

TOURISM DEVELOPMENT AND PUBLIC POLICY:  
PERCEPTIONS OF THE CHUUKESE COMMUNITY

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## Abstract

Tourism is a widely used tool for economic development in small insular communities. This mixed methods study examines factors that influence residents' perceptions toward tourism development in Chuuk and the relevance of "complexity theory" in describing the island's stage of development. Empirical evidence and data triangulation corroborate general support for tourism development and sensitivity to cultural impacts, economic impacts, social impacts, environmental impacts, local control and sustainability. Economic and cultural impacts were the strongest factors influencing perceptions and are most significant to sustainable development and destination development. This reflects residents' beliefs that the island will benefit from tourism because of perceived improvements in the economy, infrastructure, tourist facilities and expanded social amenities. It also reflects residents' expectations for long term planning, managed growth, and laws to protect the environment. Some differences and similarities are noted between sampled residents living in Chuuk and Guam. This study is the first of its kind in an isolated region lacking scholarship literature on tourism. As such, basic information gathered is a wellspring, for further research into issues of social justice using a more sequential transformative framework.

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## Abbreviations

ADB	Asia Development Bank
CBPR	Community Based Participatory Research
COFA	Compact of Free Association
CVA	Chuuk Visitors Authority
DOI	Department of Interior
EFA	Exploratory Factor Analysis
FSM	Federated States of Micronesia
FY	Fiscal Year
GDP	Gross Domestic Product
IMF	International Monetary Fund
IRB	Institutional Review Board
IRRIDEX	Irritation Index
JEMCO	Joint Economic Management Committee
KI	Key Informant
MIRAB	Migration Remittances Foreign Aid and Bureaucracy
RMI	Republic of the Marshall Islands
SET	Social Exchange Theory
SIDS	Small Island Developing States
TALC	Tourist Area Life Cycle
UAF	University of Alaska, Fairbanks
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Program
UNWTO	United Nations World Tourism Organization
US	United States
USDOI	United States Department of Interior
WTTC	World Travel and Tourism Council

## Definition of Terms

**CHRIE**- Council on Hotel, Restaurant, and Institutional Education.

**Chuuk** – Collectively refers to the 40 inhabited islands in the state’s archipelago.

**COMPACT** – refers to the Compact of Free Association, or COFA.

**IOM** – International Organization for Migration.

**Micronesia** – A region that includes the four states of the Federated States of Micronesia (FSM) and the island states of Palau, Guam, Marshall Islands, and the Commonwealth of the Northern Mariana Islands (CNMI).

**MIRAB** – A model explaining the economies of small island nations.

**SIDS** - UN designation of 52 distinct developing countries and territories facing specific social, economic, and environmental vulnerabilities.



## Chapter 1

### INTRODUCTION

The islands of Chuuk (formerly Truk) comprise one of the four groups of island states that make up the independent political jurisdiction of the Federated States of Micronesia (FSM), an archipelago of 607 islands scattered across more than one million square miles of ocean in the

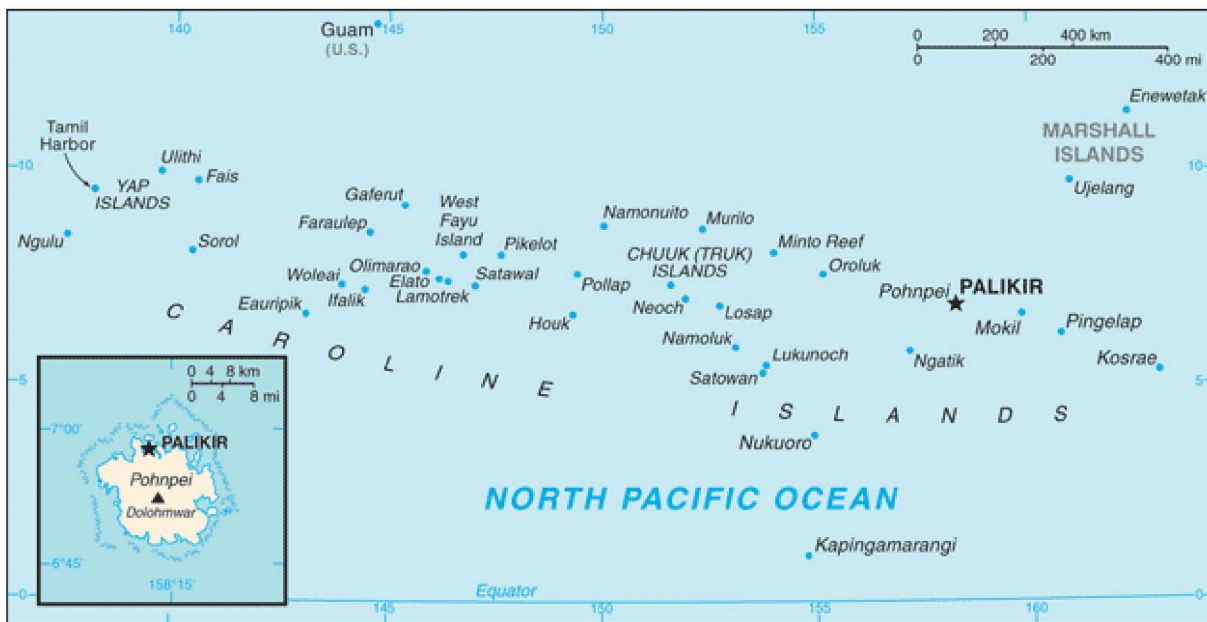


Figure 1. Map of Micronesia

Western Pacific ([www.visit-micronesia.fm](http://www.visit-micronesia.fm)). The other three states, from West to East geographically, are Yap, Pohnpei, and Kosrae (Figures 1 and 2).

In the vernacular, Chuuk means "high mountain" and the collective name used to refer to volcanic islands in the vast lagoon and coral islands and atolls along the large barrier reef.

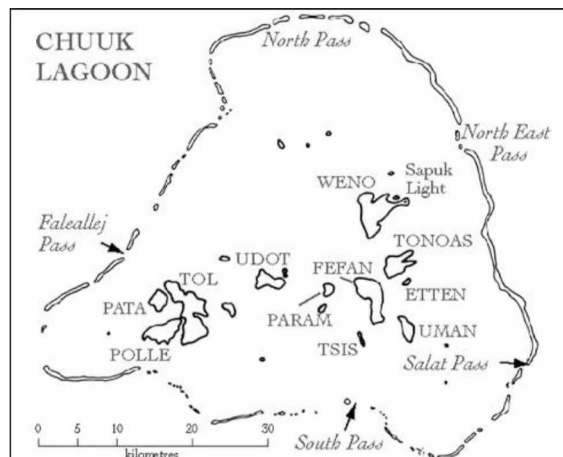


Figure 2. General Map of Chuuk

Most of the population live within this "Truk Lagoon" where American carrier-based aircraft sunk over 50 Japanese ships in World War II. Divers today come from around the world to visit these shipwrecks scattered at the bottom of this vast lagoon. Development is minimal on most of these islands where historical remnants of the second world war can still be seen. Chuukese are very friendly people with a unique cultural heritage and an easy-going island lifestyle.

This study examines tourism development in the FSM state of Chuuk and the community perceptions that impact public policy. It is a study important to the state's economic development aspirations and to the country's 2004-2023 national strategic development plan which identified tourism as an important economic strategic goal. Agriculture and fisheries are the other two sectors identified to be priorities for development.

As a human endeavor, tourism has experienced unprecedented growth that few governments can ignore (Fletcher, et al., 2013). Indeed, tourism has become the main economic activity for many small island developing states (SIDS), creating much needed jobs (Besculides, et al., 2002; Mitchell and Reed, 2001; United Nations World Tourism Organization, 2014) especially for women (Johnson, et al., 1994) and for improving living standards (Akis, et al., 1996; Ryan & Montgomery, 1994).

By nature, tourism is an activity that facilitates interaction between tourists and residents of a host community. This socio-cultural exchange impacts the residents of Chuuk in various ways that invite inquiry into how these impacts affect their attitudes and perceptions toward tourism development.

The literature is destitute of evidence suggesting support for, or against, tourism development based on residents' perceptions of the industry's impact to the Chuukese community. This gap in empirical research can be a potential problem for policy makers

promoting tourism development in their 2023 Strategic Development Action Plan.

Understanding residents' perceptions can help policy makers select resident friendly development and land use initiatives while minimizing those linked to negative perceptions.

Understanding these perceptions can also be useful in guiding the message content of the government's ongoing tourism awareness campaign.

### 1.1. Research Questions

This study addresses three fundamental questions:

1. How does the community of Chuuk perceive tourism development?
2. What factors influence residents' attitudes toward tourism development?
3. Are there differences in perception between residents domiciled in Chuuk and Guam?

### 1.2. Background

Historically, the FSM states of Micronesia have been exposed to tourism. But despite decades of this exposure, the academic literature is devoid of basic information concerning the impacts of tourism development. A review of the literature by Brunt and Courtney (1999) highlighted the range of socio-cultural impacts of tourism development and the resulting influence of interaction between residents and tourists. Further review of the literature by Sanchez-Canizares, Tabales, and Fuentes-Garcia (2014) acknowledged the importance of gaining stakeholder cooperation among public agencies. Of particular significance, they



concluded, is the need to understand local community perceptions and attitudes "regarding the impact of tourism development from an economic, socio-cultural, and environmental point of view." It is worth noting that these researchers studied the perceptions and attitudes of residents in an emerging island destination in the Cape Verde archipelago of MACARONESIA (not to be confused with MICRONESIA).

As a matter of comparative interest, Chuuk and Cape Verde share certain geographic similarities, limitations, and opportunities. Chuuk in the North Pacific Ocean is part of the FSM, one of four island groups (FSM-Palau-Marianas-Marshalls) in MICRONESIA, spanning 2.7 million square miles east of the Asian continent. The Cape Verde island of Sao Vicente in the North Atlantic Ocean is one of four island groups (Cape Verde-Canary-Madeira-Azores) in MACARONESIA covering 3.2 million square miles west of the African and European continents. The islands in both regions share tourism development issues that are ubiquitous to SIDS, among which include remoteness, small size, narrow resource base, and vulnerability to external demand and supply-side shocks (United Nations World Tourism Organization, 2012).

Following their discovery by Portuguese navigators in 1525, and their successive occupations and administration by Spain, Germany, Japan and most recently the United States of America, the FSM was transformed from the subsistence economy that has sustained its economic independence for centuries to the economic dependency and "welfare" state it has become today.

At the end of World War II, these islands became wards of the United Nations and administered by the United States as a "US Trust Territory" until gaining their independence on May 10, 1979, and becoming full members of the United Nations on September 17, 1991.

Political independence was a mutually shared and achieved goal of the FSM and UN world community. However, much of the financial subsidies that have propped the FSM economy since US Trust Territory administration in the late 1940s, and which have sustained its newly acquired service economy, will end in 2023 along with the 20-year economic package of \$92.7 million in annual grants. These grants are provided under a Compact of free Association (COFA), as amended on December 17, 2003 by Public Law 108-188, Through the end of Fiscal Year 2023, the FSM will have received about \$2.1 billion in US aid during the 20-year period covered in the amended Compact (U.S. Department of Interior, 2011).

In anticipation of their independence, the US and UN Trusteeship Council embarked on a variety of capacity building initiatives, which included each FSM state's economic development, and documented in a five year "indicative" development plan (United Nations Security Council, 1978-1979). This "indicative" planning approach was probably used because of imperfect market information and the need to address indigenous market uncertainties post World War II through the tenure of US Trust Territory administration.

Principal tasks under U.S. administration were installing the foundations of self--government and building the necessary infrastructure for economic development and financial self-reliance. Since becoming a nation, however, there were doubts about the FSM's ability to become self-reliant financially (United Nations Security Council, 1978-1979). According to the World Bank (2014), the FSM is a small, remote, and geographically dispersed country facing "significant inherent structural challenges" in developing an economy that can sustain and deliver basic government services.

These disadvantages are difficult hurdles to overcome in an increasingly interdependent global economy and a dependent legacy from centuries of "colonial heritage." However,

aspirations for greater economic self-sufficiency and a larger private sector footprint is not without merit and is a central theme of this study.

In 2003, the FSM government adopted a plan to achieve economic growth and self-reliance (Government of the Federated States of Micronesia: 2003 Planning Committee, 2004-2023). Tourism, fisheries, and agriculture were the three strategic goals identified for development as a matter of national policy. This study addresses tourism as an economic development tool for the state of Chuuk.

### 1.3 The Problem

#### 1.3.1 Structural Imbalance

The FSM has a very serious trade imbalance problem (Asia Development Bank, 2013). Decades of external aid have bred generations who have become used to a money driven service economy and a western lifestyle where the exchange of goods and services have rendered salaried government employment a far more important aspect of their livelihoods than their traditional subsistence roots. Current and capital spending in fiscal year 2013, for instance, accounted for more than 40% of general government revenues (International Monetary Fund, 2015).

Termination of COFA funding in 2023 poses a challenging economic outlook for Chuuk and the other three FSM states because the country's private sector lacks the capacity to offset the reduction of these Compact funds (Asia Development Bank, 2014a). The Asian Development Bank (2013) has also estimated that a sudden cutoff in Compact funds in 2002 would have produced an "overnight" drop in per capita income of from \$1,445 to \$300.

Funding under the Compact was meant to wean the FSM from its economic dependency on the US, build administrative and infrastructure capacity for its governance, and develop a private sector economy that can replace or mitigate the anticipated loss of annual financial subsidies by the US and other external aid. While some progress has been made during and after the US Trusteeship administration with respect to roads, schools, hospitals, airports, seaports, and communications facilities, the development of a meaningful private sector economy has remained elusive.

