Regional Integration 2.0: Facilitating Regional Integration and Development with Collaborative Technologies

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Abstract

The current global economic instability and the vulnerability of small nations provide the impetus for greater integration between the countries of the South Pacific region. This exercise is critical for their survival. Past efforts of regional integration in the South Pacific have mostly failed. However, today's IT collaborative capabilities provide the opportunity to develop a shared IT infrastructure to facilitate integration in the South Pacific. In developing an IT-backed model of regional integration, this study identifies and reports on the antecedents of the current stage for integration in the Pacific. We conducted interviews with twenty five individuals from various sectors and find that while most respondents were optimistic about the potential of IT-backed regional integration, significant challenges exists. The study identifies and discusses these challenges providing policy implications to stakeholders in the regional integration process. The findings will assist in suggesting a model of regional integration 2.0 for the Pacific region.

Keywords

Regional integration, regional integration 2.0, web 2.0, developing economies, South Pacific, collaborative technologies

INTRODUCTION

The aim of this study is to explore the potential of IT in facilitating regional integration in the Pacific. Specifically, the study focuses on web 2.0 and cloud computing IT technologies. Regional integration is a process in which countries enter into an agreement to enhance regional cooperation and development (Lee, Owen and van der Mensbrugghe, 2009). The appeal of regional integration is particularly pertinent and timely for developing economies. The increasing connectedness and volatility of the global economy is affecting developing economies the most (The World Bank, 2009). Individually, developing economies lack the capacity to thrive in this type of environment. Collectively, however, these economies are able to better manage and direct their scarce resources to insulate from external economic shocks. Furthermore, regional integration efforts provide the impetus for economic growth and development.

The study's phenomenon of interest is the role of IT in regional integration. The unit of analysis is the region as a whole. To understand IT's role in regional integration the study will adopt an interpretative approach. The study will obtain views from key actors of regional integration in the Pacific. These key actors include governments, regional organisations and business communities.

Literature relating to IT and its role in regional integration especially in developing regions is sparse. The few studies which have explored the issue include Akpan-Obong and Parmentier (2009) and Thakur (2012). These two studies explore the issue in Africa and the Caribbean respectively. While these studies provide some insight, more studies are required especially in other contexts to elucidate greater understanding of the role of IT in facilitating regional integration.

Our eventual aim is to develop a model of regional integration for the South Pacific on an IT-backed infrastructure. A first stage of this initiative is to understand the antecedents of previous regional integration failures in the Pacific, and obtain perceptions on the opportunities and challenges of IT infrastructure backed regional integration for the South Pacific. This exercise is important because it will provide us with a better understanding of the environment required to leverage IT for regional integration. In this paper we report on this aspect of our study. We adopted an interpretative approach and were able to interview twenty five individuals from five PICs countries. The individuals held various positions of regional integration interest in their respective countries. Our findings suggest that the key antecedents of regional integration failures and future challenges in the Pacific relate to impeding IT infrastructure, marginal human IT skills, disparity in level of development, monopolised communication infrastructure, and a frail political will. The paper proceeds as follows. The following section will present a brief overview of the Pacific context and a discussion on the collaborative tools, the section following will present the study's theoretical framework, the section following will discuss the research design, the section following will discuss the findings and results and the final section will conclude the paper.

THE PACIFIC REGION AND COLLABORATIVE TOOLS – AN OVERVIEW

The Pacific, or sometimes also referred to as Oceania is a large and diverse area comprising of many small islands scattered over the largest ocean in the world: The Pacific Ocean. For this study, we define the Pacific as including countries within the ethnic groups of Melanesia, Polynesia, Micronesia and Australia. Collectively, this region has a total population of over 35 million and a total land area of 8.5 million km^2 (The United Nations, 2011). With the exception of Australia and New-Zealand, the rest of the countries within the Pacific region are classified as Small Island Developing States (SIDS) (The United Nations, 2011). These economies are characterized by small isolated land masses, low resource base, small but increasing populations, environmental fragility and vulnerability to external shocks (Briguglio, 1995). The economic and environmental vulnerability faced by SIDS poses a significant challenge to achieving long-term sustainable development in the region. Regional Integration initiatives are espoused as a potential solution to these issues. Pooling the resources of SIDS with assistance from Australia and New Zealand will greatly assist the Pacific region adapt to economic and environmental variability. It is also crucial that the Pacific leverage the latest technological advancements that can facilitate cross-border communication and collaboration.

