportunities are abundant in terms of regional certification, entrepreneurship, professional development, and industry partnerships.
- Threats stem from weak leadership, funding limitations, poor student preparation, public stigma, and institutional resistance.

While there is broad consensus that the TVET transformation has tremendous potential, its long-term success will depend on the government's ability to address systemic weaknesses, align policy with practice, and provide continuous support for the sustainability and relevance of the institutes.

4.7 Gaps and Recommendations from the Data

The data also provides critical insights into recommendations aligned to significant gaps identified in the establishment of the TVET Institutes. These particular areas of concern include stakeholder roles and governance, and structural reform of TVET in the education system.

4.7.1 Stakeholder Roles and Governance

All data sets called for enhanced inter-agency and multi-stakeholder collaboration. Respondents emphasized that sustaining relevance requires coordinated efforts across MOE, school leaders, industry, parents, and TVET authorities. One respondent summed up the view expressed by several respondents in stating that *“The Ministry of Education, TVET Unit, parents and employers all play critical roles”*. Stakeholder alignment is crucial for system sustainability and mutual accountability. Officers stressed a need for legislative safeguards and a coherent framework, while administrators

requested stronger industry ties and parental support. Johanson & Adams (2004) affirm that shared governance structures improve sustainability and policy coherence.

4.7.2 Structural Reform

The absence of a guiding framework for TVET was described as a systemic gap. There was overwhelming consensus on the need for a context-relevant, practical TVET implementation framework. Officers explicitly called for national models and regulatory structures. Administrators, through their recommendations, echoed the call for training, role clarity, and improved alignment of roles to institutional objectives. *“We need a practical and usable framework to guide implementation,”* is a perspective offered by one technical officer and is representative of the wider sentiments expressed in the data. Most respondents supported the development of a comprehensive TVET model, one that clearly outlines pathways, qualifications, standards, and roles. This echoes international best practices as advocated by the World Bank (2019), emphasizing results-based frameworks.

Teacher and Admin Responses: Is There a need to categorize TVET in secondary Schools in the educational system?

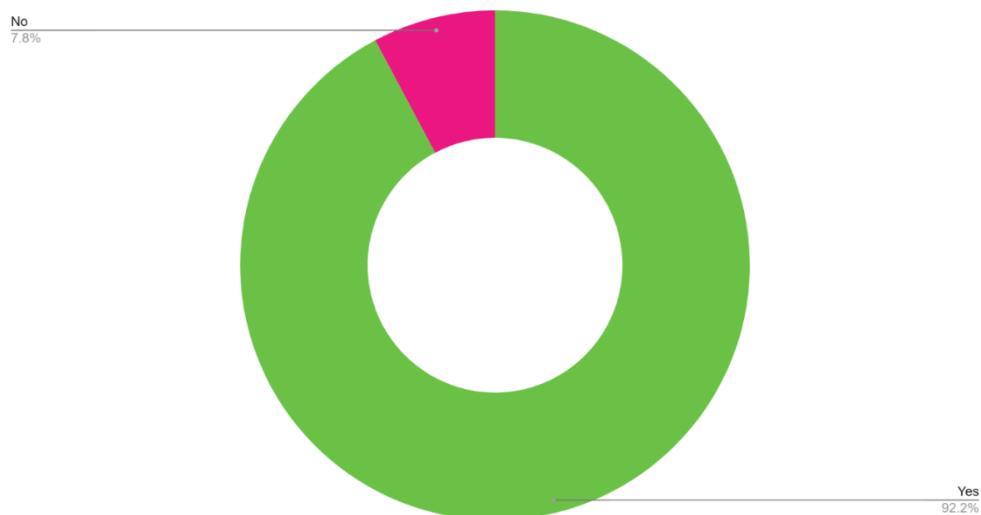


Fig. 5 Chart illustrating the need in the educational system for different categories of secondary schools with each category offering varying depths of TVET programs to suit the diverse student population according to combined responses from teachers and administration of the TVET Institutes.

Respondents from all groups endorsed the introduction of different categories of secondary schools, offering tiered TVET programming. Administrators noted the inclusiveness of the TVET structure for diverse learners, while officers called for strategic mapping of pathways tailored to varied student capabilities. These aligned sentiments reflect Psacharopoulos (1997) and Tripney et al. (2013) who support pluralistic models that reduce educational wastage and promote equity.

4.8 Conclusion

The integration of instructional, administrative and policy-level insights paints a layered picture of Saint Lucia's TVET transformation. The analysis of multi-level stakeholder responses in this research presents a complex but promising picture of TVET transformation in Saint Lucia. Shared optimism is tempered by mutual recognition of systemic, infrastructural, and cultural challenges. While the intent behind establishing TVET Institutes is widely supported, the implementation process is mired in structural limitations, cultural inertia, and policy ambiguities. However, the emergence of clear themes around economic relevance, stakeholder engagement, and institutional reform suggests that given adequate investment and sustained political commitment, Saint Lucia possesses the capacity to develop a TVET system that is both contextually appropriate, internationally competitive and a model for other SIDS.

CHAPTER 5

Framework for Guiding the Development of TVET Models for Small Island Developing States (SIDS)

This framework provides a comprehensive guide for developing a TVET model tailored to the unique needs and challenges of Small Island Developing States (SIDS), ensuring it is sustainable, inclusive, and aligned with both local and global priorities.

5.0 Introduction

A. Context and Importance of TVET in SIDS

- Small Island Developing States (SIDS) face a unique set of challenges due to their geographic, economic, and environmental characteristics. Their limited land area and small populations restrict access to resources, economies of scale, and diversification opportunities, making them highly dependent on imports and vulnerable to external shocks. Additionally, SIDS are disproportionately affected by climate change, experiencing rising sea levels, increased frequency of extreme weather events, and coastal erosion, which threaten their infrastructure, freshwater supplies, and livelihoods. Their isolation and remoteness further exacerbate difficulties in trade, transportation, and access to global markets. Despite contributing minimally to global greenhouse gas emissions, SIDS bear the brunt of climate impacts, requiring significant adaptation and mitigation efforts that strain their already limited financial and technical capacities. These interconnected challenges hinder sustainable development and resilience-building efforts in SIDS
- Technical and Vocational Education and Training (TVET) plays a critical role in addressing unemployment, fostering economic diversification, and building economic resilience and social stability. By equipping individuals with practical skills and

competencies aligned with labor market demands, TVET reduces skills gaps and enhances employability, particularly for youth and marginalized groups. This directly tackles unemployment and underemployment, which are key drivers of social and economic instability. Furthermore, TVET supports economic diversification by providing specialized training in emerging sectors such as renewable energy, technology, and sustainable agriculture, reducing reliance on single industries and creating new opportunities for growth. By fostering a skilled workforce, TVET enhances productivity and innovation, which are essential for long-term economic development. Additionally, TVET promotes social stability by empowering individuals with livelihoods, reducing poverty, and fostering inclusivity. In times of economic shocks or climate-related disruptions, TVET enables communities to adapt by reskilling and upskilling workers, thereby building resilience. Overall, TVET is a vital tool for sustainable development, economic transformation, and social cohesion.

B. Objectives of the Framework

The main aim of developing a framework is to provide guidelines and considerations to assist SIDS in developing context relevant TVET models.

The following are the objectives of this Framework Guiding the Development of a TVET Model for Small Island Developing States (SIDS):

- To create a structured, adaptable, and sustainable approach to equipping individuals with the skills and competencies needed to address the unique challenges and opportunities faced by SIDS.
- To align TVET programs with the specific economic, social, and environmental contexts of SIDS, ensuring that training is relevant to labor market demands, supports economic diversification, and enhances resilience to climate change and external shocks.

- To promote inclusivity, gender equality, and lifelong learning, while fostering partnerships between governments, industries, educational institutions, and international organizations.
- To empower SIDS to build a skilled workforce capable of driving sustainable development, reducing unemployment, and enhancing social and economic stability.

C. Significance of Tailored TVET Models for SIDS

Although globally mid to highly develop countries have well developed TVET systems, the unique circumstances of the SIDS deter from the wholesale adoption of these models but rather to synthesize the best of these practices into a model of their own. Tailored or context-relevant TVET models are significant for Small Island Developing States (SIDS) because they address the unique challenges and opportunities specific to these nations, such as limited resources, vulnerability to climate change, small economies, and geographic isolation. By aligning training programs with local labor market needs, cultural contexts, and sustainable development goals, these models ensure that skills development is practical, impactful, and responsive to the realities of SIDS. This approach enhances employability, supports economic diversification, and builds resilience to external shocks, while also promoting social inclusion and reducing poverty. Ultimately, context-relevant TVET models empower SIDS to harness their human capital for sustainable growth and stability.