The FSM has been described as a country having "no significant exports or domestic industry," and a cash economy "primarily fueled by Compact funds in the form of salaries," where more than 50% of employed adults work for the government (U.S. Department of State, 2014). Indeed, 42% of the country's \$145 million GDP is dominated by government, 22% by a public sector dependent wholesale retail sector, and 16% subsistence (Federated States of Micronesia Office of Statistics, 2014). The current account is mostly in deficit, financed mainly from donor capital grants, and public sector employment accounts for more than half the total employment (International Monetary Fund, 2015).

### 1.3.2. Concerns of Political Leadership

As the FSM joins the UN community of nations, and as the Compact funding package draws to an end in 2023, concerns over the FSM economy, its tax base, and job security for essentially US subsidized wage earners loom large. In his 11th anniversary address, then president Jacob Nena recognized the country's public-sector dominance (Nena, 1997) and urged national and state government officials to look at the private sector "as the engine of economic growth." More recently, immediate past president Manny Mori (2014) alluded to nearly \$50

million in US funding cuts to the country's annual operating budget request when it transitions into the first year of "delinking" from annual compact subsidies in 2024 (Marianas Variety, 2014).

### 1.3.3. Little Progress

Since President Nena's address more than 21 years ago, there is scant evidence to demonstrate significant progress in growing the private sector. Tourism and fisheries, the two sectors targeted for development in the country's Strategic Development Plan 2004-2023, each account for only 2% of GDP (Federated States of Micronesia Office of Statistics, 2014). The FSM economy has continued to underperform the strategic plan's growth scenarios. Real average GDP growth during the Amended Compact Period 2004-2014 was a disappointing 0.5%. Clearly, despite investing more than \$1 billion in the last decade, results to date do not appear to have achieved COFA objectives of "*increasing indigenous business activity*," and "*vitalizing the commercial environment*." All this despite some \$83.5 million of additional grants, loans, and technical assistance that the Asian Development Bank had also infused between 1990 and 2015 (Asia Development Bank, 2018).

Following three years of economic contraction when \$130 million of infrastructure development grants were suspended by the Joint Economic Management Committee (JEMCO), the economy was able to attain 1.4% GDP growth in FY 2015 (Asia Development Bank, 2018). This improved performance, however, was driven more by the resumption of US subsidized capital investments than from local production and other organic initiatives.

#### 1.3.4. Current Situation

The private sector has yet to become a significant force in growing the economy, and the tax base would need significant expansion just to pay for the cost of running the government. Local tax revenues, for instance, averaged less than 14% of GDP for the five-year period ending FY 2015, while government expenditures averaged 61% during the same period (International Monetary Fund, 2015).

The FSM's average annual growth rate between Fiscal years 2005 and 2013 was close to zero, worse than the 2% average for other countries in the Pacific. Real GDP growth for 2014 is estimated to be an anemic 0.1% (International Monetary Fund, 2015). Real GDP declined -3.9 in 2013 (year on year) and followed a -3% negative trajectory during the 13-year period that culminated in FY 2008 when the present COFA was signed (U.S. Department of Interior, 2011).

In short, the FSM has a significant trade imbalance problem, mitigated only by Compact and other foreign aid. The annual average trade deficit for the five-year period ending FY 2015 was \$128 million, or about 40% of GDP, excluding official transfers (International Monetary Fund, 2015). Having outlined the broad contours of a looming and urgent financial issue facing the FSM and, by extension, the state of Chuuk, this study examined tourism as an economic opportunity to improve the quality of life for its residents.

#### 1.3.5. But Why Chuuk?

Chuuk state was selected for this study because it is home to nearly 50% (47%) of the FSM population (Federated States of Micronesia Office of Statistics, Budget & Economic Management, 2010). It is arguably the state with the greatest challenge of providing employment

for those residents likely to lose their US subsidized government job. Two other reasons for this Chuuk study relate to income inequality and age demographics.

At \$1,847, the state's per capita GDP is 40% below the FSM national average of \$3,034 and compares poorly to the +5%, +33%, and +47% economic standing of Kosrae, Pohnpei, and Yap, respectively (Asia Development Bank, 2015). About 36% of the FSM population is under 14 years of age and almost 60% (58.7%) grew three years older between 2000 and 2010. Finally, despite its notoriety (Asia Development Bank, 2014b) among world scuba diving enthusiasts and World War II historians, Chuuk tourism has remained moribund in an era when international tourism more than doubled to 1.2 billion travelers in the last two decades (United Nations World Tourism Organization, 2018) and when the average annual growth of tourism in the Asia Pacific region was 6.3% during the 10-year period 1990-2010 (United Nations World Tourism Organization, 2011). Moreover, despite the inherent disadvantages of small, remote and environmentally vulnerable island economies (Briguglio, 1995), the per capita dollar share that islands in Micronesia earned from the \$1.4 billion generated by 1.7 million tourists to the region was 5,688 for Guam, 3,875 for the Commonwealth of the Northern Marianas, and 3,182 for the Republic of Palau (Perez, 2012) In contrast, however, the per capita share for Chuuk and the FSM was 146 (Perez, 2012).

To be sure, other factors contribute to Chuuk's low per capita share, not least the frequency of air service and infrastructure capacity constraints, both institutional and physical. However, an understanding of issues that underpin the persistence of these constraints may contribute to their resolution or amelioration. This study explores residents' perceptions of tourism, and the factors that influence attitudes toward tourism development.

## Chapter 2

### LITERATURE REVIEW

#### 2.1. Tourism Overview (Micronesia) and Small Island Economies

Islands are relatively closed and bounded ecosystems that are not generally attractive to prevailing economic development models traditionally based on scale, low cost transportation and ready access to human capital, financing, and natural resources (Figueroa, E. and Rotarou, E., 2016a). Like many other islands with small populations, Chuuk is competitively disadvantaged in producing the same basic products and services for the worldwide economy. Because of this, and again like other small islands, tourism has become a default option for economic development, and an opportunity for Chuuk to help offset the anticipated reduction in US foreign aid.

According to the World Bank (2016), tourism offers the FSM and other Pacific islands *"significant opportunities for economic growth and prosperity."* Central to this potential are the pristine natural environment, cultural diversity and, in the case of Chuuk, the added attraction of a major world class wreck diving destination (Asian Development Bank, 2014b). The Chuuk lagoon is where the combined World War II Japanese fleet sunk during "Operation Hailstorm." More than 60 ships, totaling 220,000 tons, still lay underwater today in what is arguably the world's greatest wreck diving destination (Truk Lagoon Dive Center, 2017).

Tourism indeed has been an integral part of economic development strategies in developing countries for more than 50 years (Scheyvens and Momsen, 2008). The United Nations Conference on Trade and Development (1998) identified tourism as the only major international trade sector where developing countries "have consistently had surpluses." Tourism



also has a "large multiple effect" to the economy and a source of "significant foreign exchange (World Bank, 2009). Ashe (2005) has reported that tourism is a poverty reduction tool in SIDS and is of particular interest to Chuuk where the state's \$1,216.60 poverty index is 23% below the National FSM average and lowest among the country's four states (FSM, 2014). Even more striking is the fact that 52% of Chuuk residents are under the Country's total poverty line, but that almost 80% (79%) fall below the food poverty line. Clearly, Chuuk is a target rich opportunity that can benefit from tourism and the global forces propelling the industry's sustained growth, which average +7% growth per annum in arrivals and +12% increase per annum in receipts during the three decades ending in 1998 (United Nations Trade and Development Board, 1998). The +2.8% annual growth of travel and tourism in 2015 outpaced that of the global economy's +2.3% and the major sectors of manufacturing and retail (World Travel & Tourism Council, 2016).

Geographically, Chuuk and the FSM states are just a few short hours from Asia, where growth of the middle class and disposable income continue to rise. This potential source market is expected to grow from 28% of the global middle-class population to 54% in 2020 and 66% by 2030 (Kharas, 2011). And Asia's share of global consumption is projected to rise from 23% in 2009 to 42% in 2020 and 59% by 2030 (Kharas, 2011). This emerging affluence means that more leisure and niche market travelers will come from the Asia Pacific region in close proximity to Micronesia.

Tourism is a unique opportunity for small insular communities because it can flourish in small, remote, and dispersed populations with limited land and natural resources (United Nations World Tourism Organization, 2012). Indeed, tourism is widely acknowledged to be an important factor in generating employment and other economic benefits.

Figueroa and Rotarou (2016b) reviewed the academic literature and showed the importance of tourism as a tool in promoting local jobs, creating new employment opportunities (especially women), and raising living standards. Their extensive literature review also revealed empirically that tourism is a driver of economic growth in low- and medium-income developing countries, and that it can support infrastructure improvements while protecting natural and cultural resources, developing human capital, improving management skills, and facilitating technology transfers.

On the other hand, the literature also revealed negative impacts of tourism, highlighting such drawbacks as the degradation of bio-diversity and the environment, loss or dilution of cultural authenticity, overcrowding, crime, waste disposal problems and overtaxed resources, capital leakage, and a variety of social issues (Figueroa and Rotarou (2016b).

Developing a sustainable tourism industry in small islands such as Chuuk must be predicated on community support and acceptance (Choi & Murray, 2010) because of their fragile ecosystems, limited size, and direct interaction between residents and tourists (Garau, et al. 2013). Understanding and assessing resident's attitudes regarding the impact of tourism development are also found to be important to the industry's long-term success (Ap 1992; Richie & Inkari, 2006), as are stakeholder involvement in the development and planning process (Byrd, et al., 2009; Choi & Sirakaya, 2005). The importance of community participation and involvement in the development of tourism is well documented in more than 80 academic studies that Andriotis and Vaughan (2003) had reviewed.

Tourism has also been promoted as an essential component for economic development and poverty reduction in SIDS (Ashe, 2005). However, this macro study does not address

tourism benefits or residents' attitudes and perceptions within national populations like Chuuk in the FSM, which this study addresses.

There is scant information in the literature concerning the FSM in general, and Chuuk in particular, regarding tourism. There is also little or no information about air service, an important ingredient to the viability of insular communities. Hopefully, this study will contribute to the knowledge base of tourism now lacking in the region.

In a United Nations "Expert" report on the vulnerabilities of SIDS, for example, the importance of well-functioning, reliable, sustainable, and resilient transportation systems, "in particular, maritime and air transport," was emphasized for development and survival (United Nations Trade and Development Board, 2014). The significance of air linkages to small island tourism is underscored by the \$24 billion earned and 30% average employment recorded for SIDS in 2012 (United Nations Trade and Development Board, 2014).

Interestingly, while air service in Pacific islands, the Caribbean, and Africa have been discussed extensively among various UN instrumentalities, there was no mention at all of the FSM regarding critical air service and tourism development (United Nations Economic and Social Council, 1996).

Transport is a central ingredient in the time and spatial economic utility of products and services (Asia Development Bank, 2012). Improved air service will not only stimulate investment interest, but it will enable expanded output from productive sectors of the country's small market which external demand can absorb. Export earnings from tourism and its value chain of accommodations, events, retail facilities, restaurants, cultural attractions, and other services can be a significant factor in creating employment, ameliorating chronic trade imbalances and expanding the local tax base. Based on the UN expert report (United Nations

Trade and Development Board, 2014), improvements in the current level of air service could arguably trigger trade and tourism development, expand the private sector footprint, and generate more organic employment.

## 2.2. Tourism a National FSM Priority

Tourism has been an economic initiative well before the FSM's political independence when the country was still a U.S. administered trust territory (United Nations Security Council, 1978-1979). In the case of Chuuk, the Development Authority of the Pacific Area Travel Association (1977) explored the state's tourism potential and examined positively the vexing issue of how the industry can be of economic benefit to the community when its operation and maintenance depend heavily on imported goods and services.

More recently, the FSM planning committee designated tourism as a key policy sector for development in its Action Plan 2023, adopted on January 30, 2015. This planning committee was established on March 30, 2015 by executive order No. 40 and is comprised of the FSM president and the state governors of Yap, Pohnpei, Chuuk, and Kosrae. The action plan identified tourism as "a key driver" of the country's economic growth strategy and seeks to "ignite" the industry by attracting hotel developers and "upgrading over 100 tourism sites" (Planning committee, 2015).

Further, a key aspect of the plan is making the community aware of the plan and selling its benefits to state political, traditional, business, and civic leaders, as well as to the general public. Despite best intentions, however, selling tourism to the community is not without the challenge of understanding the issues of importance to residents and learning about how their perceptions or attitudes comport with their views on tourism development and public policy.

Selling the merits of tourism in Chuuk at this time presupposes an understanding of residents' perceptions and attitudes toward tourism benefits. And because such understanding is not factually established, the government risks embarking upon an ineffective and potentially costly program. This study examines residents' attitudes and perceptions along the economic, social, environmental, and cultural dimensions that Ramseook-Munhurrin and Naidoo (2011) identified to be the four important categories of residents' perceptions in their extensive review of the literature. This study explores community perceptions of tourism and its economic, socio-cultural, and environmental impacts on local residents.

Despite many studies on host community perceptions toward tourism development, including more than 83 academic studies found by Andriotis and Vaughn (2003), there is very limited research on small island developing states (Ramseook-munhurrin, and Naidoo, 2011) and none found in the literature for Micronesia, or for Chuuk in particular.

Support for tourism development is complex, multi-faceted, and local community attitudes are important. Unique characteristics of small island economics challenge applicability of existing literature which derive largely from larger and more developed economies (Nunkoo, et al, 2009).

As in other small island economies, there is little research focused on understanding small island sentiments on sustainable development and tourism destination development, two issues that this study found to be of keen interest to the residents of Chuuk.