This is especially so as the world is in the midst of a renaissance of IT innovation. The proliferation of IT tools, which facilitate communication and collaboration is abounding. If leveraged appropriately, the dynamic capabilities embodied in these technologies, can significantly assist PICs in achieving regional integration. In the Pacific, the adoption of collaborative technologies has been relatively slow. This is due to the recency of such technologies and the reservations some have over the relevance and utility of such technologies in the Pacific. While this resistance maybe understandable, these technologies provide significant opportunities to these PICs. The Pacific needs to keep pace with these rapid developments and needs to embrace Web 2.0 technologies to achieve economic progress. Embedding these technologies within regional integration efforts presents a holistic perspective of the importance of these technologies to developing economies.

THEORETICAL FRAMEWORK

A resource-centric approach views an organization as a bundle of resources (Barney, 1991), where a subset of organizations' resources enables them to do better and continue to do better (Barney, 1991). For regional integration initiatives, these are the qualities for developing and sustaining economic growth with IT resources. The IT resources exert their influence on organizations with complementary relationship with these capabilities (Clemons and Row, 1991). The evolving nature of the IT resources compels organizations to make continuous investment in IT. This means organizations end up acquiring IT resources whose utilization requires renewed knowhow. This means that sustainable regional integration benefits from evolving IT resources will require partners to sustain their unique capabilities.

Organizations need to change their structures and processes to ensure a better fit with the IT resources (Markus and Robey, 1988; Oh and Pinsonnealt, 2007). The resultant environment can help organizations contribute to the regional integration efforts. An organization can renew its competencies through innovative responses by appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competencies (Teece, Pisano and Shuen, 1997). This is also applicable to regional integration

initiatives. IT resources are the ideal catalyst to drive organizations to engage in such form of thinking. Today, organizations need to move beyond their jurisdictions to develop competencies with IT resources (Dyer and Singh, 1998). This is especially pertinent in regional integration and collaboration efforts. Parties to regional integration must first develop their IT-related competencies, expand them, and find synergies with other partners with the integrative environment. The emergence of the web 2.0 tools is the fundamental IT catalyst to drive and foster synergies. This is possible because the collaborative opportunities of the web 2.0 tools would make it possible to marry the opportunities and capabilities of the partners within the regional integration space. The result would be an IT-based collaborative regional integration (regional integration 2.0) environment. The strategic necessity hypothesis suggests that IT resources are important commodity for any organization. However, its strategic benefit lies in the stakeholder's ability to uniquely leverage the IT resources (Mata, Fuerst and Barney, 1995; Powell and Dent-Micallef, 1997). Recent relational views suggest that better IT related value would emerge through establishment of IT-related alliances between various stakeholders (Grover and Kohli, 2012).

Extant work on regional integration emerges from the functionalism theoretical framework. The functionalist approach sees the various stakeholders as the most significant players in the regional integration efforts (Akpan-Obong and Parmentier, 2009). This framework acknowledges the important roles of IT in facilitating regional integration, but does not present a solid framework for regional integration 2.0 on its own. Aside, development theories, like the theory of modernization, also contribute to the development of a framework for regional integration 2.0. Modernization theory asserts the need for structural changes to facilitate growth. The dependency theory suggests that underdevelopment is a product of unequal relationship of exchange and dependence that exists between parties to regional integration. We posit that the web 2.0 tools act as the ideal vehicle to eradicate these inequalities and foster equitable dependence amongst the parties.

The theory of functionalism has the rationale of achieving peaceful relations among warring nation-states, but with this global community emerging through an administrative network which better serves human needs (Pentland, 1973). Technological advances and the functional need to cooperate would drive this administrative network. Functionalism, therefore, provides some tentative explanation of how IT might enhance an understanding of regional economic integration processes. The functionalist perspective assumes that the most significant actors are citizens who, in utilizing networks of communication and transportation, cooperate and integrate the systems across borders. A functionalist approach also facilitates an examination of integrative schemes aimed at infrastructure development. It can transcend infrastructure to reflect the ways in which citizens and groups interact to achieve and utilize the expected outcomes of integrative schemes. These outcomes are not possible without a communication infrastructure that promotes sharing of knowledge. While this approach recognizes the role of ICT tools like the web 2.0 tools, it does not relay how we could utilize these tools to achieve the expected outcomes, and importantly sustain such outcomes.