5.1 Key Principles for TVET in SIDS

• Sustainability and Resilience

- Integration of green skills and climate resilience into curricula.
- Focus on renewable energy, sustainable tourism, and environmental conservation.
- Developing adaptable skills for climate change resilience, disaster response, and eco-friendly practices.

- Sustainable use of local resources and green technologies.
- **Inclusivity**
 - Ensuring access for marginalized groups (e.g., women, youth, persons with disabilities).
 - Addressing gender disparities in TVET participation.
- **Relevance**
 - Alignment with local labor market needs and global trends.
 - Emphasis on entrepreneurship and self-employment.
- **Flexibility**
 - Modular and adaptable programs to cater to diverse learner needs.
 - Integration of digital and remote learning options.
- **Inclusivity and Accessibility**
 - Ensuring TVET is accessible to all, including women, rural populations, and people with disabilities.
 - Flexible learning pathways for youth, adults, and marginalized communities.
- **Alignment with National and Regional Development Goals**
 - Integration with sustainable development goals (SDGs) and local economic strategies.
 - Harmonization with regional policies, such as the TVET Strategy for Workforce Development and Economic Competitiveness.
- **Public-Private Partnerships and Stakeholder Engagement**
 - Collaboration between governments, employers, industries, and community organizations.
 - Local involvement in curriculum development and skills forecasting

5.2 Needs Assessment and Stakeholder Engagement

A Needs Assessment and Stakeholder Engagement are critical in determining a suitable TVET model for Small Island Developing States because they ensure the model is aligned with local economic, cultural, and social realities. By engaging relevant stakeholders, such as government agencies, industry leaders, educators, and local communities, it becomes possible to identify specific skills gaps, labor market demands, and community priorities. This collaborative approach helps tailor TVET programs that are not only relevant and responsive to the needs of SIDS but also sustainable and adaptable to their unique challenges, such as limited resources, geographic isolation, and vulnerability to climate change. This will require the following:

A. Labor Market Analysis

- Identifying key sectors with growth potential (e.g., tourism, agriculture, ICT, renewable energy).
- Assessing skills gaps and future workforce requirements.

B. Stakeholder Consultation

- Engaging governments, private sector, NGOs, and local communities.
- Involving international organizations and development partners for support.

C. Cultural and Contextual Considerations

- Incorporating local knowledge, traditions, and values into TVET programs.

5.3 Core Components of the TVET Model

When developing a TVET model for Small Island Developing States (SIDS), several core components must be considered to ensure its effectiveness and sustainability. These include the alignment of curricula with local labor market needs, ensuring that skills development matches the economic sectors crucial to the region, such as tourism, agriculture, and renewable energy. Access to infrastructure and resources is essential for delivering quality training, especially given the

geographic isolation of SIDS. Additionally, fostering strong partnerships with industries, local communities, and international organizations is vital for resource sharing and program relevance. The model should also emphasize delivery mechanisms to establish relevant learning pathways to ensure sustainability and that skills development supports economic development goals. The design of the TVET model is enabled by developing instructional through teacher training and ongoing trainer capacity development exercises.

A. Curriculum Development

- Competency-based training aligned with industry standards.
- Integration of soft skills/transferable (e.g., communication, critical thinking), digital literacy; and entrepreneurship and financial literacy.

B. Delivery Mechanisms

- Blended learning (combining in-person and online training).
- Outreach training for remote and rural areas (e.g., utilizing schools/ community centers).

C. Infrastructure and Resources

- Establishing training centers with modern equipment.
- Leveraging partnerships for resource sharing and funding.

D. Teacher Training and Capacity Building

- Professional development for TVET instructors.
- Training in innovative teaching methods and technologies.

5.4 TVET Delivery Models for SIDS

Considering delivery methods when designing a TVET model is crucial to ensure accessibility, flexibility, and effectiveness. Tailoring methods such as blended learning, online modules, and hands-on training can cater to diverse learner needs, overcoming barriers like geographic location, time

constraints, and resource limitations. The right delivery approach enhances engagement and ensures that learners gain practical, relevant skills.

- **Flexible Modular Training Systems**

- Short-term, modular courses tailored to immediate labor market needs.
- Focus on micro-credentials, apprenticeships, and skill certification.

- **Blended and Online Learning**

- Leveraging technology to overcome geographical isolation and ensure continuous learning.
- Mobile learning platforms, virtual classrooms, and digital skills development.

- **Work-Based Learning and Apprenticeships**

- Strong focus on hands-on, workplace-based training that aligns with local industry needs.
- Collaboration with businesses to create apprenticeship programs in key sectors.

- **Community-Driven TVET Programs**

- Localized, community-based initiatives that align with the needs of the island's specific economy and culture.
- Focus on indigenous knowledge and traditional skills, combined with modern techniques and applications.

5.5 Curriculum Design and Content Development

Curriculum design and content development are critical in creating a relevant TVET model because they ensure that the training aligns with current industry needs and equips learners with practical, market-ready skills. A well-designed curriculum considers local economic sectors, emerging technologies, and labor market demands, ensuring that graduates are employable and can contribute to sustainable development. Tailoring content to the specific context of the education system also

enhances learner engagement and improves the quality and relevance of education, leading to better outcomes for individuals and the economy.

- **Industry and Sector-Based Training**

- Design curricula aligned with local economic sectors: tourism, agriculture, fisheries, renewable energy, etc.
- Emphasizing sustainability, environmental stewardship, and climate adaptation.

- **Skills for Future Sectors**

- Introducing emerging sectors: digital economy, renewable energy, climate change adaptation.
- Fostering skills for green jobs, technology integration, and entrepreneurship.

- **Integration of Transferable Skills and Entrepreneurship**

- Training in communication, problem-solving, and team collaboration.
- Developing financial literacy and entrepreneurial mindsets to stimulate local innovation and self-employment.

5.6 Implementation Strategy

Considering an effective implementation strategy is crucial when developing a TVET model for SIDS to ensure that the model is successfully put into practice and achieves its intended outcomes. An effective strategy outlines clear goals, roles, timelines, and resource allocation, while also addressing potential challenges such as limited infrastructure, funding, and capacity. It ensures that all stakeholders are aligned and that the necessary support structures, such as training for educators and continuous monitoring, are in place. This approach helps to maximize the impact of the TVET model, making it sustainable and adaptable to the unique needs of SIDS. These are the critical considerations in implementing a TVET model:

- **A. Phased Approach**

- Pilot programs to test and refine the model.
- Scaling up successful initiatives based on evaluation.
- **B. Partnerships and Collaboration**
 - Public-private partnerships (PPPs) for funding and expertise.
 - Collaboration with regional and international organizations.
- **C. Monitoring and Evaluation**
 - Establishing key performance indicators (KPIs) for success.
 - Regular feedback loops to ensure continuous improvement.

5.7 Sustainability and Scalability

Considering sustainability and scalability in designing a TVET model for SIDS is vital to ensure that the model can endure over time and adapt to changing needs. Sustainability ensures that the TVET system can continue to function effectively despite resource constraints, environmental challenges, or economic fluctuations, by integrating long-term financial planning, community involvement, and eco-friendly practices. Scalability allows the model to expand or adjust to cater to growing populations, emerging industries, and evolving market demands without losing quality or relevance. Together, these factors help create a resilient and adaptable TVET system that meets both current and future needs of Small Island Developing States. The key considerations are as follows:

A. Funding Mechanisms

- Diversifying funding sources (e.g., government budgets, foreign grants and loans, private sector contributions).
- Exploring innovative financing models (e.g., social impact bonds - a type of financing where private investors provide capital upfront for socially linked programs, with the government repaying based on the achievement of pre-defined, measurable social outcomes).

B. Policy Integration

- Aligning TVET with national education and economic policies.
- Advocating for supportive legislation and regulatory frameworks.

C. Knowledge Sharing and Replication

- Documenting best practices and lessons learned.
- Facilitating regional cooperation among SIDS for shared learning.

5.8 Governance and Institutional Framework

Governance and institutional frameworks are crucial when developing a relevant TVET model for SIDS as they establish the structure, accountability, and coordination necessary for effective implementation and management. Clear governance ensures that roles and responsibilities are well-defined among stakeholders, such as governments, educational institutions, and industry partners. Strong institutional frameworks promote consistency, quality assurance, and continuous improvement, facilitating the alignment of TVET programs with national development goals. Effective governance and institutional support also ensure that the TVET system remains responsive to emerging needs and is capable of adapting to challenges unique to SIDS, such as limited resources, environmental threats or changing geo-political relations. The following aspects must be considered:

- **Establishing a National TVET Authority**
 - Centralizing TVET policies, standards, and coordination across islands and regions by the establishment of national and regional TVET Authorities (e.g., St Lucia Council for Technical Vocational Education & Training - SLCTVET or Caribbean Association of National Training Agencies - CANTA)
 - Defining roles and responsibilities of government agencies, private sector, and civil society.
- **Accreditation and Quality Assurance**
 - Developing national quality assurance frameworks for TVET institutions.
 - Aligning certification with international standards, where applicable.