Support of local residents is essential to the successful development and sustainability of tourism (Aguilo and Rosello, 2005; Brida et al., 2011; Garrod and Fyall, 1998; Ap, 1992; Sheldon and Abenoja, 2001; Vargas-Sanchez et al., 2011) because of the community's attitude toward the industry's development (McCool and Martin, 1994) and because the visitor

experience is more satisfying in destinations where residents are friendly and hospitable (Fallon and Schofield, 2006).

Studies have also shown that, to a large extent, the development of a sustainable tourism industry depends on the support and acceptance of the host community (Choi and Murray, 2010; Dyer et al., 2007; Garau-Vadell et al., 2013).

Since the success or failure of tourism development is a function of the support and acceptance of host communities, shaping the message to promote tourism benefits in Chuuk is handicapped by a void in the literature regarding community perceptions on tourism development. In particular, this study fills a gap in the empirical literature regarding Chuuk residents' perceptions of the economic, socio-cultural, environmental, and sustainable impacts of tourism development.

### 2.3. Residents' Perceptions of Tourism Development

Tourism has been an important force in the development of small island developing states like Chuuk. Community support for tourism development, however, is largely determined by its economic (Pizam, 1978; Belisle and Hoy, 1980; Liu and Var (1986), social (Pizam, 1978; King et al, 1993), environmental (Pizam, 1978; Liu and Var, 1986), and cultural (Liu and Var, 1986; Gilbert and Clark, 1997) impact to the local community. Indeed, Byrd and Gustke (2004) found that perceived impact was an important predictor of stakeholder support for sustainable tourism development. Therefore, it is helpful to have a clear understanding of residents' perceptions before implementing the FSM 2023 plan.

A plethora of research have been done to explore and understand perceptions and attitudes of individual groups of stakeholders, among which include the studies of Jurowski et

al., 1997; Long et al., 1990; Brunt and Courtney, 1999; Andereck and Vogt, 2000; Pizam et al., 2000; Gursoy et al., 2002; Andriotis and Vaughn, 2003; Weaver and Lawton, 2004; Wickens, 2004; and Poria et al., 2006).

Understanding local perceptions on tourism impact is a major concern because these perceptions are strongly tied to a community's support for or against tourism development and the FSM 2023 tourism education campaign (Min et al., 2012; Mohammadi, et al., 2010; Banki, and Ismail, 2014).

The literature reveals that perceptions of residents differ toward tourism development, and a large number of studies show that residents who depend on, or perceive economic benefits, are likely to have positive attitudes of the economic impact of tourism than other residents (Lankford and Howard, 1994; Jurowski et al., 1997; Sirakaya et al., 2002). In fact, studies by Ritchie (1998), Husband (1989) and Akis et al. (1996) argue that economic benefits are the most important factors residents seek from tourism development. And in cases where employment options are restricted, tourism was perceived as a way to create jobs (Fainstein and Gladstone, 1999) and residents who placed greater importance on economic development had more positive perceptions for tourism development (Lindberg and Johnson, 1997). But while a preponderance of the literature indicates a positive association between residents' perceptions and economic benefits, Long (2011) found socio-cultural and environmental benefits to be more important factors generating support for tourism development in Vietnam than were the community's perceptions of economic benefits. Travis (1984) details socio-cultural benefits from modernization and improvements in the quality of life aspects of education, health care, conservation and other amenities, while other studies (Liu, 2003) found tourism to improve

residents' standard of living. Other research (Allen et al., (1993) found residents agreeing that attracting more tourists to their community would lead to improvements in their quality of life.

Ramseook-Munhurrion and Naidoo (2011) cited numerous studies showing the importance of social impact as a precondition for a sustainable tourism industry. And the environmental impacts from tourism development are no less important (Ramseook-Munhurrion and Naidoo, 2011). Environmental considerations include both negative and positive impacts to the physical environment including the management of natural resources (Swarbrooke, 1999). Environmental benefits are derived from improvements in infrastructure, parks and recreational facilities. And perceived benefits of tourism development should protect culture, improve the community's well-being, and preserve the surrounding environment (Choi and Sirakaya, 2005).

The survey instrument initially used in this study used two models in the literature (Ramseook-Munhurrion and Naidoo, 2011; Muresan et al., 2016) to do an exploratory factor analysis on socio-cultural, economic, and environmental impacts of tourism to host communities. However, the model used in this study added a fourth factor (financial impact) that is specific to Chuuk. The relationship between these four independent variables and the two dependent variables of sustainable development and tourism destination development are examined in two regressions based on the research work of Muresan et al. (2016).





## Chapter 3

### THEORETICAL BACKGROUND AND FIELD LOCATION

Successful development and management of any tourist destination depends largely on local community support. And this can be achieved by understanding residents' attitudes and perceptions on tourism (Jurowski et al., 1997). Acceptance of tourism impacts in the community often rely on perceived benefits to be gained in exchange for the costs endured (Shiau and Lou, 2012). At the core of this theoretical construct is the relationship between and among perceived benefits, costs, impacts, and support for tourism (Jurowski and Gursoy, 2004; Jurowski et al., 1997). Posited in this theory is the idea and concept that residents in "the exchange" participate if they believe that doing so outweighs the costs, which in turn inclines them to support future developments.

Research findings have been mixed and not definitive with respect to theories of tourism and their various stages of development (Figueroa and Rotarou, 2016b). High density tourism has been associated with residents having more awareness to costly environmental problems (Smith and Krannich, 1998) or to dissatisfaction and resistance because of crime, traffic congestion, waste management and disposal issues, pollution, and the destruction of flora and fauna (Liu and Var, 1986; Pearce, 1980). However, Bujosa-Bestard and Rosello-Nadal (2007) found that higher tourist density created lesser concern over environmental impacts among residents who are financially dependent on tourism.

Butler's (1980) tourism area life cycle (TALC) theory (Figure 3) has been a model used to describe host community reactions during five stages of a tourist destination's evolution: 1) Involvement; 2) Exploration; 3) Development; 4) Consolidation; and 5) Stagnation. According to

Butler, most residents view the increase in visitors positively, but that their attitudes change as they become aware of how their daily lives are impacted. His TALC theory posits that, as this evolution in tourism matures, structural changes in a destination affect the dynamics of people's quality of life, and thereby cause changes in their attitudes and perceptions of tourism development.

Ap and Crompton (1993) use another widely used theory to explain that the density and behavior of tourists influence resident's attitudes, which change according to the progressive stages of: 1) Acceptance; 2) Tolerance; 3) Adjustment; and 4) Withdrawal. After acceptance, residents tend to be tolerant of the industry (because of perceived benefits) but then find themselves "avoiding" the tourist crowd and finally "escaping" from them.

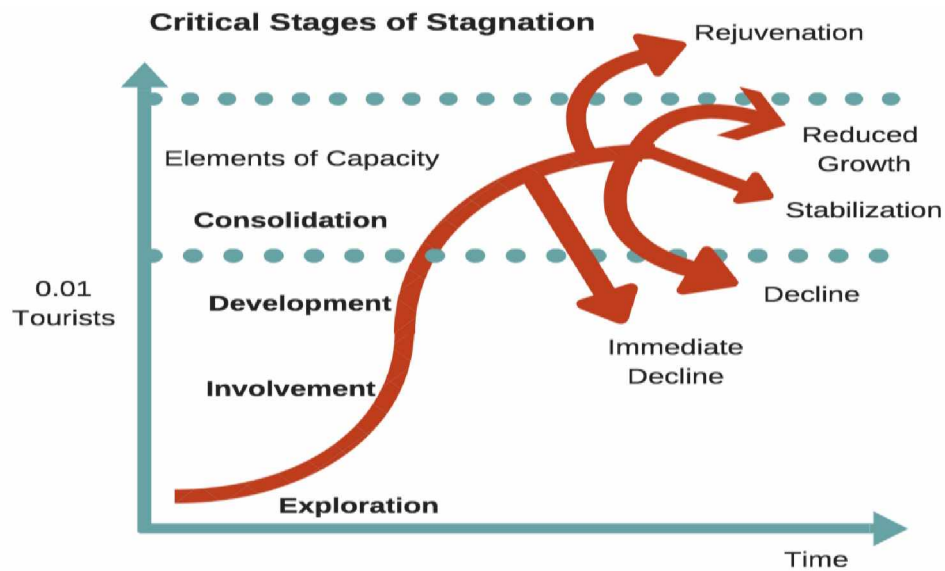


Figure 3. Butler's Tourism Area Life Cycle Model

A combined variation of this density driven tourism development model, and Butler's tourism evolution model, is Droxeys (1975) "Irridex" or Irritation Index theory which suggests that communities progress through a sequence of reactions as the impacts of tourism

development become more pronounced and residents' perceptions change with experience. In essence, Droxey's theory (Figure 4) is about a community's "euphoria" during the early stages of tourism development followed by "apathy," and then "irritation" and eventually "antagonism."

But neither Butler's theory, nor that of Ap and Crompton or Droxey explain the reason for the moribund nature of Chuuk tourism or its stage of development. Indeed, despite decades of promoting the destination, the state's share of visitors to the FSM has not increased significantly, and actually declined - 13.3% (FSM Statistics Bureau, 2016).

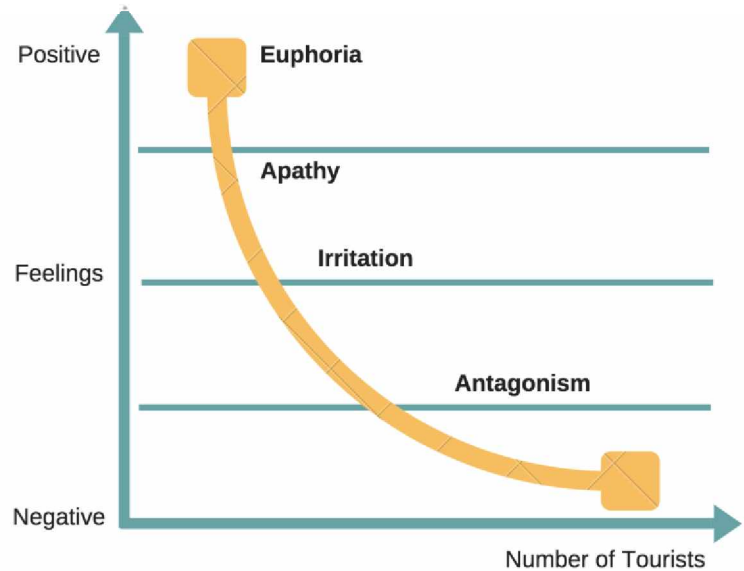


Figure 4. Droxey's Irritation Index

Recent improvements in air service, however, is providing reason for optimism. Air Niugini has started a new route to Chuuk linking direct service to Port Moresby and Tokyo. This will not only expand the island's direct access to new markets but eliminates the costly inconvenience of passengers having to transit Guam. Indeed, visitor arrivals to Chuuk in 2016 increased +29% year on year (Marar, 2018), and the 6,045 tourists recorded was the best number in recent years.

Chuuk's tourism development has not adhered to any of the sequential stages of evolution described. In particular, it has not followed either Butler's (1980) predetermined and defined stages of continuum, nor Droxey's (1975) stages of development and Ap and Crompton (1993).

Instead, the Chuuk destination can be characterized as an ad hoc and disorderly mix of visiting streams of dive driven "events" hosted by a service culture of varying levels in sophistication.

This ad hoc stage of development is understandable given the lack of rudimentary infrastructure and (until now) a level of air service more attuned to the carrier's financial interests than to the specific needs of the islands, scale notwithstanding. As an example, the need for frequency and interisland small-scale cargo and passenger traffic cannot be realistically served by a large transiting aircraft en route to or from a much larger market base (i.e. Guam, Japan, and Hawaii). In effect, the islands development needs are not aligned with current aircraft utilization.

Tourism has been a state and national initiative for more than four decades, dating back to the U.S. Trust Territory administration (Development Authority of the Pacific Area Travel Association, 1977) when tourism and exports paid 4% of all FSM expenditures (United Nations Security Council, 1978-79). But despite more than 40 years of "evolution," results to date have been disappointing and, at best, marginal.

A more plausible explanatory framework for the situation in Chuuk could be the social exchange theory (SET) to which this study is aligned. Generally, SET is about people sociologically willing to engage in an exchange if rewards to be gained exceed their costs (Skidmire, 1975). Social exchange theory (Andereck et al., 2005; Ap, 1992; Gursoy et al., 2002; Vargas-Sanchez et al., 2011) is a model where residents compare the costs and benefits of tourism development and that their level of support is based on the outcome of their cost and benefit evaluation (Pearce et al., 1996). It is also arguably the most widely accepted theory used to explain perceptions and attitudes toward tourism (Perez and Nadal, 2005) and considered to have made the most important theoretical contribution to studies on tourism perceptions by

residents (Nunkoo, R., 2016). This SET theory, however, is not without the imperfection of not being able to account for societal structures and their characteristics that might be better measured using other theoretical models other than the focus of cost and benefit (Al-Badarneh, M.B.H. and Al-Makhadmeh, A. A. M., 2015).

This study could be useful to the FSM Planning Committee Action Plan 2023 community awareness initiative. Because educating residents about the potential benefits of tourism is deemed "critical" in obtaining community support for tourism development (Brunt and Courtney, 1999; Sanchez-Canizares et al., 2014; Wang, et al., 2006). Effectiveness of this community awareness campaign, however, will depend on how accurately residents' perceptions are understood and how this knowledge can be applied in promotional message content and formulating public policy for tourism development in Chuuk.

### 3.1 Study Area

Framing this study requires some understanding of, and appreciation for, the geography and culture that constitute a "sense of place" about the essence of Chuuk and its people.

