

Clusters as a tool for economic growth in the Pacific?

The case of the PNG ICT Cluster initiative

Paula Norris
Independent Consultant
Masters Thesis – MSc International Development
University of Birmingham

2016 Pacific Update Conference
University of the South Pacific
Suva
18-19 July 2016



**Australian
National
University**



Presentation Structure

- Project background and approach
- Rationale for the research
- Research methodology
- Summary of findings
- Conclusions

Project background

- Project funded through BizClim - ACP-EU joint initiative financed under the 10th European Development Fund (EDF)
- Pacific Islands **Pilot Cluster initiative**
- February – July 2014
- Beneficiary : PIPSO
- Implemented through private sector intermediary organisations in PNG, Samoa, Tonga, Vanuatu

Project approach

- SWOT analysis for sector selection
- Cluster Development Specialist – Technical Assistance
- Several types of events, including:
 - ‘Cluster Muster’
 - Cluster Strategy development
 - ‘PNG ICT Cluster Ignites’
- TA interventions ended with formulation of a ‘road-map’ for further support to the Cluster

Rationale for the research



Research Methodology

- Literature review:
 - The Cluster concept
 - Factors influencing ICT Clusters
 - The role of relations, trust and collaboration
 - The PNG Context
- Case study design (based on literature review):
 - Quantitative data collection (online survey – 23 respondents)
 - Qualitative data collection (7 semi-structured interviews)
 - Personal experience and observations
- Limitations:
 - Study considers only three (relations, trust & collaboration) of the factors affecting Clusters

Summary of findings

1. Relations

- Definition

.....getting in contact, maintaining communications and maybe even holding a meeting or meetings.....

Summary of findings

- Relations **within the Cluster**
 - undisputable sense of horizontal relations development¹
 - relations now often extended beyond business into social networks²

Testimonies

“The Cluster has given us an avenue for us to know that we all exist”

“We are all facing the same challenges and issues and the Cluster can open doors for educating each other and looking at opportunities to get educated”

“We can enter into ‘commercial engagement’ and benefit from networking opportunities”

“There are people with a wide range of skills, who are learning about each other’s business and how they can complement each other’.

¹ Nadvi & Schmitz (1994)

² Saxenian (1994), Nadvi & Schmitz (1994), Eisengerich (2009)

Summary of findings

- **Relations with organisations outside of the Cluster**
- **Horizontal** relations (to facilitate the provision of support services to the Cluster)³
 - Business intermediaries (e.g. Chambers, Business Councils)
 - Accountancy, marketing and business advisory services
 - Universities
 - Training institutions
 - Banks and financial institutions
- **Vertical** relations⁴
 - Two major mobile phone network providers engaged in meetings to discuss the setting up of an ICT Start-up Incubator
 - One also provided free use of their training room for First Tuesday of every month to hold workshops, training sessions, presentations etc.

³ Nadvi & Schmitz (1994)

⁴ Nadvi & Schmitz (1994), Zhou & Xin (2003), Giarratana et al (2003)

Summary of findings

- Relations with **Government agencies**⁵
 - National Information & Communications Technology Authority (NICTA)
 - Inland Revenue Commission
 - Intellectual Property Office
- Relations with **Universities**⁶
 - Promoting knowledge diffusion, curriculum development and establishing quality standards

Other relations developed with stakeholders not especially reflected in the literature review:

- Donors
- PIPSO
- NGOs

⁵ Saxenian's (1994)

⁶ Vijayabaskar & Krishnaswamy (2004)

Summary of findings

2. Trust

- The 'Wantok' system

“a person connected to others by a relationship of reciprocity, genealogy, or cultural affinity”⁷

Definition....

“The many available definitions of trust have two core elements: an agent's acceptance of risk arising from the actions of others, and the expectation that the 'partner' will not take advantage of the opportunities opened up by the agent's acceptance of risk”⁸

Summary of findings

● Trust between Cluster members

- Unanimous recognition that trust between Cluster members had developed
- Fear of sanctions
- Is trust socially embedded?⁹
- Trust is based on competency NOT common socio-cultural factors
- Weak legal and institutional frameworks / institutional-based trust

Testimonies

“We really don’t care where the person is from, we are driven by the vision for our companies, and for the Cluster”

“Is the person skilled enough to do the job, that’s the key question, it doesn’t matter where they are from”

“I think that there was a sense that everyone wanted to learn, regardless of socio-cultural factors”

“No one would be confident, even the institutes themselves are not confident”

“Protection from the institutional setup point of view for IP is non-existent”

⁹ Becattini (1990), Nadvi & Schmitz (1994), McCormick (1997), Doney et al, (1998) and Vijayabaskar & Krishnaswamy (2004)

¹⁰ Zucker (1986), Sztompka (1995)

Summary of findings

- **Trust with organisations outside of the Cluster**
 - Business intermediary organizations
 - Complementary service providers (accountants, business advisers, marketing specialists)
 - Government agencies
 - Donors, NGOs, civil society groups

Summary of findings

3. Collaboration

Definition.....