- Ratifying national qualifications framework that articulates the value of diverse TVET qualifications.
- **Monitoring, Evaluation, and Feedback Loops**
 - Implementing a system for continuous evaluation of TVET programs.
 - Feedback mechanisms from stakeholders, including employers, graduates, and learners.

5.9 Financing and Resource Mobilization

Considering financing and resource mobilization is essential when designing a TVET model for SIDS to ensure that the model is financially sustainable and can effectively deliver quality education. Given the limited resources in many small island nations, securing funding from diverse sources, such as government budgets, international and regional partnerships, and private sector investments, is critical. Effective resource mobilization enables the procurement of necessary infrastructure, materials, and skilled instructors, ensuring the TVET system remains functional, relevant, and accessible to all learners.

- **Government Funding and Investment**
 - Allocation of national budgets to support TVET infrastructure, training materials, and personnel.
- **Private Sector Engagement**
 - Encouraging private investment through tax incentives, grants, and business partnerships.
- **International Cooperation and Development Assistance**
 - Collaboration with development partners, NGOs, and regional organizations (e.g., Pacific Islands Forum).
- **Sustainable Funding Mechanisms**

- Establishing endowment funds, training funds, or student loan schemes to make TVET financially sustainable.

5.10 Sensitization and Promotion

Sensitization and promotion are essential when designing a TVET model for SIDS because they help shift public perceptions and increase awareness of the value and benefits of vocational education. By effectively promoting TVET as a viable and rewarding career path, it encourages greater participation from students, parents, and employers. Strong marketing also ensures that TVET programs are aligned with industry needs, attracting both learners and employers to create a more skilled, employable workforce, which is crucial for driving economic growth and sustainable development in Small Island Developing States.

- **Raising Awareness and Shifting Perceptions**

- Raising awareness of TVET's value for career growth and national development.
- Promoting TVET as a viable alternative to traditional academic pathways.
- Shifting public perceptions, especially among students and parents.

- **Industry Alignment and Employer Engagement**

- Ensuring alignment of TVET programs with labor market needs through industry partnerships.
- Engaging employers to promote the relevance of TVET training.

- **Communication and Outreach Strategies**

- Developing targeted outreach strategies to reach key stakeholders.
- Leveraging local media and digital platforms for effective communication.

- **Community and Long-term Benefits**

- Showcasing to communities and the state by extension, the long-term benefits of skill training programs and its impact in creating a skilled workforce

5.11 Moving Forward

In conclusion, the successful implementation of the TVET framework in SIDS requires a collective commitment from all stakeholders, including governments, educational institutions, industries, and communities. The vision is to build a resilient, skilled, and sustainable workforce that drives economic growth and development in these islands. To achieve this, immediate steps should focus on prioritizing short-term actions such as needs assessments and pilot programs, while ensuring long-term sustainability through continuous stakeholder consultation, capacity building, and program evaluation. This approach will help create a TVET system that is responsive, effective, and aligned with the unique needs of SIDS. This must include the following:

- **A. Call to Action**
 - Urging stakeholders to commit to the framework's implementation.
- **B. Vision for the Future**
 - A resilient, skilled, and sustainable workforce driving the development of SIDS
- **Next Steps for Implementation**
 - Prioritizing short-term and long-term actions to begin implementation in SIDS.
 - Ongoing stakeholder consultation, capacity building, and program evaluation.

5.12 Checklist for the Development of a Suitable TVET System Model Based on Framework Dimensions

This checklist serves to guide SIDS in developing a suitable TVET Model within the general education system. It provides the context for mapping out the architecture of TVET so the education system is better positioned to create greater possibilities for its human resource and developmental goals.

I. Contextual Analysis

- ☐ Conduct a needs assessment of the local labor market, industries, and sectors (tourism, agriculture, fisheries, etc.).
- ☐ Analyze geographic and environmental factors such as vulnerability to climate change, natural disasters, and local resource availability.
- ☐ Identify social and cultural considerations, ensuring inclusivity for women, marginalized groups, and rural populations.
- ☐ Evaluate economic challenges and opportunities, including the potential for niche sectors like eco-tourism and renewable energy.
- ☐ Examine existing TVET programs in the region, identifying gaps and areas for improvement.

II. Key Principles

- ☐ Promote sustainability in TVET programs by integrating climate resilience, disaster response, and environmental conservation.
- ☐ Ensure inclusivity and accessibility, offering flexible pathways for youth, adults, women, and disabled individuals.
- ☐ Align TVET with national and regional development goals, including SDGs, climate change adaptation, and economic strategies.
- ☐ Foster public-private partnerships by engaging employers, local businesses, and community organizations in the development process.
- ☐ Incorporate feedback from stakeholders, including TVET institutions, students, employers, and local communities.

III. TVET Delivery Models

- ☐ Design flexible, modular training programs that address immediate labor market needs and skills shortages.
- ☐ Leverage digital platforms for blended or online learning to overcome geographic isolation.
- ☐ Integrate work-based learning and apprenticeships in key sectors, such as tourism, agriculture, and renewable energy.
- ☐ Promote community-driven TVET initiatives that are tailored to local needs, values, and industries.
- ☐ Consider mobile and remote learning solutions to extend education to remote or underserved communities.

IV. Curriculum Design

- ☐ Develop curricula aligned with local industries, focusing on sectors such as agriculture, tourism, fisheries, and renewable energy.
- ☐ Include emerging sectors (e.g., digital economy, green jobs, climate adaptation) in the curriculum.
- ☐ Incorporate soft skills training (communication, critical thinking, problem-solving, teamwork) into the curriculum.
- ☐ Integrate entrepreneurship skills to encourage local innovation, self-employment, and small business development.
- ☐ Ensure the curriculum is responsive to evolving industry trends, technological advances, and labor market needs.

V. Governance and Institutional Framework

- ☐ Establish a national TVET authority to oversee policies, standards, and coordination across the country or islands.
- ☐ Define the roles and responsibilities of government agencies, private sector, and civil society in TVET delivery and development.
- ☐ Create a national quality assurance framework for accreditation and certification of TVET programs.
- ☐ Develop monitoring and evaluation mechanisms to assess the effectiveness of TVET programs and gather stakeholder feedback.

VI. Financing and Resource Mobilization

- ☐ Allocate sufficient government funding for the establishment and ongoing operation of TVET institutions and programs.
- ☐ Engage the private sector in TVET through partnerships, tax incentives, and investment in skill development.
- ☐ Seek international funding and development assistance from organizations such as UNDP, UNESCO, and regional agencies.
- ☐ Develop sustainable funding mechanisms (e.g., endowment funds, training funds, student loan schemes) to ensure long-term financial sustainability.
- ☐ Identify potential donors and funding sources for specific projects or initiatives within the TVET system.

VII. Stakeholder Engagement and Partnerships

- ☐ Consult with key stakeholders (governments, employers, local communities, students, educational institutions) to ensure alignment with local needs.

- ☐ Establish partnerships with local businesses and industries to align training with real-world demands.
- ☐ Engage with regional bodies (e.g., Pacific Islands Forum, Caribbean Development Bank) for technical assistance and cross-border collaboration.
- ☐ Ensure employer involvement in curriculum design, apprenticeships, and job placement opportunities.

VIII. Implementation Plan

- ☐ Develop a comprehensive implementation plan outlining goals, timelines, and milestones for TVET system development.
- ☐ Prioritize actions for short-term impact and long-term sustainability.
- ☐ Identify key performance indicators (KPIs) to measure progress and outcomes in TVET delivery.
- ☐ Allocate resources (financial, human, infrastructural) and ensure capacity building for TVET staff.
- ☐ Establish a pilot program to test TVET initiatives in select regions or sectors before scaling nationwide.

IX. Monitoring, Evaluation, and Feedback

- ☐ Implement a monitoring and evaluation (M&E) system to track TVET program effectiveness and adapt strategies as needed.
- ☐ Collect feedback from learners, employers, and communities to improve programs and ensure relevance.

- ☐ Regularly review and update curricula and training models to reflect changes in the economy, technology, and industry demands.
- ☐ Ensure continuous professional development for trainers and administrators to maintain high standards in TVET delivery.