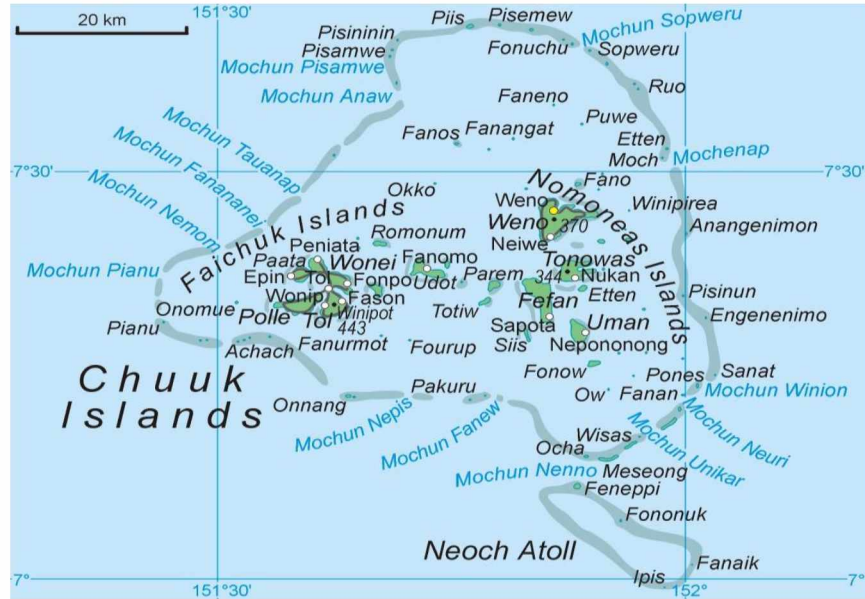


Figure 5. Detailed Map of Chuuk

#### 3.1.1. Geography and Culture

Formerly known as "Truk," a name given by the Germans, Chuuk (native word for mountain) is a political jurisdiction made up of 40 inhabited and 250 uninhabited islands (Asian Development Bank, 2014b) and atolls scattered along some 115,000 square miles of ocean. Chuuk is located 610 miles southeast of Guam and about 3,300 miles southwest of Hawaii at 7 degrees North, 152 East latitudes. Chuuk is comprised of 19 "high" volcanic islands surrounded by a large barrier reef, 10 atolls and 225 low coral islets outside a large 1,320 square mile lagoon (Jeffrey, 2004a; Jeffrey, 2004b).

Total land mass of the islands combined is less than 77 square miles, including the "outer" islands. The 40 inhabited islands make up five political regions and municipalities:

1. Northern Nomwoneas
2. Southern Nomwoneas
3. Faichuk
4. Mortlocks
5. Western (Northwest) islands

Islands located in 1, 2, and 3 above are mostly referred to as the "high" islands all located within the lagoon. Islands in 4 and 5 above are commonly known as the "outer" islands or "*Fenapi*," meaning sandy islands in the Chuukese language. This and the other vernacular words with their cultural meanings in this study are abbreviated descriptions taken from Rayphand's (2014) research on Chuukese storytelling in the digital age.

The essence of Chuukese society is the matrilineal lineage that defines families more than their own individual nuclear groups (Hezel, 2001). Chuuk is also an oral tradition society with "*luuiunap*," or storytelling, at the root of their diverse epistemology, ontology, and axiology. This diversity exists today because a traditional leader, or "*itaang*" can be found in different repositories or "*Noos*" of each lineage and its defining history, tradition, and protocols. These *itaangs* are authoritative sources of the lineage to which they belong and provide the educational foundation and record of its skills and talents.

Rayphand noted that variations in Chuuk's history is not unusual because these variations are based on the clan or village of residence and their different points of view. Each clan, village, or island has its own unique history based on the perspective of a particular storyteller (*Soufoos*)



or historian (*Souuruwo*). Depending upon the event or celebration theme, three common words are used interchangeably to describe Chuuk history, custom, and tradition:

1. *Kieki*-refers to custom and(or) tradition;
2. *Noos*-refers to historical tradition, talent, skills, experience, protocols, and personal story;
3. *Machew*-refers to a set of rules on ways of living, a set of established principles and precedence that make up the governed (their constitution)

*Kieki* and *Noos* - Also refer to mats on which people sit, live, and sleep. And the three widely known historical accounts and protocols of Chuuk are:

1. *Noosen Sopumupi*, the traditional history of Weno and subsequently spreading out to all of the other islands.
2. *Noosen macheweichun*, the traditional history of Fefen, Siis, Parem and Tetiw islands.
3. *Noosen unap*, the traditional history of Uman island and often referred to as the history of the Fesinim clan.

Among the three Noos (or tradition protocols), "*machew*" is a term used to describe and trace the genealogy and identity of different island groups. People often identify themselves according to the machew to which they belong because their machew records their history and defines their tradition and culture. Their machew influences their use of language and is bigger than their clan or family affiliation because it is the glue that binds different islands and clans together.

There are three different machew or alliances in Chuuk:

1. *Machewen sopumupi* is the largest, covering the majority of islands in the lagoon and extending to outer islands of the Northwest and Mortlocks (described later).
2. *Macheweichun* is the second largest machew that include the southern Nomwoneas islands of Fefen, Siis, Parem, and Teetiwi.
3. *Machewen unnap* only covers Uman island, but those having political ties in Uman consider the rest of the small islands and islets northeast of the lagoon and the adjacent atoll of Neoch (or Kuop) to be a part of their domain.

It is this embedded cultural diversity that necessitates an understanding of Chuuk's disparate islands, the different lineages that have populated them, and the world views of their residents, that merit a brief discussion of how the state's inhabited islands are organized (also sourced from Rayphand, 2014). The islands of Chuuk can be divided and subdivided into several categories listed below.

1. Northern Nomwoneas
  - These islands have a total land area of 7.75 square miles and consist of Weno, the state capital, Fonoto, and Piis-Paneu (formerly Piis - Moen). The first people of Chuuk lived in Weno and later migrated to islands in the lagoon and beyond.
2. Southern Nomwoneas
  - These islands have a total land area of 11.72 square miles and made up of Tonoas (formerly called Dubbon), Fefen, Etton, Siis, Uman, Parem, and Tetiw.

### 3. Faichuk

- This group of islands make up the largest land area (19.2 square miles) and include the islands of Eot, Udot, Romonumw, Patta, Fanapanges, Polle, Onei, and Tol.

The larger islands are subdivided further by subregions because of their distance and remoteness, as in the situation of the southern Nomwoneas, Faichuk, and the Mortlocks.

#### 1. Southern Nomwoneas

- These islands include Tonoas and Etten (Tonoas); Fefen, Siis, Parem, and Tetiw (macheweichun); and Uman.

#### 2. Faichuk

- These islands are divided into the three subregions of Eot, Udot, Romonumu, and Fanapanges (Nomwisofu); Tol; and Patta, Polle, and Onei.
- These islands are divided yet again into the two subregions of "inner" Faichuk, made up of the Tol islands of Patta, Polle, and onei; and "outer" Faichuk, or the Nomwisofu islands of Eot, Udot, Romonumi, and Fanapangas.

#### 3. Northwest Region (outer islands)

- This group of islands is made up of three subregions; namely the Pafeng islands of Murilo, Nomwin, Ruo and Unanu; the Pattin islands of Pollap, Houk, Tamatam, and Polowat; and the Nomwunweite islands of Makur, Onoun, Onari, Ono and Pihsara (also known as Pesarach).

#### 4. Mortlocks

- This is the last group of Chuuk's many scattered islands and are divided into three sub regions:
- upper Mortlocks, consisting of Nema, Losap, and Piisemwar (formerly Piis Losap);
- mid Mortlocks, consisting of Namoluk, Ettal, Moch and Kuttu; and
- lower Mortlocks, consisting of Satawan, Ta, Oneop and Lekinioch.

The indigeneity of Chuukese character and personality exudes a "sense of place" that can be described as bifurcated in ontology, epistemology, and axiology. The way things are known, identified, and valued reflect a uniquely Chuukese pedigree that is tainted by the western influence of an enduring colonial heritage. This duopoly in the island's axiology can be challenging to non-local stakeholders who have an interest in Chuuk's tourism development. As an example, the culturally obligatory practice of income redistribution, support of the extended family (like a tithe) and tradition driven expenditures might be viewed as "unproductive" and an impediment to the formation of investment or operating capital. However, these same social institutions and cultural values, overseen and enforced by the authoritative bonds of lineage, can be a positive force multiplier in leveraging a "ready-made" organization for action (Peoples, 1985). It is this culturally rooted attribute that can become the cohesive force for a successful indigenous owned and operated enterprise.

From an economic development perspective, Chuuk might be viewed as a community that is already embedded with colonial orthodoxies, but still attached to the most important cultural traditions and practices. Political independence in 1986 did not sever the island from its subaltern U.S. relationship.

About 94% of Chuuk residents are native born, 99% speak the local language, and 91% speak English, the second most commonly used language (Chuuk Branch statistics, Department of Economic Affairs, 2002). Contact with the outside world was not new to Chuuk, and social interaction with other islands has been facilitated by canoe voyages. The age of discovery, however, accelerated social change and trade when Europeans imported goods of iron, cooking utensils, food, clothing, and other foreign products in exchange for copra (Hezel, 2001).

Authority in Chuuk has been traditionally fragmented because of the dispersed and disparate nature of settlements and lineage among the 40 inhabited islands previously described. Individual islands are seldom unified under a single chief and the main social unit has been the "lineage" group, descended from one woman still living. In the past, this lineage group usually resided together on one or more parcels of clan land. Men do offshore fishing and the women tended gardens of taro patch, or pick breadfruit, and food was commonly exchanged among relatives.

An extreme example of this extended family unit was a family living in the Chuuk capital of Weno during the 1970's (Hezel, 2001). Five buildings in the family compound constituted the "home" of 51 people. Family is usually the core of a lineage (women and children) along with men marrying into the lineage to create an "extended" family compound that can number two or more dozen people in various dwellings. These thatched roof residences (later made of tin and plywood) were basically places to sleep and clustered together on a single piece of land.

The core of a family unit is in the cook house, or "fanang," which is a covered fireplace that replaced earthen ovens of the past, and where food is prepared in large quantities to be distributed to extended family members. Each household takes turns preparing food for the entire extended family. Eating together, or taking share to eat in their own dwelling, is not as important

as preparing and distributing enough food for the entire extended family. A lineage group usually has a meeting house or "uut." Chuuk's social structure evolved from the canoe house, an important institution in Chuukese society.

The Uut once served as a man's workplace, or the dormitory for single men in the lineage, and meeting house for the lineage group. It was also the locus of young men in their education and formative years where they pass the time, repair fishing or farming implements, swap gossip, and perpetuate oral history of the lineage.

Chuuk culture is a tightly developed organization of matrilineal groups aggregating into residential units. And matrilocal residence on the estate of the wife's family was normal practice at the end of world war II. Western influence and the arrival of Christian missionaries did not weaken matrilineal structures, as in Chuuk's sister states Kosrae and Pohnpei, where communities are not as geographically decentralized (Peoples, 1985). Enduring post-colonial influences, however, have made Chuuk a "bifurcated" community coping with pressures of modernity and fidelity to its embedded cultural heritage. Core values of the Chuukese spirit has been described to embrace unity of hearts (tipechu), thoughts (ekichu), and deeds (angechu) while exercising "non pungiro fonu" or humility and integrity (Walter, 2018).

Whether in Chuuk or elsewhere, Chuukese bonds of kinship are maintained despite their historically segmented and dispersed settlements in the lagoon and outer islands. The introduction of a cash economy, however, has had a corrosive effect in the traditional power structure. Where livelihoods of families once depended on fidelity to kin groups living off their land and shoals, for example, the primary social unit today cluster around smaller nuclear families. Wage-earning members of these households have assumed the mantle of many

decision-making responsibilities and have become less subordinate to the head of an extended family clan physically removed from the social unit.

Despite this "modern" transformation, however, the extended family lineage remains intact, their interconnections still recognized, and functional aspects observed no matter where individuals reside. Thus, when called upon to support an event or activity like weddings, funerals, special holidays, and even political candidates, for instance, members of the larger extended family lineage are expected to (and do) contribute to the cause no matter where they find themselves.

### 3.1.2. History and Economy

The United States was the last of the four colonial powers to acquire control over Chuuk. Like the other islands in the FSM, Chuuk was essentially self-sufficient and did not suffer from the severe poverty that seem ubiquitous in Africa, Asia, and Latin America (Peoples, 1985). Prior to, and especially since gaining political independence, however, the island's socioeconomic and political development have followed western orthodoxies. Thus, the island's development evolved into a blended combination of postcolonial and endemically rooted institutions.

This development framework is laden with post-colonial legacies in financial and social institutions; transportation and telecommunication services; and tourism wholesale and retail distribution structures which can be observed in place today.

The episteme of the island's anthropological and social linages was complicated by centuries of western contact and a residual colonial heritage. Indeed, political independence in 1986 did not sever Chuuk from enduring vestiges of a subaltern relationship with the United

States, its biggest benefactor. The state's government today reflect the trappings of an American style bureaucracy made up of three branches of government (executive-legislative-judicial), along with about a dozen or so municipal governments, elected mayors, and representatives. Less visible in the background are the cultural practices and traditions that are carried out almost as though these were added burdens (my opinion) to bear.

Prior to western contact, there is a widely held view that Chuuk's first settlers more than 2,000 years ago were of south east Asian origin, and that ancestral settlements were established by sea wanderers possessing horticultural and exceptional maritime skills (Retrieved from [www.visit-micronesia.fm](http://www.visit-micronesia.fm)).