Development theories focus on issues of economic, social, and political development in countries in the periphery (Akpan-Obong and Parmentier, 2009). These theories seek to account for the uneven pattern of development worldwide and to recommend measures to overcome underdevelopment (Martinussen, 1997). One such theory, the modernization theory considered internal factors in its explanation of underdevelopment and therefore prescribed internal changes to facilitate growth. The resource centric and dynamic capabilities frameworks of IT also advocate this nature of change and integration. However, its focus on internal constraints to development overlooked the structure of the international political economy and the processes through which it adversely affected the development efforts (Akpan-Obong and Parmentier, 2009). Dependency theory (Dos Santos, 1998) argues that underdevelopment is created by the unequal relationship of exchange and dependence that exists between core countries and those in the periphery.

The amalgamation of the resource centric, functionalism and development theories provides the ideal framework to suggest a model of regional integration 2.0 for the Pacific. The theoretical frameworks complement the weaknesses in each, and the modern IT tools set the ideal foundation for leveraging individual values from functionalities, and foster development and sustainability of these values in an integrative environment. A regional integration 2.0 initiative, however, requires initiating IT-related capacity building, IT-related capability building and sustainable IT-related capabilities. The partners then need to identify the relationship synergy between their IT-related capabilities and competencies to develop an overall capacity of regional integration 2.0. We employ this amalgamated theoretical framework to suggest the potential of regional integration 2.0 for the Pacific. However, the success IT-enabled regional integration efforts are dependent upon existing infrastructure, institutions and ultimately the acceptance of individuals.

LITERATURE SYNTHESIS

The relationship between IT resources and regional integration efforts in the developing economies is not well considered in the extant literature. A few, for example, Akpan-Obong and Parmentier (2009) review IT

initiated and the potential impact of these initiatives for regional integration in Africa and South America. Within these regions, IT and regional integration are perceived as integral to socioeconomic and political development. However, IT and regional integration are pursued as separate paths of development. Akpan-Obong and Parmentier (2009) also report that significant social and political impediments exist that hinder regional integration. While, the development of IT infrastructure alone is not sufficient to overcome these challenges, it has the potential to tame goal incongruence and political subjugation concerns of the developing countries. This situation is possible because appropriate use of IT resources, for example social networking and cloud computing resources, will provide a sense of shared ownerships and independence to these countries.

Both Africa and South America provide a similar reference to the Pacific in terms of level of economic development; however, geographically there are significant differences between these regions. Unlike Africa and South America the Pacific does not comprise large land-locked areas but comprise many small islands scattered over a large body of water. Given this, a more relevant comparison would be the Caribbean. The Caribbean Community (CARICOM) like Africa and South America are also beginning to develop strategies, policies and infrastructure to facilitate the regional integration process. However, limited research exists that examines the role, challenges, and effectiveness of ICT in facilitating regional integration efforts in the Caribbean (Thakur, 2012).

Extant literature provides limited guidance on the deployment of web-based technologies to facilitate regional integration in developing economies. Furthermore, regional integration is a complex inter-disciplinary phenomenon. Regional integration involves the interaction of political and economic objectives. There are also social and cultural issues deeply embedded in regional integration research. The development of any theory, model or solution of regional integration must take account of the context of the particular region. Thus, a deeper understanding of the issues involved is required to achieve the study's research objective.

RESEARCH DESIGN

We employ an interpretive research design to obtain a deeper understanding of antecedents and potential of an IT-based infrastructure for regional integration. Interpretative case study approach provides rich insights into the phenomenon under investigation (Yin, 2009). This approach aims at understanding the context of the information systems and how this context is influenced and is influenced by information systems (Walsham, 1995). This understanding is possible through consideration of the beliefs and views based on the experiences of individuals. This approach will provide the key aspects of the study's research model.

Regional integration involves a myriad of actors and stakeholders. The actors include regional organisations, the public sector, the private sector and international donor agencies. All citizens of the Pacific region are stakeholders in regional integration, as benefits and costs of regional integration will ultimately be received or borne by all individuals residing in this region. The extent of these benefits will depend on the effectiveness of regional integration in enhancing communication and collaboration. The success of any IS model is dependent on the level of correspondence between the environment and the design elements of the system (Heeks, 2003). Therefore, an in depth analysis of the contextual factors of a regions' environment is crucial in assisting policy decisions at the national and regional level related to leveraging IT to facilitate regional integration. To obtain a deeper understanding of the Pacific regions' environment requires discussions with the main actors of regional integration. These actors of regional integration as mentioned previously constitute the study's population for the study's first stage of data collection.