X. Long-Term Vision and Sustainability

- ☐ Develop a strategy for sustaining TVET initiatives beyond initial funding and pilot phases.
- ☐ Encourage innovation in the delivery of TVET through research and development.
- ☐ Build resilience into the TVET model by addressing environmental challenges and ensuring the program is adaptable to future changes.
- ☐ Promote lifelong learning to ensure the TVET system supports continuous skills development across the population.

5.13 Selecting a Suitable Model for Secondary Level TVET

Research data has indicated that there is a need for an eclectic TVET model at the secondary school level. This enables the SIDS with its limited resources to provide diverse pathways to TVET in order to cater to the varying needs, abilities and career aspirations of the students.

At the secondary school level TVET can be delivered in diverse arrangements. In the Anglophone Caribbean, delivering context-relevant TVET at the secondary level requires schools that are adaptable, resource-efficient, and aligned with local economic and social needs. The following offers some of the possible structures for delivering TVET to meet the diverse needs of the student populations:

1. General Education Secondary Schools

- **Description:** Schools that focus on academic and offer technical proficiency subjects within the same institution. They are not career oriented.
- **Why Efficient:**
 - Encourages students to focus on academic studies enriched by limited practical experiences linked to technical subjects.
 - Provides a solid foundation in academics and limited exposure to technical subjects to allow access to higher education program.
- **Why Sustainable:**
 - It is a more cost effective in providing a general education enhanced by limited practical components.

- Facilitates a greater intake of students to access a balanced education that combines theoretical knowledge that is not devoid of practical skills.

2. Comprehensive Secondary Schools

- **Description:** Schools that offer both academic and vocational tracks within the same institution.
- **Why Efficient:**
 - Allows students to choose between academic and vocational pathways based on their interests and aptitudes.
 - Reduces the need for separate vocational schools, making better use of existing infrastructure.
- **Why Sustainable:**
 - Promotes inclusivity by offering opportunities to all students, regardless of academic performance.
 - Encourages a balanced education that combines theoretical knowledge with practical skills.

3. Technical and Vocational High Schools /Institutes

- **Description:** Schools specifically designed to focus on a blend of technical and vocational education towards career development.
- **Why Efficient:**

- Specialized facilities and equipment for hands-on training in key sectors (e.g., construction, agriculture, ICT, tourism).
- Strong partnerships with industries for work-based learning and apprenticeships.
- **Why Sustainable:**
 - Directly addresses labor market needs by producing job-ready graduates.
 - Can adapt curricula to emerging sectors (e.g., renewable energy, digital economy).

4. Community-Based TVET Schools

- **Description:** Schools that are deeply integrated into local communities and tailored to regional economic activities.
- **Why Efficient:**
 - Focuses on skills relevant to local industries (e.g., fishing, agro-processing, crafts, tourism).
 - Leverages community resources and expertise for training.
- **Why Sustainable:**
 - Builds local capacity and reduces urban migration by creating opportunities in rural areas.
 - Encourages community ownership and support for TVET programs.

5. Dual-System Schools (Combining School and Work-Based Learning)

- **Description:** Schools that integrate classroom learning with on-the-job training through partnerships with local businesses.
- **Why Efficient:**
 - Provides students with real-world experience and industry connections.
 - Reduces the cost of training by sharing resources with the private sector.
- **Why Sustainable:**
 - Ensures that training is directly aligned with employer needs.
 - Increases employability and reduces the skills mismatch.

6. Green and Sustainable Schools

- **Description:** Schools that incorporate green skills and sustainability into their TVET programs.
- **Why Efficient:**
 - Prepares students for jobs in growing sectors like renewable energy, environmental conservation, and sustainable tourism.
 - Uses the school itself as a training ground for green practices (e.g., solar energy, water conservation).
- **Why Sustainable:**

- Aligns with global and regional sustainability goals (e.g., SDGs, Caribbean Green Economy initiatives).
- Builds resilience to climate change, a critical issue for SIDS.

7. Digital and ICT-Focused Schools

- **Description:** Schools that prioritize digital literacy and ICT skills in their TVET programs.
- **Why Efficient:**
 - Prepares students for the digital economy and remote work opportunities.
 - Leverages online platforms to deliver training, reducing the need for physical infrastructure.
- **Why Sustainable:**
 - Addresses the growing demand for ICT skills in the region.
 - Provides access to global job markets, reducing reliance on local employment opportunities.

8. Multi-Grade and Multi-Age Schools (for Rural and Low Population Schools)

- **Description:** Schools that cater to students of different ages and grade levels in a single classroom.
- **Why Efficient:**

- Maximizes limited resources in sparsely populated areas.
- Provides flexible learning pathways for students who may have missed formal education.
- **Why Sustainable:**
 - Ensures access to TVET for marginalized and remote communities.
 - Promotes lifelong learning and skills development for all age groups.

9. Public-Private Partnership (PPP) Schools

- **Description:** Schools developed and operated through collaborations between governments and private sector entities.
- **Why Efficient:**
 - Leverages private sector expertise, funding, and resources.
 - Ensures that training is directly aligned with industry needs.
- **Why Sustainable:**
 - Reduces the financial burden on governments.
 - Creates a pipeline of skilled workers for local industries.

10. Specialized Schools for Key Sectors

- **Description:** Schools that focus on specific industries critical to the Caribbean economy (e.g., tourism, agriculture, maritime industries).
- **Why Efficient:**
 - Provides targeted training for high-demand sectors.
 - Builds expertise in areas where the region has a competitive advantage.
- **Why Sustainable:**
 - Supports economic diversification and resilience.
 - Encourages innovation and value-added activities in key sectors.

11. Hybrid Schools (Combining Formal and Non-Formal Education)

- **Description:** Schools that offer both formal TVET qualifications and non-formal, short-term skills training.
- **Why Efficient:**
 - Caters to a diverse range of learners, including out-of-school youth and adult learners.
 - Provides flexible pathways for skills upgrading and certification.
- **Why Sustainable:**
 - Addresses the needs of the informal economy, which is significant in the Caribbean.
 - Promotes lifelong learning and continuous skills development.

12. Competency Based Secondary Schools

- **Description:** Schools that offer a fully competency-based curriculum in both the foundational academics and technical vocational areas.
- **Why Efficient:**
 - Allows students to focus on developing competencies in subjects in manageable portions rather than terminal assessments.
 - Caters more to student with diverse needs and places them upon a learning continuum and reduces the concept of students being defined by a pass or fail status.
- **Why Sustainable:**
 - Promotes inclusivity by offering opportunities to all students to learn at a comfortable pace to allow for the development of knowledge, skills and attitudes.
 - Allows students to develop the necessary literacies, dispositions and competencies in basic skill areas that would allow them to contribute to the workforce and be productive citizens.

The following is an example of a recommended structure for TVET in the secondary school system in St Lucia since the establishment of the four TVET Institutions:

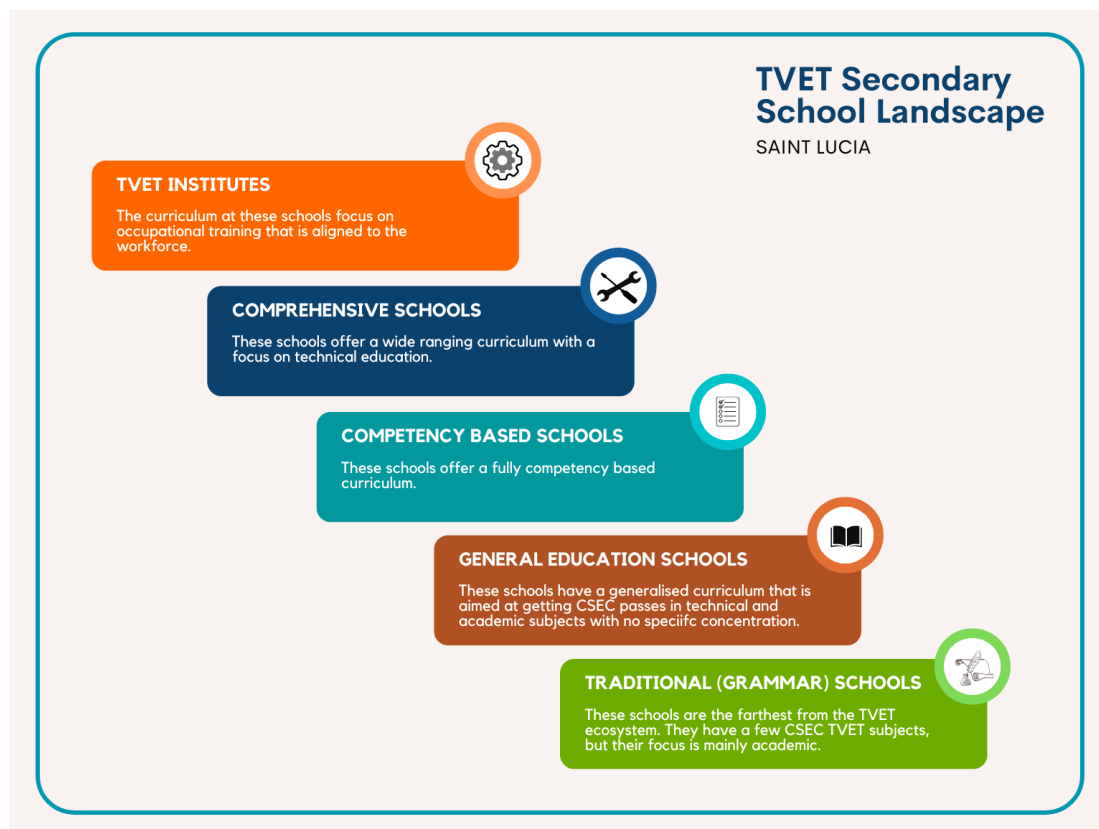


Fig. 6 A sample of the architecture of TVET system showing the varying depths of TVET focus and intensity in the curriculum at the secondary school level.

5.14 Checklist for the Development of a Suitable TVET Model for Secondary School Level

I. Contextual Analysis

- ☐ Conduct a labor market analysis to understand the demand for specific skills at the secondary school level (consider sectors like tourism, agriculture, renewable energy, etc.).
- ☐ Assess geographic and environmental factors that influence the curriculum, such as local industries, climate change vulnerabilities, and natural resource availability.
- ☐ Evaluate current secondary education system to identify gaps in VET offerings and potential opportunities for integration.

- ☐ Identify socio-cultural factors that may influence TVET adoption, such as gender roles, cultural values, and community needs.
- ☐ Engage local stakeholders (teachers, students, employers, parents) to understand expectations and community priorities regarding TVET at the secondary level.

II. Key Principles for TVET at Secondary Level

- ☐ Ensure accessibility for all students, including marginalized groups, students with disabilities, and those in remote areas.
- ☐ Promote sustainability by integrating skills related to climate resilience, environmental conservation, and sustainable industries (e.g., eco-tourism, renewable energy).
- ☐ Support inclusivity by promoting gender equality and addressing the specific needs of youth and marginalized populations.
- ☐ Align with national development goals by ensuring that TVET programs contribute to local economic growth, skill development, and social equity.
- ☐ Ensure alignment with secondary school curriculum by integrating TVET into the broader education system and enhancing existing subjects (e.g., STEM, vocational subjects).
- ☐ Create pathways for further learning by aligning TVET with post-secondary education or apprenticeship opportunities.

III. Curriculum Design for Secondary TVET

- ☐ Design a competency-based curriculum that aligns with local industry needs and offers skills in areas like tourism, agriculture, renewable energy, etc.

- ☐ Incorporate soft skills development (communication, teamwork, problem-solving) into TVET programs to enhance employability.
- ☐ Provide practical, hands-on training through workshops, labs, and industry visits to ensure skill development that matches real-world requirements.
- ☐ Integrate emerging sectors and green jobs (e.g., digital skills, renewable energy, and climate resilience) into the curriculum.
- ☐ Ensure flexibility and modularity in the TVET curriculum to allow students to specialize in areas of interest and accommodate various learning styles.
- ☐ Include entrepreneurship education to encourage self-employment, innovation, and the development of small businesses.

IV. TVET Delivery Models for Secondary Schools

- ☐ Develop a blended learning model combining classroom-based learning with online and practical learning components.
- ☐ Introduce work-based learning opportunities such as internships, apprenticeships, and community-based projects to provide real-world experience.
- ☐ Partner with local businesses and industries to create apprenticeship and internship programs that offer hands-on experience in the local context.
- ☐ Create local learning hubs or training centres to support the TVET programs, and act as spaces for skills development and innovation.
- ☐ Promote mobile and online learning options to reach students in remote or isolated areas with limited access to physical infrastructure.

V. Teacher Training and Capacity Building

- ☐ Develop a professional development program for teachers that includes both pedagogical skills and technical skills to teach TVET subjects effectively.
- ☐ Provide training in new and emerging industries to ensure that educators are equipped with up-to-date knowledge and skills.
- ☐ Encourage teachers to engage with industry professionals through workshops, industry visits, and collaborations to remain connected to real-world demands.
- ☐ Ensure that TVET teachers are trained in inclusive education practices, including working with students with disabilities and those from marginalized communities.

VI. Governance and Institutional Framework

- ☐ Establish a TVET steering committee involving government bodies, local employers, educational institutions, and community representatives to guide the development of secondary TVET programs.
- ☐ Define the roles and responsibilities of the Ministry of Education, local governments, TVET institutions, and other stakeholders.
- ☐ Create a national framework for TVET at the secondary level to ensure consistency, quality assurance, and the alignment of programs with labor market needs.
- ☐ Establish clear certification and qualification frameworks that ensure students graduate with recognized and industry-relevant certifications.
- ☐ Monitor and evaluate the effectiveness of the TVET programs regularly, using student outcomes, employer feedback, and other key performance indicators.

VII. Financing and Resource Mobilization

- ☐ Secure government funding to support the development of infrastructure, training materials, and teacher training for TVET programs in secondary schools.
- ☐ Engage the private sector in funding or co-funding TVET initiatives through partnerships, sponsorships, or corporate social responsibility programs.
- ☐ Seek international funding or technical assistance from development organizations (e.g., UNESCO, UNDP) to support the rollout of secondary TVET programs.
- ☐ Develop a sustainable financing model that includes contributions from government, private sector, and potential user fees or student loan schemes.

VIII. Stakeholder Engagement

- ☐ Conduct regular consultations with local employers to ensure that the TVET programs meet the needs of the job market and industry standards.
- ☐ Establish partnerships with community organizations to ensure TVET programs are culturally relevant and accessible to diverse student populations.
- ☐ Engage parents and communities to raise awareness of TVET opportunities their value for youth employment and economic development.
- ☐ Consult with students to understand their interests and needs, ensuring that the TVET programs are attractive and relevant to their career aspirations.

IX. Implementation Plan

- ☐ Develop a clear implementation timeline with specific milestones for the rollout of the secondary TVET model.
- ☐ Identify pilot schools or regions to launch the TVET programs before scaling up nationally.

- ☐ Ensure the availability of resources (curriculum materials, teachers, infrastructure) for the successful delivery of TVET at the secondary school level.
- ☐ Integrate the secondary TVET programs into existing school systems to ensure they complement traditional academic subjects and create a balanced education system.
- ☐ Allocate resources for program evaluation to assess effectiveness and adjust as needed.

X. Monitoring, Evaluation, and Sustainability

- ☐ Establish a monitoring and evaluation (M&E) system to track student progress, graduation rates, and employment outcomes.
- ☐ Implement feedback mechanisms from students, employers, and teachers to continuously improve the TVET programs.
- ☐ Conduct regular program assessments to ensure that the curriculum remains relevant to industry needs and the local economy.
- ☐ Evaluate the long-term impact of the TVET program on youth employment, community development, and local industries.
- ☐ Develop strategies for long-term sustainability of the TVET system at the secondary school level, including resource allocation and continuous community involvement.

5.15 Conclusion

In conclusion, the framework outlined provides guidelines for developing a context-relevant TVET model for SIDS provides a comprehensive approach to addressing the unique challenges and opportunities these islands face. By focusing on key elements such as stakeholder engagement, curriculum alignment with local industries, and flexible delivery methods, the framework ensures that

TVET programs are both responsive and sustainable. A commitment to effective governance, financing, and continuous evaluation will further strengthen the model's impact. Ultimately, this framework serves as a blueprint for constructing a skilled, resilient workforce that drives economic growth, fosters innovation, and contributes to the long-term development of Small Island Developing States.

CHAPTER 6

CONCLUSION

6.0 Introduction

This chapter marks the final cornerstone in constructing “*The Architecture of Possibilities*”—a research undertaking that sets out to examine and reimagine the structural foundations and systemic configurations of Technical and Vocational Education and Training (TVET) within Small Island Developing States (SIDS). As an architectural metaphor, the title evokes the visioning, planning, and materialization of resilient educational structures that respond to the parameters of context, the weight of history, and the force of aspiration. This chapter reflects on the research objectives, synthesizes key findings, and illuminates how the framework developed in Chapter 5 constitutes not merely a theoretical scaffold but a blueprint for transformation—capable of being adapted, scaled, and embedded within other SIDS educational landscapes.