Western contact came to Chuuk during the "Age of Discovery" when extensive overseas exploration by the Europeans in the 16th century brought trade and commerce to Micronesia. This intensified in the centuries that followed when various national interests were enforced administratively, militarily, or through religious creed (Hezel, 2001). By the turn of the 19th century, Chuuk came under Spain's colonial rule, then subsequently under Germany, Japan, and the United States following world war II when Chuuk became part of the U.S. Trust Territory of the Pacific. Despite a century of occupation and administration by four different foreign powers, Chuuk had not developed the administrative, technical and commercial skills needed to sustain its economy and state government.

The island's economy today best fits the "MIRAB" model described in Tisdell's (2014) paper on small Pacific island economies. The acronym stands for migrations (MI), Remittances (R), Foreign Aid (A), and the public Bureaucracy (B) administering it all. The high number of Chuukese living abroad and a foreign aid dependent service economy relying heavily on public spending and employment would appear to fit this classic MIRAB model.



After World War II, the U.S. provided rehabilitation assistance; first, under U.S. naval control and, subsequently, under the Department of Interior which set up an administrative system of governance that was to unleash the trapping of a western style democracy seen today. The creation of municipalities, legislative bodies, and popularly elected public officials followed, as did the establishment of the executive, legislative, and judicial branches of state government not unlike the U.S. political model. Staffing and funding such an elaborate bureaucracy for a state population of fewer than 50,000 residents has proven to be problematic with the passage of time.

In the post-second world war decade, Chuuk lived off a subsistence economy much like their ancestors have done in centuries past. U.S. administrative policy had allowed islanders to set their own pace of development. This changed dramatically, however, during the "cold war era" when the U.S. and Soviet Union were competing for third world "proxies" to boost their hegemony in strategically important regions of the world.

The U.S. literally poured money into the island, investing heavily in education, health care, and subsidized public-sector employment that resulted in an economic "cash economy" structure superimposed upon rural pockets of traditionally subsistence life styles. This large public spending format, courtesy of American tax payers, created a larger commercial sector and service driven economy that has become domestically difficult to sustain. As a percent to total revenue, for instance, U.S. grant subsidies are widely known make up most of the state's fiscal structure and 13% of its GDP (International Monetary Fund, 2015).

Chuuk's economy was to become dominated by a large, U.S. subsidized public sector, with a dependent "non-traded goods" sector providing services to the government and its employees. The island's median household income is \$2,800, median age 18 with an average

household of seven family members. The labor force participation of persons age 15 and above was about 58% and the unemployment rate 34% (Chuuk Branch statistics, Department of Economic Affairs, 2002).

The private sector has yet to become a significant force in growing Chuuk's economy, and the tax base would need substantial expansion just to pay for the cost of running the state government. Local taxes, for instance, averaged less than 14% of GDP for the five-year period ending FY 2015, while government expenditures averaged 61% during the same period (International Monetary Fund, 2015). The state's small economic base, limited land area, and limited population make it import dependent and prone to capital leakage because of its small domestic market, limited skilled labor and lack of competition. In short, Chuuk is challenged by its small size, geographic isolation, and difficulty in hurdling competitive economies of scale. Not surprisingly, human and financial capital, as well as other production resources, make financially viable "critical mass" difficult to aggregate. Chuuk's dispersed population exacerbates this disadvantage. According to the International Monetary Fund (2015), the FSM is arguably the most dispersedly populated country in the world where the average distance between two inhabitants in the same country is 700 kilometers (270 miles). Chuuk's 40 inhabited islands are far flung within the 1,320-square mile lagoon, and "outer" islands of the Mortlocks and northern region.

### 3.1.3. Tourism Development

The economy of Chuuk can be summarized as one lacking the basic infrastructure, economic base, and institutional capacity to support its self-governance without significant outside financial aid. The challenges facing its tourism development are likely to be varied and

perhaps best known when residents' perceptions and attitudes are understood. And since interaction between local residents and tourists affect value systems, families, attitudes, and behavior patterns (Back and Lee, 2005; Cohen, 1984; Pizam,1978; Pizam, et al., 2000), the issues facing the state's tourism development, and the communications strategy of the FSM Action Plan 2023, might be best confronted by understanding and appreciating residents' perceptions.

Despite acknowledged economic benefits of tourism, for instance, Ambroz (2008) found local residents to be deeply concerned about their quality of life and the quality of the natural environment. Differences in perceptions between and among four stakeholder groups in rural eastern North Carolina (Byrd, et al.,2009) also underscore the need to understand these relationships at the local level. It would be especially helpful to understand some of the principal concepts in Chuuk to which Cohen (1984) alluded, as a matter of sociological interest in tourism.

Finally, since policy implications of interest to the FSM awareness campaign can arise during the development and management of tourism, it follows that local perceptions and attitudes must be taken into account (Richie, B.W. and Inkari, 2006; Sirakaya et al., 2002; McCool and Martin, 1994; Milman and Pizam, 1988; Richie, 1988; Long et al., 1990; Lui and Var, 1986; Ap, 1992).

Chuuk and the other three states of the FSM are part of the 52 small island developing countries (SIDS) that the United Nations believe are at great risk of marginalization from the global economy (Boto and Biasca, 2012). Because of its small population, geographic isolation, and limited resources, Chuuk is not able to generate economies of scale to be globally competitive for the production of basic goods and services. As an alternative to the traditional primary and secondary sectors of economic development (Oppermann and Chon, 1997), the

national and state governments have specifically singled out tourism to be one of their goals for economic self-sufficiency. Agriculture and fisheries were the other two sectors identified in the FSM 2023 action plan.

Tourism is widely regarded as an effective means for non-industrialized countries to develop economically and to alleviate poverty (Binns and Nel, 2002). The travel and tourism sector is the largest foreign exchange earner for many Caribbean and Pacific islands that focus on fragile biotic attractions like beaches, reefs, and other coastal resources such as wreck diving in the case of Chuuk. Pacific and Caribbean islands tourism account for, respectively, 12% and 15% of their GDP; 12-13% of employment; and 15-17% of exports (Boto and Biasca, 2012).

Based on experience elsewhere (Brunt and Courtney, 1999; Sanchez-Canizares et al., 2014), the tourism opportunity in Chuuk can only thrive and become sustainable with the support of local residents (Ryan et al., 2011). Indeed, Tovar and Lockwood (2008) argue that social impact studies to gauge community support are crucial to tourism planning and decision-making policies; and that support of host communities is "a precondition" for a sustainable tourism industry. Socio-cultural impacts of tourism have been studied extensively with contradictory findings that Tosun (2002) asserts might be explained by the unique particularities of location and the environment. This study was undertaken to "localize" host perceptions uniquely Chuuk in location, environment, and character. Filling this gap of empirical information would be helpful to the state's tourism development strategy by being sensitive and responsive to residents' tourism development concerns.

Residents' perceptions of tourism impact and support for the industry's development can vary based on the stage or level of development as Butler (1980) and others have described (Allen, et al., 1988). These perceived impacts of tourism have also been described as fungible

according to structural changes in the industry and interactions between tourists and host communities (Mathieson and Wall, 1982).

There is no evidence in the literature suggesting support for or against tourism development in Chuuk based on residents' perceptions of the industry's impact to the community. This gap in empirical research can be a problem for policy makers promoting tourism in the FSM Action 2023 community awareness program. Knowing why residents support or oppose tourism can be helpful in bridging misunderstanding or overcoming obstacles. As a practical matter, policy makers can maximize resident friendly development initiatives, minimize those associated with negative perceptions, or strike a balance among competing interests.

This research will contribute to the generally barren literature on tourism in Micronesia, and Chuuk in particular. Moreover, it can provide a better understanding of the island's stage of tourism development by which the state's policy makers can be guided.

### 3.2 Limitations of the Study

Because this research is the first of its kind in Micronesia, and essentially exploratory in nature, certain limitations are worth noting:

#### 3.2.1. The Literature

Scholarship used to frame and design the study relied largely on academic literature derived from mature tourist destinations and developed countries. Because of this, some of the issues raised and data collected from survey and interview instruments may not reflect realities of scale, cultural context, and geography.

### 3.2.2. The Sampling Frame

Budget and time limitations compelled use of a convenience sampling strategy. This non-probability sampling method is subject to bias. Random error can also arise from the way instruments are affected by the data collection environment and how samples were obtained.

### 3.2.3. The Reflexive Style

The reflexive style used to interpret interview data is the researcher's subjective understanding of reality and indigenous context. However, this perspective can be problematic because of the brevity of two field visits, composition of key informants interviewed, and lack of relevant secondary data.



## Chapter 4

### RESEARCH DESIGN AND METHODOLOGY

Structured surveys and ethnographic studies have dominated the literature on perceived tourism impacts, each of which is not without limitations (Moscardo, 2008). The restrictive nature of measuring an investigator's survey list of impacts or coping with and managing voluminous qualitative data are obvious examples of these limitations. Mindful of these shortcomings, this study employed a mixed methods strategy using surveys and interviews in a concurrent convergent parallel design (Figure 6).

Surveys provide the means of gathering and recording the incidence of perceptions or attitudes which can be generalized in a sampled population (Bello, et al., 2017). Key informant (KI) interviews and a descriptive way for participant comments to be summarized in the context of "everyday terms" is an approach (Sandelowski, 2000) that encourages people to open up and expand on their responses. This combination allows for a richer understanding of the research question (Creswell, 2014) by combining open-ended qualitative and close-ended quantitative data in a way that enlarges the data base to be analyzed and interpreted for mutually supportive, discordant, or divergent information.

Creswell (2014) listed three basic mixed methods research designs: 1) convergent parallel, 2) explanatory sequential, and 3) exploratory sequential. He also describes the advanced designs of embedded, transformative, and multiphase, which are beyond the scope of this study.



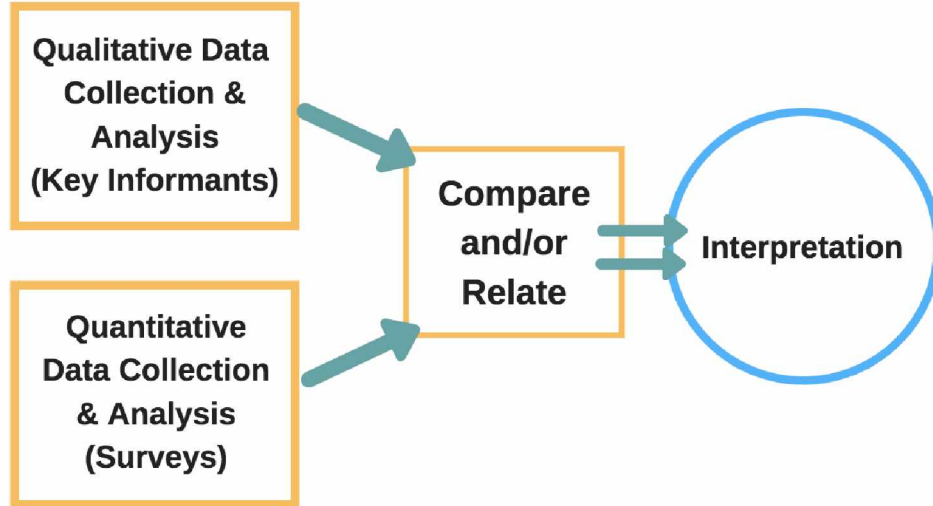


Figure 6. Mixed Methods Design

The concurrent convergent parallel design of this research was chosen because of the barren literature on Chuuk and the researcher's time and financial resource limitations. Qualitative and quantitative data are collected at the same time to explore the same variables or concepts in the study. Procedurally, this triangulation construct allows quantitative and qualitative phases of the study to be done together, analyzed separately, and merged for corroborative or discordant evidence (Creswell and Plano-Clark, 2011). Finally, this design is also exploratory in nature because of the vacuous academic literature and the opportunity to provide basic information that is pragmatic and transformative for societal change (Molina and Font, 2016) in Chuuk.

## 4.1 Data Collection

### 4.1.1. Field Environment

The study location is approximately 620 miles from the researcher's home and is with limited air service, lodging facilities, and ground amenities for non-residents. The study was entirely self-funded and a major consideration in the research design adopted. Two field trips were made between June 12 and August 12, 2017. The first, which took place from June 12-17 essentially entailed a general reconnaissance of the research location and initial contacts to set up and arrange logistical details for key informant (KI) interviews and the distribution of survey questionnaires. The second four-day visit was from August 9-12 when key informant interviews took place and survey questionnaire were distributed to Weno residents.

Great difficulty was experienced in contacting participants because of their widely dispersed residences in the lagoon and outer islands. This field environment was logistically challenging, time consuming, and costly, all of which made random sampling difficult. Because of this, a convenience sampling strategy was used to gather both qualitative and quantitative data.

Access and proper protocol were made possible by long years of friendship that the researcher has developed and maintained in the FSM. This enabled meetings with cultural and political leaders on relatively short notice. The FSM president himself, the Honorable Peter Christian, had arranged for the researcher's personal escort, a native of Chuuk's Uman island and an employee of the FSM consulate office in Guam. This proved to be crucial during the two

short visits because it facilitated access to “the right people,” who were identified by lineage, relationship, and local power structure.

Key informant interview questions and the survey questionnaire were peer reviewed for clarity and content by an expert panel that included University of Guam professor, Ansito Walter, a native of Chuuk. The survey instrument was piloted on 23 University of Guam students from Chuuk. No modifications were made, perhaps because English is the second most commonly used language in Chuuk and spoken by 91% of the population (Chuuk Branch statistics, Department of Economic Affairs, 2002).

#### 4.1.2. Qualitative Data

The preponderance of data collected came from key informant (KI) interviews because secondary data were either difficult to locate and (or) of questionable accuracy. Visitor and other statistical information were still being done manually and by different offices.

The principal methods of collecting qualitative data, in rank order, were key informants, a meeting with the Chuuk visitor’s bureau general manager, secondary data, public media, personal observations, and conversations with the chairperson, PATA Micronesia chapter, and dive tour operators on Guam (Micronesian Divers Association) and Japan (World Explorer and ST World Travel Services).