Collaboration should be considered as **actively working together with a person or an organization to produce something, to jointly develop a project, or to change/improve something, e.g. a regulation**

- **The effects of collaboration**
 - Collective efficiencies
 - Knowledge exchange
 - Innovation promotion

Summary of findings

- **Collaboration between entrepreneurs/start-ups within the Cluster**
 - Strong recognition that collaboration between Cluster members had developed
 - Intra-Cluster collaboration to respond to product development opportunities – pooling of different talents
 - Collaboration to seek access to a business management training programme (Australia Business Volunteers)

Summary of findings

- **The collaboration partners**

- Business Intermediary organisations
- Government agencies within the ICT Sector
- Complementary service providers
- Donors / Aid agencies
- Telecommunications companies
- Universities

- **Collective efficiencies**

- Collaboration between the Cluster and other sectors > Collective activism¹¹

Testimonies

“Social networks have connected us into other industries, like music and media and arts. We have common ground, perhaps integrated with ICT, or common issues, e.g. ICT and music, arts and multimedia have the same intellectual property issues and needs”

¹¹ Schmitz (1999), Krugman (1991), McCormick (1998), Parrilli (2007), Nadvi (1996), Scott (1994), Dei Ottati (1996), Rabellotti (1997)

Summary of findings

- **Collective efficiencies, continued.....**
 - capacity to bid for work that would normally go to foreign companies
 - recognition of the Cluster members as professionals
 - ability to approach clients with the backing of the Cluster
 - greater market awareness of the ICT expertise that exists within PNG
 - knowledge/idea sharing between software developers
 - networking and improved communication amongst ICT professionals
 - attracting donor agencies sponsorship
 - entry into bigger forums

Testimonies

“We have become a voice, and our voice is now being recognised by the industry”

Summary of findings

- **Knowledge exchange**

- Tacit

‘To communicate tacit knowledge will normally require a high degree of mutual trust and understanding, which in turn is related not only to language but also to shared values and culture’¹²

- Explicit

- technical knowledge
- business opportunities
- market opportunities
- business management
- industry standards and quality
- financing opportunities

- The role of diaspora¹³

- technical knowledge
- market information
- business management advice
- setting up of an online training portal for PNG’s talented software developers to be trained by the diaspora

¹² Maskell & Malmberg (1999)

¹³ Saxenian (2002), Harbi et al (2009), Bresnahan et al (2001)

Summary of findings

Testimonies

“It is important because it has increased confidence in ourselves – if he can do it, I can – they are role models, local heros”

“Very important, also psychologically for us to aspire to. Freddie could be a great contact for joint development. Bring existing technology to PNG and find a different application for it”

“But what I do see happening, and Freddie is an excellent example, not only are they coming back to talk about their industry, but they also represent change, the ability to change..... It is also important to bring those fuzzy things into it, show role models, not just technical things. That’s also the importance of the Diaspora”

Summary of findings

- **Innovation promotion** ¹⁴
 - Product innovation
 - Soft innovation ¹⁵
 - new idea or a new combination of old ideas
 - something that challenges the present order or a unique approach

Testimonies

“We can innovate through our business model if we collaborate and provide a service, and change the way we price it or change the way we deliver it and change our own capacity”

“It is promoting innovation by just thinking about it together. Once we have the incubator, the collaboration, the right environment, it will develop much more innovation”

“Well yes, but not just on new products - even the fact that there were people there that took different and innovative approaches on how they might market their products. So definitely led to innovation in marketing, not necessarily technical or products”

¹⁴ Audretsch & Feldman (1996), Aydalot & Keeble (1998), Baptista (2000), Becattini (1991), Bell (2005), Breschi & Malerba (2001), Capello & Faggian (2005), Chiffolleau et al (2006), Cooke (2001)

¹⁵ Van de Ven (1986)

Conclusions

A) Impact of the Cluster Initiative on relations, trust and collaboration

- Strong evidence that the Cluster initiative had a developmental impact on relations, trust and collaboration within and outside of the Cluster
- Very strong evidence that these are NOT based on socio-cultural commonalities, but on competency, ability to deliver and University education history

Conclusions

B) What does this mean for Clusters as a tool for economic growth in PNG/the Pacific?

- Other untapped potential?
- The 'Alumni effect'
- The 'Cluster Clout effect'

Conclusions

B) What does this mean for Clusters as a tool for economic growth in PNG/the Pacific? (continued)

- Care in extrapolation:
 - PNG – most economically diverse, largest of the developing islands
 - ICT - cross-cutting nature
 - ICT – ‘new’, non-traditional sector of activity, new/different mentality?
 - Dynamic people!!!
 - The ‘Gender effect’
 - Educated, young generation

The Perfect Cluster



The Buai Cluster!