6.1 Revisiting the Research Blueprint

The aim of this study was to investigate the establishment of four secondary-level TVET institutes in Saint Lucia as a microcosm for broader challenges and opportunities in TVET system development across SIDS. The research sought to uncover the design principles, structural tensions, and contextual weights underpinning these emerging institutions, and to propose a flexible yet robust framework to guide the construction of future TVET system models.

The following research objectives served as the load-bearing pillars of this study:

1. To identify the opportunities created through the establishment of secondary-level TVET institutions in SIDS. To analyze the tensions and challenges encountered in their development.
2. To evaluate the effectiveness of current TVET models in SIDS and similar environments.
3. To propose a guiding framework for building context-sensitive, sustainable, and scalable TVET systems within SIDS.

These objectives were pursued through a pragmatically grounded, mixed-methods design—ensuring that the theoretical edifice of the research remained anchored in the lived realities of practitioners, learners, and stakeholders within the selected case study context.

6.2 Building the Structure: Key Findings

Drawing from data obtained through surveys, interviews, and document analyses, several thematic elements emerged. These components, analogous to the core materials of an architectural structure, helped reveal both the tensile strength and fragility of the existing TVET architecture within the selected SIDS context.

6.2.1 Foundation: Opportunities as Structural Anchors

- **Human Capital Development as the Bedrock:** The institutes serve as foundational platforms to channel youthful potential at a critical juncture in the education system into employable skills, entrepreneurship, and civic productivity. These institutions have trenched a new understanding of education as both a right and a route to self-actualization. This supports the literature review's emphasis on human capital theory (Becker, 1993), which posits that education and skills training directly enhance individual productivity and national economic growth.
- **Policy Openings and Regional Alignment:** The alignment with regional TVET strategies (e.g., CARICOM and CANTA frameworks) has positioned these institutes as nodes in a wider network—offering qualification portability and labor market relevance. This reflects regional policy mechanisms such as those documented in the Caribbean Association of National Training Agencies (CANTA) framework, which aim to harmonize TVET across member states.

- **Curricular Flexibility and Local Relevance:** Opportunities exist to contextualize training around indigenous practices (e.g., sea moss farming, community tourism, green skills), grounding curricula in culturally relevant and economically significant domains, thus affirming the literature's argument for curriculum contextualization to foster relevance and equity (UNESCO-UNEVOC, 2020).

6.2.2 Structural Loads: Tensions and Challenges

- **Infrastructural and Financial Strain:** Resource scarcity—both in facilities and skilled personnel—undermines the structural integrity of TVET implementation. Shifting government priorities linked to changing electoral cycles create anxieties and instability in financial sustainability. Without adequate reinforcement, these institutes risk collapse under the weight of their developmental promise. The literature underscores these constraints in SIDS (UNESCO-UNEVOC, 2017), describing chronic underinvestment and technological lag as critical barriers.
- **Sociocultural Stigma and Academic Orthodoxy:** Entrenched perceptions continue to frame TVET as remedial rather than aspirational, compromising its structural legitimacy in the educational ecosystem. This finding parallels Whiteman's (1992) argument about the stigmatization of TVET as a path for underachievers and highlights ongoing societal biases.
- **Governance Fragmentation:** Misalignment between policy vision and operational mechanisms resulted in structural discontinuities—interruptions in communication, accountability, and policy enactment. Though evidently sharing similar aspirations for TVET, policy-level interviews highlighted some misalignments in the conduct of streamlined operations across various government ministries in relation to TVET, as well as between the

Ministry of Education and the SLCTVET. This echoes Gyimah's (2020) observation that governance structures often lack coherence and integration across sectors.

- **Labor Market Misalignment:** Without strong industry feedback loops, TVET risks becoming an architectural relic—failing to reflect the contours of evolving labor market landscapes. This supports the Skills Development Theory, which emphasizes the alignment of curricula with labor market needs (Kuczera et al., 2016)

6.2.3 Framework as Blueprint: Synthesis of Form and Function

The framework articulated in Chapter 5 emerged as an architectural response to these findings: a flexible, modular system design that permits contextual adaptations while maintaining core design principles. These principles—such as stakeholder engagement, curriculum integration, scalability, sustainability, and governance alignment—serve as the ‘load paths’ through which structural forces are safely transferred across the TVET system.

6.3 The Finished Edifice: Research Questions Reconsidered

The research questions posed at the onset now find resolution within the structural logic of the data.

- Tensions and Challenges were found to be systemic and interconnected—ranging from policy discontinuities to socio-cultural biases as anticipated by the literature, which described political inertia, resource limitations, and cultural resistance as endemic to TVET implementation in developing contexts (Dixon & Hutton, 2016). Yet, these elements also revealed stress points where intervention can yield transformation.
- Opportunities were identified not as unexpected byproducts, but as designable features—resulting from intentional engagement, inclusive planning, and responsive governance, as advocated in TVET best practice literature from Germany, Australia, and Singapore (ILO, 2022).

- Stakeholder Integration and Local Needs emerged as critical to the architecture of sustainable TVET. Where voices were included—from community leaders to students—the resulting programs exhibited greater relevance, ownership, and resilience. The literature emphasized stakeholder co-design as key to building sustainable systems and developing institutional resilience (Robertson & Frick, 2018).
- Framework Scalability was affirmed through comparative analysis and conceptual modeling. As highlighted in Chapter 2, TVET models such as Finland's and Singapore's underscore the value of adaptable and context-sensitive system design. Therefore, while deeply contextual, the suggested framework is sufficiently abstract to be transferrable across the diverse landscape of SIDS.

6.4 Integration into the General Education Architecture

This research contributes substantively to the architectural discourse of TVET system design in SIDS, particularly in under-researched regions such as the Caribbean. It offers:

- **A Design Philosophy for SIDS:** Centering human development, contextual relevance, and systems integration, the framework reframes TVET as a living structure—adaptive, iterative, and participatory.
- **A Reconceptualization of TVET:** It moves beyond the dated binary of vocational vs academic by situating TVET within a capability-enhancing, developmental-based framework.
- **A Platform for Innovation:** The framework encourages cross-sector collaboration and positions TVET as a site of innovation—technological, pedagogical, and entrepreneurial.

6.5 Implications: Considerations Beyond the Blueprint

For Policy:

- Education policies must prioritize TVET as a parallel pillar to academic education and not a fallback option.

- Legislation should enshrine multi-sector governance and long-term financing strategies to ensure continuity across political cycles.

For Practice:

- Curriculum developers and educators must embrace interdisciplinary, experiential, and competency-based learning models.
- Leadership training for TVET administrators must be institutionalized to ensure professionalized and future-facing governance.

For Future Framework Application:

- The proposed framework should undergo pilot implementation in other SIDS contexts, with adjustments made through a system of continuous spiral feedback.
- Because of TVET's unique capacity in the education system to draw from and impact so many aspects of various government portfolios, it should be nested primarily within broader education and labor reforms with cross cutting ministerial relations, not operationalized in siloes as a specialized stream relegated only to the business of the education ministry. Therefore, since TVET articulates across so many government sectors and is embedded deeply in the developmental capacities of the SIDS, it merits a distinct portfolio within government administrative structures to better mobilize its cross-cutting framework.

6.6 Recommendations for Further Research

- Longitudinal Studies: Evaluate the long-term outcomes (e.g., employment, social mobility, economic impact) of TVET graduates under this model.
- Transnational Comparative Analysis: Study the framework's application across CARICOM and the OECS in the Caribbean SIDS to test adaptability.

- **Digital Integration in TVET:** Investigate how digital pedagogy and ed-tech can scaffold TVET access, delivery, and certification.
- **Developing Leadership for TVET Transformation:** Propose a strategy for developing human leadership capacity to steer changes in TVET institutions aligned to the national aspirations.
- **Strategic Finance and Resource Management:** Develop a strategic plan for TVET financial sustainability and resilience, and efficiency of resource management.
- **Cultural Reframing:** Explore strategies to reposition TVET in the collective imagination of SIDS communities through media, storytelling, and advocacy.

6.7 Final Reflection: Toward a Living Architecture

This research has revealed that TVET system development in SIDS is not simply a technical endeavor but a deeply architectural one—requiring deliberate design, contextual sensitivity, and strategic vision. The "Architecture of Possibilities" is not a fixed structure but a living one, capable of evolving as needs shift and new materials (technologies, partnerships, opportunities, ideas) become available. Its strength lies not only in its design but in its capacity for reinvention.

