

Project Title

Development of an Innovation Process Map for Manufacturing Firms in Small Island States of the Caribbean:
A Collaborative Project of The University of the West Indies and the University of Toronto.

Background

The Caribbean region comprises over twenty independent island states. Development throughout the Caribbean has historically depended on the tourism, agriculture and energy sectors. The majority contribution to Gross Domestic Products (GDP) in most Caribbean islands is derived from a single sector with other sectors contributing marginally and usually being less developed. This position is reflected in the Competitiveness Ranks of a subset of Caribbean islands as indicated in the World Economic Forum's Global Competitiveness Reports. While this model may have served the region in the past, these mainstay sectors are becoming increasingly volatile and less reliable sources for sustainable growth due to impact of natural phenomena and global economic factors. As a result, many Caribbean territories are currently experiencing economic contractions translating into reduced national income and increased unemployment levels. The proposed project focuses on the manufacturing sector as a potential diversification stream. Research suggests the existence of a fragmented manufacturing sector across a wide cross-section of industries and scattered throughout the islands. There is also evidence to support the availability of unexplored indigenous raw materials with commercial viability. The proposed project therefore seeks to develop an innovation process map to boost the innovative capacities of manufacturing firms in the region, possibly through the development of regional manufacturing clusters, by capitalising on inherent opportunities while also serving to enhance the global competitiveness of the Caribbean. A globally competitive manufacturing sector is projected as a means of diversifying the income generating competencies of the region while also serving to enhance the global competitiveness of the Caribbean.

Problem Statement

The geographic fragmentation of the region and the dispersion of resources across independent island states in addition to the lack of an articulated shared vision and supporting policies by regional governments, inhibit the development and growth of the Caribbean manufacturing

sector thereby restricting its capacity to serve as a viable income-generating source. It is envisioned that manufacturing cluster networks could serve to pool inherent resources and develop commercially feasible value streams for these available resources.

A problem statement is proposed to examine whether the establishment of cluster networks could boost manufacturing competitiveness as a viable means of sustainable development in the Caribbean.

In finding a solution to the stated problem, the research will attempt to answer the following questions:

1. What resources are available for commercialisation in the Caribbean and where are these resources located?
2. What commercially viable value streams can be developed from resources?
3. How can cluster networks be developed/structured to commercialise these value streams?

Proposed Aim and Objectives

The proposed study aims to develop an innovation process map for manufacturing firms in the Caribbean hinged on the development of cluster networks across the region.

Toward the achievement of this aim, the following objectives are set forth:

1. To develop a resources map for the Caribbean region highlighting available resources and their location(s).
2. To develop a feasibility matrix to identify commercially viable resources.
3. To develop value stream maps for commercially viable resources identified.
4. To develop cluster networks along the value stream that are logistically aligned with the resources map.

Students Needed: Mechanical and Industrial MEng Students