A semi-structured interview form was the data collection tool used for key informants. As necessary, the answers of participants were probed further for clarification, or to seek deeper meaning and understanding of the reasons behind them. Examples of this probing and follow up include questions which begin like: When or what do you think is the reason for, etc?; What is your person opinion on, etc?; How important is, etc?; and Why do you believe, etc? Open

questions were also employed for community issues of concern, such as: tell me about or please describe, etc.

Using the KI technique was a way of introducing a decolonizing indigenous paradigm into the study because it draws on certain attributes of "community-based participatory research" (CBPR) that Hacker (2013) and Stoecker (2005) had described. Strategic informants were the intended beneficiaries of "their" study. A major benefit of this approach is the gathering of data that is culturally, socially, and politically grounded in the island's context. It is an effort to document the phenomenology or direct and lived experiences of indigenous residents to gain a better understanding of the island's community mindset. It is also an attempt to capture indigenous but empirically elusive phenomena (Mataira, P., Katsuoka, J., and Morelli, P. 2005) reflected in their perceptions of tourism impacts and support for or against development.

The researcher is an islander from Guam who shares research responsibility with the KI's interviewed. Although this geographical "kinship" makes the researcher an "indigenous" participant in the study, there is still the inherent problem of deconflicting the philosophical orientation and world view of the informants from those of the researcher. Responsibility for the effects of research on the informants and assurance that the informants are the intended beneficiaries of the research, are obligations that remain with the researcher (Webber-Pillwak, 2001; Rowe, 2014; Graeme, 2013). In this respect, the KI's and their communities "own" this research, hopefully serving their interests and reaping its benefits. The purity of this decolonizing method, however, is somewhat compromised because the questions raised, and subsequent reporting of results, is done by the investigator rather than the KI's. Dissemination of research results will be done jointly and shared with the intended beneficiaries.

The literature's unexplored topic of residents' perceptions of tourism impacts in Micronesia prompted use of the "naturalistic inquiry" method (Lincoln and Guba, 1985) as a way of adding value to the study and enhancing the descriptive data analysis. This qualitative technique is a different investigative paradigm less wedded to "positivist" philosophy and aligned more to the exploratory, subjective and complex lived experiences of KI's. It is a useful method for Chuuk because it is a way to gather KI data reflecting everyday living on the different islands, in their socioeconomic setting, and in their cultural context.

This approach is also a useful way to capture KI data, recognizing that the realities of each are different, their value systems individually specific, and their world views contextually impacted by the island's bifurcated lifestyle and colonial legacy. Adding this feature is intended to enhance the "complementarity" of data collection and interpretation.

In addition to KI interviews, a meeting was held with the Chuuk Visitors Bureau general manager on November 29, 2018. The meeting lasted an hour, the purpose of which was to seek KI corroborative information and to gain deeper understanding of the issues confronting the island's tourism development, air service, and other relevant destination data.

Fourteen (14) KI's were interviewed in Weno during the second field visit from August 8-12, 2017. Weno is the largest municipality in Chuuk and the state capital where the government's main executive, legislative, and judicial branches are located, as are most of the major businesses and commercial enterprises. Residents who live on the other islands commute to Weno daily for employment, government business, various events, and off island air travel at the state's only airport.

These 14 KI's come from a broad cross section of the community and with various subject matter expertise (Table 1) and backgrounds:

1. Political and traditional leadership
2. Indigenous and non-indigenous residents
3. U.S. college and university graduates
4. Public and private sector
5. Geographic coverage (lagoon and outer islands)
6. NGO's (Women's disadvantaged, and social causes)
7. Business owners and entrepreneurs
8. Educators
9. Quasi government enterprise
10. Private commercial airline

Table 1. Key Informant Listing

Name	Subject Matter Expertise		
	Culture	Business	Community Affairs
<b>Johnson Elimo</b> , Governor	✓		✓
<b>Innocente Oneisom</b> , House Speaker	✓		✓
<b>Mark Mailo</b> , Senate President	✓		✓
<b>Faustino Stephen</b> , Mayor of Weno	✓	✓	✓
<b>Julianne Sos</b> , Adm. Dir. Women's Association	✓		✓
<b>Mino Mori</b> , FSM Telecom Mgr.		✓	
<b>Linda Hartman</b> , NGO Volunteer	✓		✓
<b>Anthony Mori</b> , United Airline Mgr.		✓	
<b>Mason Fritz</b> , Chairman, Women's Association	✓		✓
<b>Johnny Meippen</b> , Attorney	✓	✓	✓
<b>Josephina Estepa</b> , Owner, Gem VJ Enterprises		✓	
<b>Mike Setile</b> , Chief of Police	✓		✓
<b>Bill Stinnette</b> , Proprietor, Truk Stop		✓	✓
<b>Nely Ruben</b> , Mgt. Service Officer Chuuk Visitor Bureau			✓

A brief sketch of these key informants is provided in Appendix A.

These key informants were selected based on specialized knowledge (Tremblay, 1957) and accessibility to the researcher. The technique is well described in a sourcebook on field research (Burgess, 1984) where informants are considered natural observers and "expert" sources of information. Often called the "anthropologic technique," because of its development and transferable principles established by anthropologists, KI's have also been used in economic, political science, and journalism research, as well as in healthcare (Marshall, 1996) and marketing studies (Phillips, 1981). Kumar (1989) believes that this method is appropriate for socioeconomic conditions in villages and communities of developing countries, and is a "rapid, low-cost method of gathering information" (Kumar, 1987).

Sjoberg and Nett (1968) view these natural observers as "strategic informants" either conforming to community norms or holding extreme views. The informants selected in the study fit the "ideal" profile based on certain characteristics described (Marshall, 1996) in the literature:

- Community Role - Official or formal position in the community. Person exposed to the kind of information, knowledge, and experience that are germane to the study or that makes the person a subject matter expert.
- Knowledge and Willingness - Person having direct access to the desired information or specialist in an area of interest and willing to share and communicate knowledge voluntarily.
- Communicability - Person with the ability to communicate knowledge and information with little difficulty and with an authoritative posture.

- Impartiality - Person with the ability to focus on issues and avoid personal bias. The researcher was especially mindful of this attribute because of the island's class, positioning, and unique caste system.

Two types of data were collected from each of the 14 KI's:

- Definitional - Evolving a perception of Chuuk's current economy and tourism industry;
- Discovery - Ascertaining local perceptions and attitudes of tourism impacts and support for or against tourism development.

Judging the quality and accuracy of key informant data was based on internal consistency (cross referenced), productivity, and reliability described by Tremblay (1957). Internal consistency was monitored during data collection and analysis after each interview.

Productivity was achieved because each of the KI's has subject matter expertise in other areas by virtue of their official position, social status or other qualification. Cross comparisons were made after each interview to detect areas of discrepancy for further probing during these "conversations." Finally, using multiple informants was a strategy (Kumar, et al., 1993) used to enhance quantitative data reliability and validity where content inquiry in representative survey respondents cannot be expected.

This KI strategy was time and cost effective. Procedurally, each semi-structured interview took between 45-60 minutes to complete and followed a consistent set of questions (Exhibit 1) to facilitate this "conversation." With their approval, a digital voice instrument was used to record these interviews and then transcribed by an online service. Transcripts were then reviewed for accuracy before transferring data to Atlas ti, the



qualitative data analysis software used to analyze and manage content data from the interviews.

Exhibit 1. Key Informant Questionnaire

**Key Informant: Interview Questionnaire**  
University of Guam

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Interviewer's Initials: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Agency/Organization: \_\_\_\_\_

---

Number of years:

In current position: \_\_\_\_\_

Living in Chuuk: \_\_\_\_\_ Living in Micronesia: \_\_\_\_\_

Other: \_\_\_\_\_

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**Introduction:** Good Morning/Afternoon/Evening. My name is (Introduce yourself). Thank you for taking time out of your busy day to speak with me. I will try to keep our time to half an hour, but we may go longer, depending on our discussion and interview answers. (Check to see if ok).

We are gathering data as part of an academic study on tourism and economic development in Chuuk, FSM. Community input is important in this process and an "informant" interview is part of our engagement. You have been selected for this "Key Informant" interview because of your knowledge, insight, and familiarity with the (Check one or more):

Community  Economy  
 Tourism Industry  Culture & History  
 Air & Sea Transportation  Other (Specify) \_\_\_\_\_

To get started, can you tell me briefly about the work you do & your organization in the community?

Thank you, next, I'll be asking you a series of question about the island's economy, tourism industry, air transportation, and community issues of concern. As you consider these questions, keep in mind that you will be answering them based on your own personal experience, knowledge, and perspective.

**Questions:**

1. In general, how would you describe the current state of Chuuk's economy?
2. In your opinion, has the island's economy improved, stayed the same, or declined over the past few years?
3. Why do you think it has (based on #2 answer) improved, declined, or status quo?
4. What other factors have contributed to the (based on #2 answer) to the improvement, decline, or status quo?
5. What barriers (if any) exist to improving the island's economy?
6. How would you describe the current state of Chuuk's tourism industry?
7. In your opinion, has the island's tourism industry improved, stayed the same, or declined?
8. Why do you think it has (based on #7 answer) improved, declined, or stayed the same?
9. What other factors have contributed to the (based on #7 answer) improvement, decline, or status quo?
10. What barriers (if any) exist to improving the island's tourism industry?
11. In your opinion, how important is tourism to the island's economy?
12. Why do you think it is (based on #11 answer) important or unimportant?
13. In your opinion, what are the benefits and advantages of tourism?
14. In your opinion, what are the costs and disadvantages of tourism?
15. In your opinion, what are the most critical community issues that the government has to address? List in order of priority:
16. Is there someone (who) you would recommend as a "Key Informant" for this study?

**Close:** Thank you very much for sharing your views on these issues. The information you have provided will contribute to a better understanding of tourism and the economy. However, before we conclude the interview:

- Is there anything you would like to add?
- If you have any questions later you could either contact me directly Tel: (671) 482-6137, Email: [geap43@gmail.com](mailto:geap43@gmail.com), or Dr. Ansito Walter Research Advisor, and graduate committee member, UOG, Tel # (671) 483-0824, [ansitowalter@gmail.com](mailto:ansitowalter@gmail.com).

Each participant was given latitude to add their own views when responding to questions or discussing other issues of concern. All participants agreed to the interviews and signed consent forms (Exhibit 2) that were approved by the Institutional Review Board, (IRB), University of Alaska, Fairbanks (Appendix B). Each participant was also advised of their right to terminate the interview, for any reason.

Exhibit 2. Cover Letter & Consent Form

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**COVER LETTER & CONSENT FORM**

Dear \_\_\_\_\_

I am a graduate student at the University of Alaska, Fairbanks and the University of Guam. I am conducting a study of Chuuk State's economy, tourism industry, and residents' perceptions on tourism development.

You will be asked (check one)

(A)  To participate in an INTERVIEW and asked to answer 16 questions

(B)  To complete a SURVEY consisting of 38 statements

- A. To answer 16 questions because of your special knowledge about Chuuk. This will take about 25 minutes of your time, and you will not be paid for your help. You may stop answering questions at any time. And you will not be penalized for quitting. However, once we have recorded your answers to all of the questions, you may not quit. This information will be used to study the economy of Chuuk and how people on the island feel about tourism.
  
- B. To read 38 statements about the island's economy and tourism. You will be asked how strongly you disagree or agree with each of these statements. It will take you about 25 minutes to do these statements. You will not be paid for doing this. You will also be asked about your gender (sex), age, married status, education, income, and job. This information will be kept secret and not shared with other people. Your name will not be used and the information may be used for statistical studies.

Further information about this study, or questions about this research, can be obtained by contacting me directly at Tel: 672 4826137, email: [gcap43@gmail.com](mailto:gcap43@gmail.com), or by contacting any of the following:

- Dr. Ansito Walter, UOG Student Adviser, Tel # (671) 483-0824, email: [ansitowalter@gmail.com](mailto:ansitowalter@gmail.com)
- Dr. Barbara Adams, UAF Principal Investigator and Student Adviser, Tel: (907) 460-1377, email: [Barbara.adams@alaska.edu](mailto:Barbara.adams@alaska.edu),
- Dr. Jungho Baek, UAF Student Graduate Committee Chair Tel: (907) 474-2754, email: [jbaek3@alaska.edu](mailto:jbaek3@alaska.edu).

**Consent:** By signing your name below, you are stating: 1) That you are over 18 years old, 2) That you have agreed to be a part of this study, 3) That you have read and understood the information given above, and 4) That you can read and understand the English language [

Subject's Name (print):			
Subject's Signature:		Date:	

Thank You,

Gerald S.A. Perez, Graduate Student

The key informants interviewed were articulate and occupy positions of authority that provided rich and deeper insight into what's going on around the community. Interviewing these "strategic informants" was a practical approach centered on cost considerations, convenience, and time constraints. The prospect of interviewing many more people in-depth would have been logistically impractical and very cost prohibitive. That said, however, this strategy is not without the weakness of potential informant bias and random error. Further, the selected informants may not reflect or understand the majority view of individuals who may not be socioeconomically aligned with them. To mitigate this methodological weakness, the 14 informants were selected because of their deep and "crossover" connections to the tapestry of the community's cultural heritage, social, and business lineage. Kumar, Stern, and Andersen (1993) have alluded to the benefit of using multiple informants. Using purposive and snowball sampling techniques, this non-probability sampling strategy facilitated the chain referral of culturally connected individuals and community members who represent certain groups in the business community, government, and non-government organization or "grass roots." This approach improved the effectiveness of locating desired KI's in a timely manner

#### 4.1.3. Quantitative Data

A survey questionnaire (Exhibit 3) was developed based on a review of the literature and research on residents' attitudes and perceived tourism benefits (Ramseook-Munhurrun and Naidoo, 2011; Muresan, et. al., 2016). Using a five-point Likert Scale, residents were asked to rate their perceptions on tourism development by rating their levels of agreement with each of the 41 statements in the survey from strongly disagree (1) to strongly agree (5).