DATA COLLECTION AND ANALYSIS

We approached forty contacts from regional organizations, the public and private sector and international funding agencies. Twenty five contacts responded and accepted our interview requests. These twenty individuals come from five countries within the Pacific region. We conducted semi-structured interviews that lasted an average of thirty to fifty minutes. Table 1 presents demographic data on the interviewees.

Due to the geographic dispersion of the interviewees, we adopted face-to-face, telephone and video conferencing interview methods. The interviews were semi-structured in nature. An interview schedule was sent to the interviewees beforehand. The questions elicited the interviewees' general views on reasons for hindrances in regional integration in the Pacific and perceptions of web based technologies as a potential solution. The methodology offered by (Klein and Myers, 1999) was used as the framework for data collection. This framework provides guidelines to ensure consistency with the interpretative methodology. During the interview, the researchers were able to probe into certain responses by asking impromptu questions. An advantage offered by the flexibility of the semi-structured research method. The recorded interviews were transcribed for analysis purposes.

Interview data gathered was analysed using the approach described by (Dey, 1993). (Dey, 1993) describes qualitative analysis as a circular process of describing, classifying and connecting qualitative data. Qualitative data must first be described in terms of the context, in which it is said, the intentions of the interviewee and the process to which it relates. After description, the broad themes that emerge need to be classified. The final step is to make connections with the themes and the study's research objectives.

Table 1. Interviewee Demographics

Interviewee Reference	Organisation Type	Country No.	Age	Experience (Years)
I1.	Regional Body	1	52	25
I2.	Government Department	2	48	15
I3.	Regional Body	1	26	5
I4.	Government Department	1	55	26
I5.	Private Sector	1	28	7
I6.	Government Department	1	29	6
I7.	Private Sector	2	31	15
I8.	Government Department	1	49	21
I9.	Government Department	1	51	18
I10.	Government Department	1	54	23
I11.	Private Sector	1	35	16
I12.	Government Department	3	39	16
I13.	Regional Body	3	38	13
I14.	Regional Body	1	46	19
I15.	Government Body	1	25	4
I16.	Regional Body	4	41	12
I17.	Government Department	4	40	15
I18.	Private Sector	1	31	10
I19.	Private Sector	1	23	2
I20.	Regional Body	5	63	33
I21.	Regional Body	5	36	15
I22.	Private Sector	1	35	12
I23.	Government Department	1	27	5
I24.	Private Sector	1	32	11
I25.	Private Sector	1	27	6

RESULTS AND DISCUSSION

The purpose of the interpretative approach was to obtain a deeper understanding of the problems of IT backed regional integration efforts in the Pacific and to identify opportunities for future success using web based technologies. Interviews conducted revealed significant hindrances exist to achieving regional integration in the Pacific. The following key antecedents cause these hindrances:

Table 2. Antecedents of past regional integration failures

No.	Broad Antecedents	Key Themes
1.	Impeding IT Infrastructure	Infrastructure development, ICT resources, networking development, Technical support, Broadband Access, Connectivity, Financing
2.	Marginal Human IT Skills	Brain Drain, Administrative Bureaucracy, Capacity Building, Technical Knowledge Management, Human Resources, Change Management, Succession Planning
3.	Disparity in Level of Development	National agendas, Budget Constraints, Disparate IT Standards, Network Access, Cost of communication, Internet Coverage, Connectivity
4.	Monopolized Communication Infrastructure	High Internet Cost, High communication Cost, Limited Bandwidth, Government Control, ICT Monopoly, Market Liberalisation
5.	Frail Political Will	National & Regional ICT policies, ICT legislations, ICT regulatory framework, Leadership, Partnership, Governance, Coordination

We discuss these key issues relating regional integration failures, and relate these to stakeholders' perceptions on the opportunities and challenges of regional integration on an IT-backed infrastructure.