The framework presented herein is both a culmination and a beginning—laying the foundation for TVET systems that are not only structurally sound but aspirational; and not only utilitarian but transformative. As SIDS stand to face internal threats, tempestuous geopolitical winds and unpredictable global disruptions, their resilience will be shaped in part by the architectures they dare to imagine—and build.

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APPENDIX A

Data collection instrument distributed electronically via Google Forms to teacher/trainers at the St Lucia TVET Institutes. Instrument developed in collaboration with the TVET Unit of the Ministry of Education (St Lucia).

TVET Institute SWOT analysis (Teachers)

Dear Respondents,

The TVET Unit is pleased to announce the launch of the year 2025 under the theme "3D: Data-Driven Decisions." Our goal is to promote and implement best practices through the use of data-driven strategies.

We look forward to your support and collaboration in achieving this vision.

To this end, we kindly seek your cooperation by requesting you to complete this survey. All information will be submitted anonymously and respondents are urged to answer honestly. All responses are for the purposes of research and the work of the Ministry of Education. Help us to help you improve our TVET system and the experience of all participants.

Thank you for your responses.

* Indicates required question

1. Which St Lucia TVET Institute do you work at? *

Mark only one oval.

- ☐ School of Construction & Heritage
- ☐ School of Sustainable Agriculture & Culinary Arts
- ☐ School of Innovation & Technology
- ☐ Stanley Jon Odlum School of Arts, Media & Design

2. I am a *

Mark only one oval.

- ☐ TVET teacher
- ☐ Non TVET Teacher
- ☐ Adjunct Staff

3. Gender *

Mark only one oval.

☐

Male

☐

Female

4. I have been working here _____ *

Mark only one oval.

☐

Before the transformation to the St Lucia TVET Institute

☐

Since its official transformation to the St Lucia TVET Institute

5. What differences have you experienced in your job role in the operations of the TVET Institute compared to the normal secondary school? *

Check all that apply.

☐

more rewarding

☐

more work

☐

Requires more flexibility

☐

Requires more coordination

☐

Requires more accountability

☐

More stress

☐

Requires more training

☐

No significant differences

☐

Requires greater competence in my skill area

6. What are the four main strengths of the St Lucia TVET Institute you work at? *

Check all that apply.

- ☐ Improved instructional plan (new program makes more sense)
- ☐ Improvement in student attendance
- ☐ Improved teachers' morale
- ☐ Program makes me feel more purposeful
- ☐ Students have found more purpose at school
- ☐ Program is inclusive
- ☐ Improved school operations
- ☐ Improved management
- ☐ Increased support from Ministry of Education
- ☐ Improvements to facilities and equipment
- ☐ Increased stakeholder support
- ☐ Improved alignment of staff to program
- ☐ The location and school plant is suitable
- ☐ Other: _____

7. What are some of the perceived weaknesses in this transformation process? *

Check all that apply.

- ☐ Staff do not have sufficient information about the transformation
- ☐ Teachers were not involved enough
- ☐ Administration is not suited to the task of running a TVET Institute
- ☐ Staffing not aligned to the programs requirement
- ☐ Lack of curriculum guidance
- ☐ Lack of instructional equipment & materials
- ☐ Labs not up to basic training standard
- ☐ Lack of industry partners / support
- ☐ Timetable issues
- ☐ Lack of support from Ministry of Education
- ☐ Poor communication of information among administration, staff, parents, students and MOE agencies
- ☐ Teachers not complying to requirements of new program and operations
- ☐ Inadequate parental and public stakeholder engagements
- ☐ inadequate marketing and promotion of TVET Institutes
- ☐ Policies and procedures not clearly established or amended to suit new operations
- ☐ Other: _____

8. What do you perceive as opportunities created by the transformation of the schools to TVET Institutes? *

Check all that apply.

- ☐ Improved opportunity for purposeful learning experience
- ☐ Improved student attendance and participation
- ☐ Students can become certified with work ready qualifications
- ☐ Encourage students to become entrepreneurs
- ☐ Improve the quality of the workforce through job readiness training
- ☐ Teachers will experience more positive training outcomes
- ☐ Opportunities for teachers/ trainers to improve and extend their own skills
- ☐ Improve chance of attracting industry partnership & support
- ☐ Opportunities to export skills acquired throughout the region & internationally
- ☐ Opportunities for students to matriculate into higher TVET education
- ☐ Other: _____

9. What are the possible threats to the success of this TVET transformation? *

Check all that apply.

- ☐ Inadequate competencies in managing a TVET Institution
- ☐ Inability to sustain the schools and the programs financially
- ☐ Inability to suitably staff the school to deliver the programs required
- ☐ Policies and regulations that do not accommodate relevant changes required for effective operations
- ☐ Change in government priority
- ☐ The intake process by which students are assigned to the school
- ☐ The NVQs and CVQs currently available may not be responsive to labor market needs in the future
- ☐ Poor attitudes of teachers and non compliance to requirements
- ☐ Lack of accountability structures
- ☐ Stigmatization and poor public opinion on TVET
- ☐ Resistance to change
- ☐ Lack of psychosocial support
- ☐ High risk social demographics among school population

10. Identify three key strengths that you believe will contribute significantly to your role and support the operations of the TVET Institute. *

11. Identify three of the most significant challenges you encounter at the TVET Institute. *

12. Provide three recommendations to help address the challenges you have identified. *

13. Do you think there is a need in the educational system for different categories of secondary schools with each category offering varying depths of TVET programs to suit the diverse student population? *

Mark only one oval.

☐ Yes

☐ No

14. What are your preferences for the upcoming academic year? *

Mark only one oval.

☐ To remain at the TVET Institute and do my best to contribute towards its success

☐ To remain at the TVET Institute and observe how things work out

☐ To transfer to another school where I may better fit into their program

☐ To transfer to another TVET Institute

☐ Other: _____

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APPENDIX B

Data collection instrument distributed electronically via Google Forms to Administrative staff of the St Lucia TVET Institutes. Instrument developed in collaboration with the TVET Unit of the Ministry of Education (St Lucia).

TVET Institute SWOT analysis (ADMIN)

Dear Respondents,

The TVET Unit is pleased to announce the launch of the year 2025 under the theme "3D: Data-Driven Decisions." Our goal is to promote and implement best practices through the use of data-driven strategies.

We look forward to your support and collaboration in achieving this vision.

To this end, we kindly seek your cooperation by requesting you to complete this survey. All information will be submitted anonymously and respondents are urged to answer honestly. All responses are for the purposes of research and the work of the Ministry of Education. Help us to help you improve our TVET system and the experience of all participants.

Thank you for your responses.

* Indicates required question

1. Which institute do you work with? *

Check all that apply.

- ☐ School of Construction & Heritage
- ☐ School of Sustainable Agriculture & Culinary Arts
- ☐ School of Innovation & Technology
- ☐ Stanley Jon Odum School of Arts, Media & Design

2. I am a *

Mark only one oval.

- ☐ Principal
- ☐ Vice Principal
- ☐ School Counsellor
- ☐ Bursar
- ☐ District Education Officer
- ☐ Head of Dept./Coordinator - TVET

3. Gender *

Mark only one oval.

- ☐ Male
- ☐ Female

4. I have been working here _____ *

Mark only one oval.

- ☐ Before the transformation to the St Lucia TVET Institute
- ☐ Since its official transformation to the St Lucia TVET Institute

5. What differences have you experienced in your job role in the operations of the TVET Institute compared to the normal secondary school?

Check all that apply.

- ☐ More rewarding
- ☐ More work
- ☐ Requires more flexibility
- ☐ Requires more coordination
- ☐ Requires more accountability
- ☐ More stress
- ☐ Requires more training to understand TVET requirements
- ☐ No significant difference
- ☐ Added new dimensions to my job role

6. Do you have any experience or qualification in any of the skill areas offered at your institution? *

Mark only one oval.

- ☐ Yes
- ☐ No

7. If 'yes', please indicate

8. What do you perceive to be the strengths of the establishment of the St. Lucia TVET Institutes

*

Check all that apply.

- ☐ Improved instructional plan (new program makes more sense)
- ☐ Improvement in student attendance
- ☐ Improved teachers' morale
- ☐ Program makes my job feel more purposeful
- ☐ Students have found more purpose at school
- ☐ Program is inclusive
- ☐ Improved school operations
- ☐ Improved management
- ☐ Increased support from Ministry of Education
- ☐ Improvements to facilities and equipment
- ☐ Increased stakeholder support
- ☐ Improved alignment of staff to program
- ☐ Administration has relevant competencies to manage a TVET Institute
- ☐ Administration is knowledgeable about TVET
- ☐ Other: _____

9. What are some of the perceived weaknesses in this transformation process? *

Check all that apply.