Most of the statements in the questionnaire were sourced from either Ramseook-Munhurrun and Naidoo (2011) or from Muresan et. al. (2016), but 11 of them were locally focused by the researcher's inquiry into perceptions on tourism benefits, air transportation, local control, and sustainability. An open-ended question was also included to ascertain views about tourism's local contribution and challenges. The original measurement scale based on the literature review is shown in Exhibit 3 and original factors and scale in Exhibit 4.

Exhibit 3. Updated Factor Scale

<b>Factors</b>	<b>Items</b>	<b>Source</b>	
<b>Socio-Cultural Impacts</b>	SC1	Tourism encourages local and cultural activities (e.g. crafts, arts, etc.)	Ramseook-Munhurrun, Naidoo (2011)
	SC2	Residents understand differences in people and cultures	
	SC3	Tourism has increased local cultural awareness and recognition of Chuuk's cultural heritage sites	
	SC4	Tourism has provided opportunities to protect and restore historic sites	
	SC5	There is a positive change in Chuuk's lifestyle because of tourism development	
	SC6	There is a variety of shopping choices in Chuuk	
	SC7	There is a variety of entertainment facilities in Chuuk	
	SC8	Tourism development leads to a variety of restaurants in Chuuk	
	SC9	Tourists come to Chuuk to embrace the local culture and values	
	SC10	Tourism businesses have great respect for local culture and values	
<b>Economic Impacts</b>	EC1	The number of jobs has increased due to the development of tourism	Ramseook-Munhurrun, Naidoo (2011)
	EC2	The personal income of local residents has increased because of tourism development	
	EC3	Chuuk's standard of living has increased because of tourism development	
	EC4	Tourism generates substantial taxes for Chuuk	
	EC5	Tourism development leads to investment, development, and infrastructural spending in Chuuk	
	EC6	Tourism development improves the quality of local services	
	EC7	Tourism creates new markets for local products	
	EC8	Tourism income mostly goes to local residents	
<b>Environmental Impacts</b>	EN1	Tourism has improved the natural environment	Ramseook-Munhurrun, Naidoo (2011)
	EN2	There is improvement in roads and other public services	

	<b>EN3</b>	Chuuk benefits from recreation and sports facilities	
	<b>EN4</b>	There is better quality of buildings & village planning	
	<b>EN5</b>	The level of urbanization has increased due to tourism development	
	<b>EN6</b>	Tourism must improve the environment for future generations	
	<b>F1</b>	Tourism holds great promise in my village's future	
	<b>F2</b>	The tourism industry will continue to play a major role in Chuuk	
	<b>F3</b>	Tourism has improved air transportation service	
	<b>F4</b>	Tourism reduces the state's dependency on foreign assistance	
<b>Financial Sustainability of Chuuk</b>	<b>F5</b>	Tourism development options are determined locally	(Researcher)
	<b>F6</b>	Local availability talent and other resources are employed by the industry	
	<b>F7</b>	The tourism development process is locally controlled	
	<b>F8</b>	Profits & other benefits are retained locally	
	<b>F9</b>	Local residents find it easy to start a business	
	<b>T1</b>	Tourism is a sustainable activity in my community	
	<b>T2</b>	I support new tourism facilities	
	<b>T3</b>	My community should become more of a tourist destination	Muresan et al. (2016)
	<b>T4</b>	I support tourism and I would like to see it become an important part of my community	
	<b>SD1</b>	It is important to develop plans to manage the growth of tourism	
<b>Sustainable Development</b>	<b>SD2</b>	Long-term planning will reduce the negative environment impacts	Muresan et al. (2016)
	<b>SD3</b>	I agree that local authorities support tourism development	
	<b>SD4</b>	New environmental protection measures should be developed	

## Tourism Development Impact Statements

Please rate the tourism impacts for each of the statements (attributes) given in the column:

1= Strongly Disagree, 2= Disagree, 3= Neither Agree nor Disagree 4= Agree, and = Strongly Agree

<u>Socio-Cultural Impacts</u>	1	2	3	4	5
Tourism encourages local and cultural activities (e.g. crafts, arts, etc.)	1	2	3	4	5
Residents understand differences in people and cultures	1	2	3	4	5
Tourism has increased local cultural awareness and recognition of Chuuk's cultural heritage sites	1	2	3	4	5
Tourism has provided opportunities to protect and restore historic sites	1	2	3	4	5
There is a positive change in Chuuk's lifestyle because of tourism development	1	2	3	4	5
There is a variety of shopping choices in Chuuk	1	2	3	4	5
There is a variety of entertainment facilities in Chuuk	1	2	3	4	5
Tourism development leads to a variety of restaurants in Chuuk	1	2	3	4	5
Tourists come to Chuuk to embrace the local culture and values	1	2	3	4	5
Tourism businesses have great respect for local culture and values	1	2	3	4	5
<u>Economic Impacts</u>					
The number of jobs in Chuuk has increased due to the development of tourism	1	2	3	4	5
The personal income of local residents has increased because of tourism development	1	2	3	4	5
Chuuk's standard of living has increased because of tourism development	1	2	3	4	5
Tourism generates substantial taxes for Chuuk	1	2	3	4	5
Tourism development leads to investment, development, and infrastructural spending in Chuuk	1	2	3	4	5
Tourism development improves the quality of local services	1	2	3	4	5
Tourism creates new markets for local products	1	2	3	4	5
Tourism income mostly goes to local residents	1	2	3	4	5
<u>Environmental Impacts:</u>					
Tourism has improved the natural environment	1	2	3	4	5
There is improvement in roads and other public services	1	2	3	4	5
Chuuk benefits from recreation and sports facilities	1	2	3	4	5
There is better quality of buildings & village planning	1	2	3	4	5
The level of urbanization has increased due to tourism development	1	2	3	4	5
Tourism must improve the environment for future generations	1	2	3	4	5
<u>Financial Sustainability of Chuuk:</u>					
Tourism holds great promise in my village's future	1	2	3	4	5
The tourism industry will continue to play a major role in Chuuk	1	2	3	4	5
Tourism has improved air transportation service	1	2	3	4	5
Tourism reduces the state's dependency on foreign assistance	1	2	3	4	5



Tourism development options are determined locally	1	2	3	4	5
Local availability talent (ltr) and other resources are employed by the industry	1	2	3	4	5
The tourism development process is locally controlled	1	2	3	4	5
Profits & other benefits are retained locally	1	2	3	4	5
Local residents find it easy to start a business	1	2	3	4	5
<u>Sustainable Development:</u>					
It is important to develop plans to manage the growth of tourism	1	2	3	4	5
Long-term planning will reduce the negative environment impacts	1	2	3	4	5
I agree that local authorities support tourism development	1	2	3	4	5
New environmental protection measures should be developed	1	2	3	4	5
<u>Tourism Destinations:</u>					
❖ Tourism is a sustainable activity in my community	1	2	3	4	5
❖ I support new tourism facilities	1	2	3	4	5
❖ My community should become more of a tourist destination	1	2	3	4	5
❖ I support tourism and I would like to see it become an important part of my community	1	2	3	4	5

To check for clarity and content meaning, twenty-five (25) students at the University of Guam pilot tested the survey. An expert panel headed by Chuuk native speaker and University of Guam professor, Dr. Ansito Walter, also received the survey instrument. No significant modifications were required perhaps because English is taught in school and is also the second most widely spoken language (Chuuk Branch statistics, Department of Economic Affairs, 2002) in Chuuk. English is also the state and national (FSM) official language.

The sampled frame focused on a convenience strategy because of accessibility and proximity issues and the geographically scattered residences of survey participants. This approach maximized sampling opportunities, given limited time, budget, and logistical services. Surveys were conducted between August 4-10 (Weno sample) and September 10 - November 16, 2017. Samples represented four resident aggregations:

1. Weno Sample:

Residents from various islands who commute to work, shop, seek medical or other government services, or traveling off island using the state's only airport in Weno.

2. Group Travel Sample:

Residents from various islands traveling as a group for religious gatherings or to attend social events off island.

3. Student Sample:

Residents from various islands attending the University of Guam.

4. Guam Sample:

Residents from various islands who now live on Guam, but who still maintain an affinity to, and maintain close relationships with, their home island and cultural lineage.

This Guam sample augmentation is justified by the close interaction that residents on Guam and Chuuk enjoy in carrying out their indigenous social contracts and cultural connections. Except for geographic separation, Guam and Chuuk residents are able to (and do) travel freely between the two islands and are limited only by the price and frequency of air transportation. Residents travel both ways to participate in various social, religious, and

community events. Politicians in Chuuk campaign for and get votes from residents living in Guam and residents on Guam are able to hold political seats in Chuuk.

During the first field visit, for instance, the researcher met two newly elected state legislators; one of whom is currently living and employed on Guam and the other, a newly retired airline employee from Guam. The current chairman of the state's political status commission is an insurance broker on Guam with extensive political ties and a strong cultural lineage to Faichuk, a group of islands that make up the largest land area (19.2 square miles) in the state.

Consistent with the "MIRAB" small island economies described by Tisdell (2014), Chuuk is an insular economy sustained by the repatriated earnings of emigrated residents, substantial foreign aid, and US subsidized public-sector employment. This economic model reinforces an integrated and shared mindset among residents in Chuuk and Guam. Therefore, with respect to Chuuk's public policy and governance, the inclusion of Guam in the sample frame was deemed to be appropriate.

The survey questionnaire had two parts: 1) the first recording socio-demographic characteristics of the surveyed, sample frame; and 2) the second consisting of residents' perceptions based on their level of agreement for each of the 41 statements provided.

Descriptive statistics are used to ascertain the socio-demographic profile of residents surveyed. And exploratory factor analysis was run on SPSS 22, the software package used to generate descriptive data and other statistical analysis.

The surveys were conducted face to face individually and at convenient gatherings. However, 54 completed surveys were received from three companies employing Chuukese residents; namely, Landscape Maintenance Systems, Guam International Country Club, and

East West Rental. First line managers from each of these companies were well briefed on the survey and the researcher is confident that they were able to explain and properly administer the survey.

There were 226 respondents completing and returning the survey, 113 of which were from residents in Chuuk and the other 113 from those now living on Guam. These two samples were examined statistically to determine any difference in perceptions between the two samples.

## 4.2 Data Analysis

Unlike the exploratory or explanatory nature of a sequential approach, the study's convergent parallel design precludes conversion of qualitative content data into binary schemes for statistical analysis. Data collected in the study were done at the same time, with no opportunity to use qualitative information to refine survey questions that can focus on specific issues. Therefore, data analysis were done separately in this study, and then merged in a side-by-side comparison Creswell (2014) where quantitative statistical results are first reported and then discussed or corroborated in the context of qualitative findings or themes.

### 4.2.1 Quantitative

#### 4.2.1.1 Goal

Numerical explanation of behavioral observations and phenomena using statistical analysis. Data analysis was carried out by using descriptive statistics including mean, standard deviation and T-test. Using SPSS software, exploratory factor analysis was done to regroup correlated observation variables (items) into factors based on the data set obtained in the survey. This process resulted in the analysis of four independent and two dependent variables:

**Independent variables** – Socio-cultural, economic, environmental and financial impacts.

**Dependent variables** – Sustainable development and tourism destination development.

And a multiple regression analysis was conducted on the data set to investigate the influence of tourism development impacts on sustainable development and tourism destination development,

#### 4.2.1.2. Descriptive Statistics

Sixty-three (63%) of respondents in the survey are male, 20% of whom are 18 - 25 years old and half already married. Fifty-seven (57%) have only a high school education, 19% are undergraduates in post-secondary studies and 68% are working full time. A small percentage (11%) have been working in the tourism sector and only 37% of all those working are employed in the private sector. Interestingly, 27% of those employed in the tourism industry have more than 10 years' experience on the job while 35% of them have been with the industry only between one and 5 years. Nearly half of the respondents earn between \$500 and \$1,000, 27% of whom earn less than \$500 per month. A more detailed profile of the 226 survey respondents is provided in Figure 7.