Impeding IT Infrastructure

A common concern raised by the interviewees was the lack of a viable and sustainable IT infrastructure in many SIDS. In the context of this study, IT infrastructure encompasses the hardware, software and the human components of the system. This problem has been discussed widely in extant literature as a major hindering factor in advancing IT related developments amongst developing countries. The resource-centric theories and functionalist approach also emphasize the importance of ICT infrastructure in enabling greater integration and collaboration. This is also confirmed by a survey by the Pacific Island Forum Secretariat (PIFS) in 2002, where majority of the interviewees believed that the current status of IT infrastructure is the major hindrance to achieving integration (Pacific Islands Forum Secretariat, 2002). The characteristics of SIDS such as small land masses, remote locations and environmental fragility require an infrastructure strong enough to withstand its environmental variability, but at the same time flexible enough to adapt to changing technologies. The interviewees saw good potential in the web-based technologies, especially the ready nature of the cloud computing technologies. But, they also indicated that there is a need to establish a strong ground network infrastructure to access the web-based resources.
Some interviewees shared the following:

> *"One of the difficulties of achieving regional integration in the Pacific was the fact that the Pacific consists of thousands of small islands spread over a vast area of water. Landlocked regions such as EU and Africa have been able to accomplish integration more quickly as land based ICT infrastructure was easier, faster and cheaper. The Pacific has had to adopt a different approach. Currently, underwater cables are being laid under the Pacific Ocean and will pass through a number of Pacific countries." I21*

> *"The essence of integration is networking. Fiji is in a good position because the Southern Cross cable that passes through Fiji to Hawaii and private companies providing wireless all over Fiji. It's the small islands such as Tokelau, Palau and Niue who only have access to networks with limited bandwidth. Until all countries in the region are on an equal playing field can regional integration efforts really get moving" I14*

> *"Fundamentally, IT infrastructure apart from funding is an underpinning issue of integration. Integration is impossible without the necessary hardware, applications, systems etc. If you compare ours to Singapore, we are very behind. Still a lot of improvement needed at each country level before we start talking on a regional level" I4*

> *"Full scale integration might be a long way off for us here in the Pacific. Apart from the status of IT development in each country, there seem to be a lack of coherent push towards a regional infrastructure for ICT as countries seems to be pushing for their own infrastructure development" I22*

A strong and resilient infrastructure is especially important for web based applications. One interviewee shared the following regarding the success of cloud computing in the Pacific:

> *"Yes, I think cloud computing is great! But in order for cloud computing to work we need continual and a resilient network system. If something was to happen to that connection then [my organisation's] internet access would be affected. Because once the network is disrupted all cloud services are also disrupted."I7*

Marginal Human IT Skills

The current status of IT infrastructure in the SIDS is directly related to the lack of human resources with technical IT skills. The resource-centric theories state that developing IT-related capabilities also requires investment in complementary assets such as human capital. This assertion is supported by the Pacific Islands Forum Secretariat (2002) when it highlighted that users lack knowledge in operating IT equipments and do not recognise the value of the IT systems. This problem is further exacerbated by the increase rate of brain drain, where qualified personnel tend to opt for better opportunities in developed countries such as Australia and New Zealand. While the use of IT tools at a personal level is common in some developing economies, the same value of IT is not mirrored in organizational and national settings. There is a significant lag in radically reengineering business processes with modern IT tools at the organisational level, and this situation puts promising IT professionals in a valuable situation. This situation makes them opt for greener pastures abroad. This presents

significant hindrance in establishing a national human IT skills capacity. Some interviewees shared the following:

> "In the Pacific there is a significant shortage of qualified and skilled ICT personnel. Most major projects are given to external consultants. However, once they complete the project, they get paid; they go back to their countries and forget about us. They don't train the people well enough on how to use and maintain the system. Inevitably the system will fail." I13

> "The problem in this region is bureaucracy. Operational level staffs remain there forever, and are hardly promoted to the higher level. Technicians remain technicians, this people should be engineers in the future. This is also a problem contributing to the lack of qualified personnel in IT. There is no defined motivation for trainee or capacity building in IT".I20

Disparity in Level of Development

Interviewees also noted that the varying level of development amongst SIDS is another hindering factor for regional integration. This is in line with development theories which assert the process of regional integration is greatly facilitated if regional countries have similar levels of development and are not completely dependent on core countries. Mackie et al. (2010) also notes that regional priorities are defined by member States and some countries might not consider regional strategies as a national priority. This is also true in the Pacific context as different SIDS are confronted with different budgetary constraints which need urgent attention, thus postponing the need for regional integration for later (Pacific Islands Forum Secretariat, 2002). The interviewees shared that:

> "...integration is something that can be pushed but infrastructure development is at different paces. Fiji for example is ahead of a few countries. I am saying that there need to be a level playing field, cohesive cooperation to provide a common standard across the region." I4

> "There is a huge gap and variety of gaps existing amongst SIDS. A good example is the network infrastructure. Fiji and Samoa are the only two countries using 4G while most are still on 2G networks. So gaps exists depending on the PIC you are referring to." I16

> "Not all countries view integration as a national agenda. If you look at Kiribati, Tuvalu etc, they are much more concern about climate change and global warming. Even Fiji tends to focus more on other economic priorities such as education and health." I25

There is also evidence of a general lack of awareness of the value of IT amongst Pacific islanders (Pacific Islands Forum Secretariat, 2002). This problem is both evident at national as well as the community level. SIDS governments like many developing countries fail to acknowledge the value of IT in development (Boon, 1992). A report by the University of the South Pacific (USP) clearly indicates that many SIDS failed to appropriately incorporate information and communication technologies (ICT) in the primary and secondary curriculum resulting in the lack of awareness and support for ICT developments (USP, 2005). One interviewee shared the following;

> "ICT on a national scale is relatively new. ICT seems to be the privilege of a few in the region, those who work in institutions like the University of the South Pacific. There is no evidence of consistent ICT penetration in the Pacific to really change people's lives" I7

The cost of facilitating the 'proper environment' for integration is a major concern for SIDS. The benefits of regional integration are widely acknowledged at the national level. The challenges however lie in the short term costs. Examples include loss of fiscal revenues and potential job losses due to market liberalisation may discourage commitments from countries (Mackie et al., 2010). In addition the cost to access information is very expensive in the SIDS as compared to other region (Pacific Islands Forum Secretariat, 2002). An interviewee shared:

> "There will be major upfront costs such as building cables, leasing, and satellite costs and then you have equipment cost, the application costs, and recurrent costs in terms of training and resourcing appropriate level. It is massive and many SIDS are going to struggle to meet these costs" I17

Monopolised Communication Infrastructure

Market liberalisation of the information and telecommunications sector is also needed for integration according to the interviewees. This suggestion is consistent with the suggestions of (Pacific Islands Forum Secretariat, 2002). Majority of the SIDS telecommunication markets are still dominated by government owned entities that monopolise the ICT industries. One interviewee shared the following:

> "Other than Fiji, majority of the PICs have undertaken minimal or no effort to deregulate their ICT sectors. Some PICs like Nauru, Tokelau, Niue do not have the capacity to deregulate their ICT sector because of their small population sizes."T21

In addition, there is also a genuine concern that the problem of a true competitive market does not really exist. While the rationale for monopolised markets in developing economies may be economically justified, this setting does impede potential IT-related growth and development opportunities. Furthermore, private sector organisations that monopolise the market may become too powerful and difficult to manage. Some interviewees felt that some of these organisations were pushing their own agenda ahead of the interests of the countries they operate in. Two interviewees shared the following:

> "The thing that's driving ICT in the region is the Internet Service Providers. Since they have the most money to go around they are the ones leading ICT forums. In some way they are promoting their agenda. Governments tag along as they don't have any defined agendas. I think SIDS should be aware of the regions ICT needs and use their bargaining power to collectively prioritise the areas they need to look at." I18

> " It is common for Internet Providers to be part of the national IT development process but they always manage to twist the agendas to favour them so the whole process is about spending money and not really about how IT can change peoples' lives" T17

Frail Political Will

Lack of strong political will and support inhibits the translation of regional commitments and priorities into action (Mackie et al., 2010). There seems to be consensus that country level issues undermine the potential of regional integration. South Pacific countries are still strongly embroiled in national sovereignty, which conflicts with the collaborative intent of regional integration. Aide, lack of formal IT policies and regulations amongst SIDS reflects the lack of political legitimacy and mandate to enforce ICT commitments amongst members. Some interviewees had this to share:

> "We have a major political problem when it comes to implementing IT initiatives in SIDS. We need a very strong message coming from the Prime Minister or whoever is in charge in sending the message that this is what we are going to do. Political linkage is important, if its lacking then it will be problematic, thus political commitment is extremely important" I6