- ☐ Staff do not have sufficient information about the transformation
- ☐ Administration was not sufficiently involved
- ☐ I am not adequately prepared to manage the TVET changes
- ☐ Staff competencies not aligned to the programs requirement
- ☐ Lack of curriculum guidance
- ☐ Lack of instructional equipment & materials
- ☐ Labs not up to basic training standard
- ☐ Lack of industry partners / support
- ☐ Timetable issues
- ☐ Lack of support from Ministry of Education
- ☐ Poor communication among administration, staff, parents, students and MOE agencies
- ☐ Teachers not complying to requirements of new program and operations
- ☐ I do not adequately understand TVET and the implications for the transformation
- ☐ Inadequate parental and public stakeholder engagements
- ☐ inadequate marketing and promotion of TVET Institutes
- ☐ Policies and procedures not clearly established or amended to suit new operations
- ☐ Other: _____

10. What do you perceive as opportunities created by the transformation of the schools to TVET Institutes? *

Check all that apply.

- ☐ Improved opportunity for purposeful learning experience
- ☐ Improved student attendance and participation
- ☐ Students can become certified with work ready qualifications
- ☐ Encourage students to become entrepreneurs
- ☐ Improve the quality of the workforce through job readiness training
- ☐ Teachers will experience more positive training outcomes
- ☐ Opportunities for teachers/ trainers to improve and extend their own skills
- ☐ Improve chance of attracting industry partnership & support
- ☐ Opportunities to export skills acquired throughout the region & internationally
- ☐ Opportunities for students to matriculate into higher TVET education
- ☐ Opportunity to manage a more streamlined institution
- ☐ Other: _____

11. What are the possible threats to the success of this TVET transformation? *

Check all that apply.

- ☐ Inadequate competencies in managing a TVET Institution
- ☐ Inability to sustain the schools and the programs financially
- ☐ Inability to suitably staff the school to deliver the programs required
- ☐ Policies and regulations that do not accommodate relevant changes required for effective operations
- ☐ Change in government priority
- ☐ The intake process by which students are assigned to the school
- ☐ The NVQs and CVQs currently available may not be responsive to labor market needs in the future
- ☐ Poor attitudes of teachers and non compliance to requirements
- ☐ Lack of accountability structures
- ☐ Stigmatization and poor public opinion on TVET
- ☐ Resistance to change
- ☐ Lack of psychosocial support
- ☐ High risk social demographics among school population
- ☐ My orientation is not towards TVET
- ☐ Disruptions(climatic events, disease outbreaks, etc.)

12. Identify three key strengths you possess that you believe will contribute significantly to your role and support the operations of the TVET Institute. *

13. Identify three of the most significant challenges you encounter at the TVET Institute. *

14. Provide three recommendations to help address the challenges you have identified. *

15. Describe briefly your vision for the next five years for your TVET Institute *

16. Do you think there is a need in the educational system for different categories of secondary schools with each category offering varying depths of TVET programs to suit the diverse student population? *

Mark only one oval.

☐ Yes

☐ No

17. What are your preferences for the upcoming academic year? *

Mark only one oval.

☐ To remain at the TVET Institute and do my best to contribute towards its success

☐ To remain at the TVET Institute and observe how things work out

☐ To transfer to another school where I may better fit their program

☐ To transfer to another TVET Institute

☐ Other: _____

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APPENDIX C

Data collection instrument distributed electronically via Google Forms to members of Policy and Administration, and TVET Technical officers at Ministry of Education (St Lucia). Instrument developed in collaboration with the TVET Unit of the Ministry of Education (St Lucia).

TVET Questionnaire

This Questionnaire is part of a research project carried out by Delthia Naitram towards a doctoral program.

Topic: The Architecture of Possibilities: Exploring Opportunities, Tensions and Challenges in the Establishment of Four Secondary-Level TVET Institutes to Inform a Framework to guide Models for TVET System Development in Small Island Developing States (SIDS)

All responses will be held in strictest confidence and solely for the purposes of deriving data to inform the TVET framework and also to contribute to the work of the TVET Unit. Thank you for your candid responses.

* Indicates required question

1. I am responding from the position of: *

Mark only one oval.

- ☐ Minister of Education
- ☐ Permanent Secretary in Ministry of Education
- ☐ Chief Education Officer
- ☐ Chief Planner - Department of Education
- ☐ Other: _____

2. What is the impetus behind the establishment of four TVET schools designated to occupational training within the mainstream secondary school system? *

3. Why is it important for government to target such a significant TVET initiative at the secondary school level? *

4. Do you think there is a need in the education system for different categories of secondary schools with each category offering varying depths of TVET programs to suit the diverse student population? *

Mark only one oval.

☐ Yes

☐ No

5. Explain why *

6. What do you perceive as the greatest challenges facing TVET in the Education system? *

7. What are the key challenges in establishing the TVET Institutes? *

8. What are some of the possible tensions/conflicts that have arisen and have the potential to arise in the establishment of the four TVET Institutes? *

9. List the main threats to the transformational work being done to establish the TVET Institutes in the Education system? *

10. What are the main opportunities and potential benefits associated with the establishment of the TVET Institutes? *

11. Who are the most significant stakeholders in maintaining relevance and effectiveness of the TVET institutes in the education system? *

12. What are some aspects you would like to alter or add to the TVET Institutes within the context of the formal education system? *

13. Do you think we are shaping out a context relevant model for TVET in our education system? *

Mark only one oval.

☐ Yes

☐ No

14. Do you think that the current model of TVET within the education system is sufficiently context relevant for the country? *

Mark only one oval.

☐ Yes

☐ No

15. Do you think TVET components have just been added to the education system on a needs basis instead of an intentionally designed TVET model? *

Mark only one oval.

☐ Yes

☐ No

16. Do you see the need for mapping out a clear model for TVET in our education system? *

Mark only one oval.

☐ Yes

☐ No

17. Is there a need for the development of a practical and usable framework to guide the establishment of a model for TVET in the education system? *

Mark only one oval.

☐ Yes

☐ No

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APPENDIX D

Data collection instrument distributed electronically via Google Forms to Executive Director - St Lucia Council for Technical Vocational Education & Training (SLCTVET).

TVET Questionnaire - SLCTVET

This Questionnaire is part of a research project carried out by Delthia Naitram towards a doctoral program.

Topic: The Architecture of Possibilities: Exploring Opportunities, Tensions and Challenges in the Establishment of Four Secondary-Level TVET Institutes to Inform a Framework to guide Models for TVET System Development in Small Island Developing States (SIDS)

All responses will be held in strictest confidence and solely for the purposes of deriving data to inform the TVET framework and also to contribute to the work of the TVET Unit. Thank you for your candid responses.

* Indicates required question

1. Is the government initiative to establish four TVET Institutes aligned to the strategic * policies for the SLCTVET?

Mark only one oval.

☐ Yes

☐ No

2. Give the main reason for your response *

3. Do you think there is a need in the education system for different categories of secondary schools with each category offering varying depths of TVET programs to suit the diverse student population? *

Mark only one oval.

☐ Yes

☐ No

4. Explain why *

5. What do you perceive as the greatest challenges facing TVET at the secondary level in the Education system? *

6. What is a key potential challenge for the SLCTVET with the establishment of the four TVET Institutes? *

7. What are the possible major tensions/conflicts that may arise between the SLCTVET and the St Lucia TVET Institutes *

8. Identify the main threats to the establishment of the TVET Institutes from the perspective of the SLCTVET? *

9. What are the main opportunities and potential benefits associated with the establishment of these secondary level TVET Institutes ? *

10. Who do you perceive to be the most significant stakeholders to maintain the relevance and effectiveness of the TVET institutes? *

11. From the perspective of the SLCTVET what are some aspects you would like to alter or add to the TVET Institutes to enhance their effectiveness? *

12. Do you think the Ministry of Education is shaping out a context relevant model for TVET in our education system? *

Mark only one oval.

- ☐ Yes
☐ No
☐ To some extent

13. Do you think that the current model of TVET in the education system is sufficiently context relevant for the country? *

Mark only one oval.

- ☐ Yes
☐ No

14. Do you think TVET components have just been added to the education system on a needs basis without an intentionally designed TVET model? *

Mark only one oval.

☐ Yes

☐ No

15. Do you see the need for mapping out a clear model for TVET in our education system? *

Mark only one oval.

☐ Yes

☐ No

16. Is there a need for the development of a practical and usable framework to guide the establishment of a model for TVET in the education system? *

Mark only one oval.

☐ Yes

☐ No

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