> "The problem is that the governments are very slow in taking ownership of IT initiatives that can significantly improve our recurrent IT problems. We need new leadership that can actually inject changes in the current system" I20

> "Forums like the Melanesian Spearhead Group (MSG) and the ICT Ministerial ICT Forums are good forums to discuss regional ICT issues, but right now we need to see more government actions and commitments rather than just attending meetings. "I20

Some interviewees also felt that the commitment of the government towards ICT depends on where the ICT ministerial department is located in the country. For some PICs the ICT department is a separate department by itself such as in the case of Fiji. Other PICs, the ICT agency is subsumed under a ministry. For instance, in the Solomon Islands it is under the Treasury Department or Ministry of Finance. This is also the same in Vanuatu; however one interviewee stated that the Vanuatu ICT department will soon be moving to the Prime Minister's office. He had this to say about the significance of this move:

> "I believe the fact that the ICT department will be moving to the Prime Minister's office provides strong evidence that the government is strongly supporting ICT and e-government initiatives in Vanuatu." I12

Summary

The amalgamated theoretical framework consisting of resource centric and development theories have informed us on how to leverage IT resources to facilitate regional integration. However, literature and theory provide inadequate guidance on the specific mechanics of leveraging modern web based technologies to facilitate regional integration in the South Pacific context. The interpretative approach affords the opportunity to obtain a deeper understanding of the environmental and contextual factors through the eyes of the actors and stakeholders. From this understanding, and complementing this to our theoretical framework, an appropriate regional integration model could be designed to embed IT-based solutions in these environments. Interviews with the main stakeholders involved in regional integration initiatives present the antecedents of the current health of regional integration in the South Pacific.

The main antecedents of unsuccessful regional integration efforts related to technical issues such as the poor IT infrastructure, the difference in the level of IT development amongst SIDS and the lack of awareness at both national and community levels. Government ICT agendas lack the need for investment in IT for proactive management of national and regional issues. Inadequate human IT capital, and continuous brain drain of people with technical IT skills at the organisational and community level results in lack of appreciation and leverage of the invested IT resources. Monopolised telecommunication sectors also impede IT-related development at all levels. Governments continue to fail to recognise the potential of liberalised markets with strong private sector involvement as a vehicle to enhance IT developments in their countries. Issues of higher utility costs from linearization would be cushioned by the availability of generic web-based digital communication tools. Finally, the lack of political will and support has also been identified as a contributing factor that inhibits the transformation of regional initiatives into reality. A national agenda that builds into regional economic wellbeing is required to promote regional integration initiatives. Aside, the interviewees seem not concerned about security issues relating to increased focus on digital measures of managing the region. This is in contrast to extant literature which highlights security and privacy as the main concerns when adopting web 2.0 tools and cloud based technologies. The lack of IT security concerns might be related to the lack of awareness and policies at national level. To date, Tonga is the only country in the South Pacific with a legislation on cybercrime (Burese, 2012). From the preceding discussion and analysis, we suggest the following factors as key enables of regional integration on an IT-enabled infrastructure.

Table 3. Key Factors for Regional Integration 2.0

Enabling IT Infrastructure
Equitable IT Development in the Region
Greater Awareness on the Potential of the Modern IT Resources
Market Liberalisation of the Information and Telecommunications Sector
Greater Political Support for IT initiatives in building a national and regional IT infrastructure.

CONCLUSION

The power of IT is disrupting the status quo, not only at the organisational or national levels but at the regional level as well. Countries, once individually weak and fragile have become stronger through regional integration facilitated by IT. However, developing countries are still lagging behind in achieving their regional integration ambitions. The resource centric theories suggest that building IT-related capabilities and integrating IT-related capabilities between regional partners will create synergistic benefits. Thus IT is a facilitator of regional integration. However, the implementation of IT-based solution must take into account the context of the environment in which the IT-based solution will be implemented in. Adopting an interpretative approach, this study presents the key antecedents that have led to the past failures of regional integration initiatives in the Pacific. These antecedents have been developed based on interviewees with actors and stakeholders of regional integration in the Pacific. The interviews have informed us on the reasons why regional integration in the Pacific has failed. These findings are important as it will assist regional and international organisations that fund IT and regional integration initiatives better identify the areas that need to be addressed to leverage current IT innovations to facilitate regional integration 2.0 in the Pacific.

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