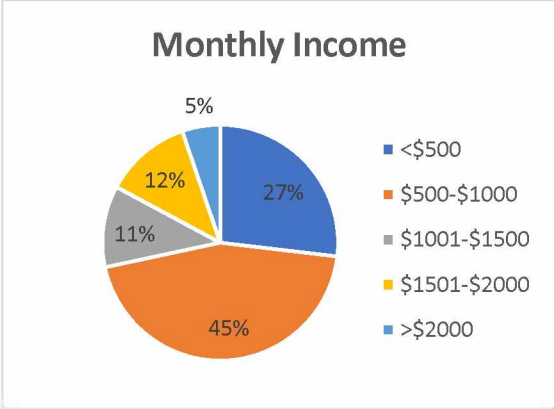
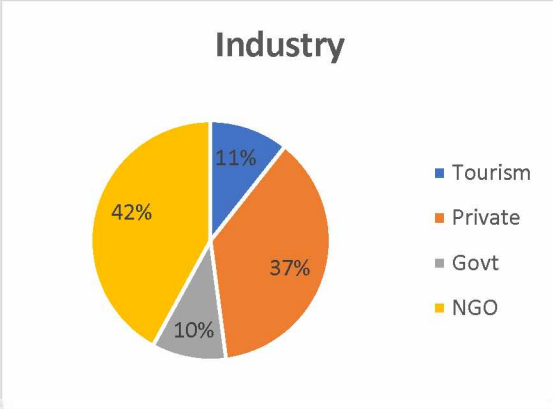
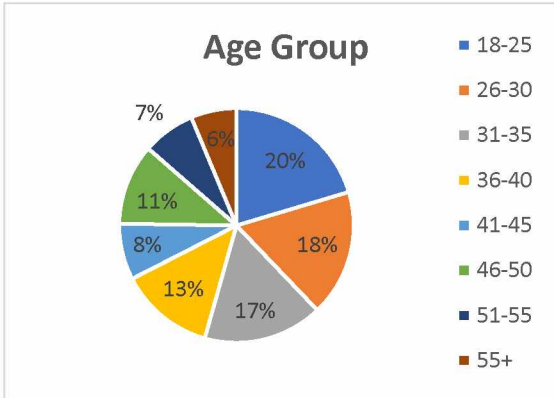
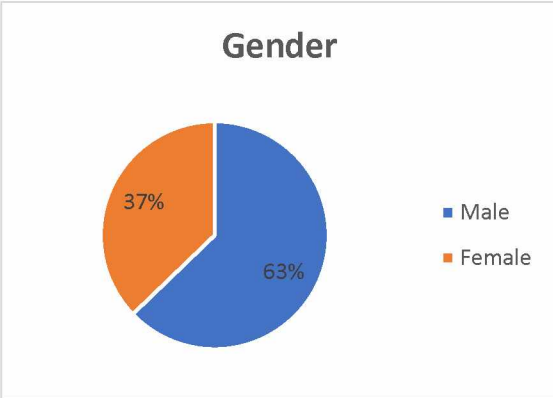
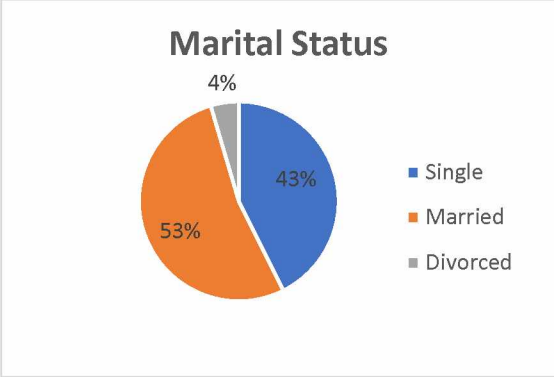
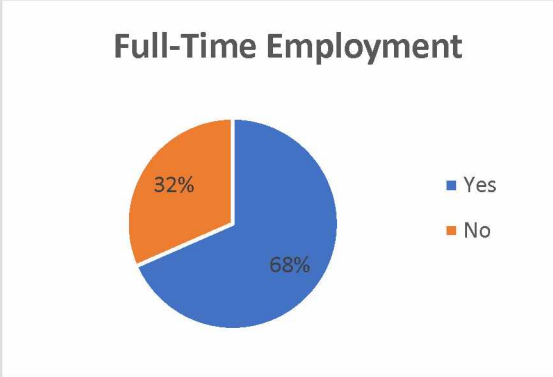
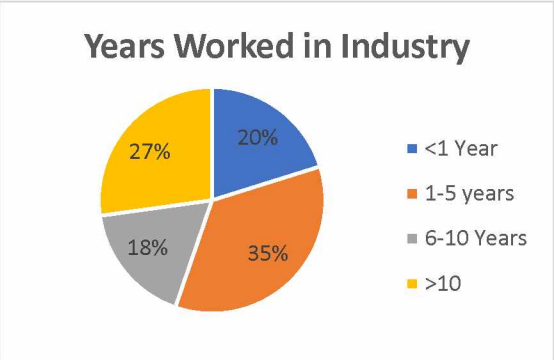
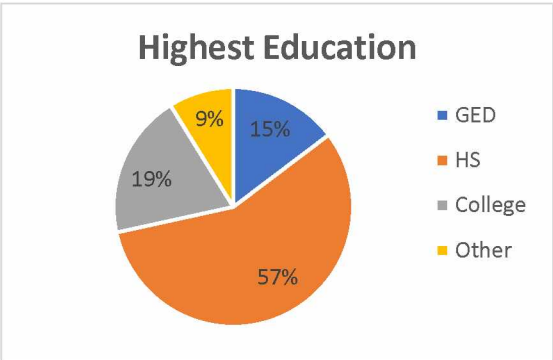


Figure 7. Descriptive Statistics Visual Charts

#### 4.2.1.3 Exploratory Factor Analysis

Tourism is a multi-faceted activity and affect host communities in various ways. To study Chuuk resident perceptions of the impact of tourism development, the survey asked respondents to indicate their level of agreement or disagreement for each of the 41 language neutral statements or observation variables.

- |                                   |          |
|-----------------------------------|----------|
| 1. Socio cultural                 | 10 items |
| 2. Economic                       | 08 items |
| 3. Environmental                  | 06 items |
| 4. Financial impact               | 09 items |
| 5. Sustainable development        | 04 items |
| 6. Tourism Destination management | 04 items |

Using SPSS 22 software, the reliability of all factors and items were tested to delete items with corrected item-Total Correlation > 0.3 and a Cronbach alpha coefficient above 0.7.

Exploratory factor analysis (EFA) is processed with the four independent variables listed above (sociocultural impact, economic impact, environmental impact and financial impact) and with the two dependent variables (sustainable development and tourism destination management). Principal Component Analysis and the VARIMAX rotation method were carried out.

Exploratory factor analysis or factor reduction is regrouping correlated observation variables (items) into factors based on the data set obtained in the survey. (See Table 3 EFA Results)



Our reliability tests for the initial six factors (4 for independent variables and 2 for dependent variables) indicate that their Cronbach alpha coefficient (Table 2) was  $> 0.8$  and well above the  $> 0.5$  accepted standard that is acknowledged in other similar studies (Ramseook-Munhurrun and Naidoo, 2011). It is understood that factor reduction means factor regroupment of items statistically correlated.

Table 2. Cronbach's Alpha Test

<b>Tests of Reliability</b>		
<b>Factor</b>	<b>Cronbach's Alpha</b>	
<b>1</b>	<b>Social-Cultural Impacts</b>	<b>0.931</b>
<b>2</b>	<b>Economic Impacts</b>	<b>0.919</b>
<b>3</b>	<b>Environment Impacts</b>	<b>0.914</b>
<b>4</b>	<b>Financial Impacts</b>	<b>0.874</b>
<b>5</b>	<b>Sustainable Development Impacts</b>	<b>0.897</b>
<b>6</b>	<b>Tourism Destination Impacts</b>	<b>0.871</b>

After exploratory factor analysis for the four initial factors as independent variables, we obtained six factors with all factor loadings  $>0.5$  (KMO=.876 and Total variance explained =74.667) exhibited in Table 3.

Table 3. EFA Results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.876
Bartlett's Test of Sphericity	Approx. Chi-Square	6074.017
	df	528
	Sig.	.000

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.006	39.413	39.413	13.006	39.413	39.413	5.017	15.203	15.203
2	3.405	10.319	49.732	3.405	10.319	49.732	4.830	14.635	29.839
3	2.750	8.333	58.065	2.750	8.333	58.065	4.301	13.033	42.872
4	2.223	6.738	64.802	2.223	6.738	64.802	3.793	11.495	54.367
5	1.894	5.738	70.540	1.894	5.738	70.540	3.459	10.481	64.848
6	1.362	4.126	74.667	1.362	4.126	74.667	3.240	9.819	74.667
7	.958	2.904	77.571						
8	.792	2.400	79.971						
9	.751	2.277	82.248						
10	.634	1.922	84.170						
11	.554	1.680	85.851						
12	.491	1.489	87.340						
13	.470	1.424	88.764						
14	.406	1.232	89.996						
15	.339	1.028	91.024						
16	.317	.961	91.985						
17	.290	.878	92.863						
18	.279	.845	93.708						
19	.242	.734	94.442						
20	.220	.667	95.109						
21	.208	.632	95.741						
22	.190	.575	96.316						
23	.174	.526	96.842						
24	.166	.504	97.346						
25	.150	.453	97.799						
26	.123	.373	98.172						
27	.110	.333	98.505						
28	.105	.319	98.824						
29	.094	.285	99.108						
30	.082	.249	99.357						
31	.078	.237	99.595						
32	.074	.223	99.818						
33	.060	.182	100.000						

Extraction Method: Principal Component Analysis.

Table 3 cont'd. EFA Results

Rotated Component Matrix <sup>a</sup>						
	Component					
	1	2	3	4	5	6
EC3	.790					
EC5	.773					
EC4	.768					
EC2	.752					
EC1	.750					
EC7	.699					
EC6	.691					
EC8	.612					
EN2		.822				
EN3		.804				
EN4		.800				
EN5		.786				
EN6		.746				
EN1		.715				
SC7			.813			
SC6			.802			
SC9			.771			
SC10			.764			
SC8			.737			
SC5			.624			
F7				.819		
F8				.813		
F6				.807		
F9				.786		
F5				.736		
SC1					.860	
SC2					.826	
SC3					.799	
SC4					.728	
F2						.872
F3						.843
F4						.792
F1						.657

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Our six factors yielded by EFA from the four initial factors used as independent variables was renamed to explore the local residents' perception of the impacts of tourism development in Chuuk state (Table 3).

#### **Factor 1: Economic impact**

The economic impact factor is perceived by Chuuk residents through eight variables: EC3 (0.790), EC (0.773), EC4 (), EC1 (0.768), EC2 (0.752), EC1 (0.750), EC7 (0.699), EC6 (0.691) and EC8 (0.612). These observation variables have their factor loading above 0.5 that is close to the findings in prior studies found in the literature.

#### **Factor 2: Environment impact**

The environment impact is formed with 6 initial observation variables: EN2 (0.822), EN3 (0.804), EN4 (0.800), EN5 (0.786), EN6 (0.746) and EN1 (0.715).

#### **Factor 3: Social impact**

The initial social-cultural factor based on the literature review is split in 2 factors that we have to rename. Factor 3 exhibited in Table 3 is renamed as "social impact" and is composed of 6 observation variables: SC7 (0.813), SC6 (0.802), SC9 (0.771), SC10 (0.764), SC8 (0.737) and SC5 (0.624). This social impact factor is consistent with the perception of host community in dimensions of tourism development dimensions from previous research works (Pizam, 1978; Perdue, Long, Allen, 1990; King et al., 1993, reviewed by Ramseook-Munhurrin, Naidoo, 2011).

#### **Factor 4: Local control**

This factor is renamed as Financial sustainability that includes five factors: F7 (0.819), F8 (0.813), F6 (0.807), F9 (0.786) and F5 (0.736).

### **Factor 5: Cultural impact**

Along with Factor 3, Factor 5 is renamed as *cultural impact* characterized with four factors: SC1 (0.860), SC2 (0.826), SC3 (0.799) and SC4 (0.728). This cultural impact is consistent with the literature (Lui, Var, 1986; Gilbert, Clark, 1997, reviewed by works (Pizam, 1978; Perdue, Long, Allen, 1990; King et al., 1993, reviewed by Ramseook-Munhurrun, Naidoo, 2011).

**Factor 6: Financial sustainability** related to the four observation variables: F2 (0.872), F3 (0.843), F4 (0.792) and F1 (0.657).

These six new factors contribute to the overall impact of tourism development in Chuuk state from the perspective of local residents.

In brief, the above EFA analysis suggests that the factors on economic impact, the environment, social and cultural impacts all have a factor loading above 0.5. This is consistent with empirically measured observations in the literature. The researcher also added factors of local control and financial sustainability in this study. Both variables have a factor loading above the 0.5 threshold and is new information to the existing literature.

**Factor analysis for dependent variables: Sustainable development and Tourism destination development**

**1. Sustainable development**

Table 4. EFA Results of Sustainable Development

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.797
Bartlett's Test of Sphericity	Approx. Chi-Square	545.404
	df	6
	Sig.	.000

<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.055	76.385	76.385	3.055	76.385	76.385
2	.493	12.333	88.718			
3	.245	6.126	94.843			
4	.206	5.157	100.000			

Extraction Method: Principal Component Analysis.

Table 4 cont'd. EFA Results of Sustainable

<b>Component Matrix<sup>a</sup></b>	
	<b>Component</b>
	<b>1</b>
SD2	.904
SD4	.894
SD3	.877
SD1	.818
Extraction Method: Principal Component Analysis.	
a. 1 component s extracted.	

Table 4 indicates that the four observation variables contributing to the factor sustainable development are:

SD2 (.904), SD4 (.894), SD3 (.877) and SD1 (.818) with KMO = .797 and Total variance explained =76.385%).

## 2. Tourism destination

Table 5. EFA for Tourism Destination

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.813
Bartlett's Test of Sphericity	Approx. Chi-Square	446.905
	df	6
	Sig.	.000

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.813
Bartlett's Test of Sphericity	Approx. Chi-Square	446.905
	df	6
	Sig.	.000

<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.887	72.175	72.175	2.887	72.175	72.175
2	.568	14.212	86.387			
3	.288	7.190	93.577			
4	.257	6.423	100.000			

Extraction Method: Principal Component Analysis.



Table 5 cont'd. EFA for Tourism Destination

<b>Component Matrix<sup>a</sup></b>	
	<b>Component</b>
	<b>1</b>
T2	.901
T4	.877
T3	.869
T1	.743
Extraction Method: Principal Component Analysis.	
a. 1 component(s) extracted.	

Table 5 shows that the four observation variables contributing to the factor sustainable development are:

T2 (.901), T4 (.877), T3 (.869) and T1 (.743) with KMO = .813 and Total variance explained =72.175%).

#### 4.2.1.4. Regression Analysis

To investigate the relationship between tourism development impacts perceived by Chuuk residents and sustainable development, we ran the multiple regression with the six independent variables; namely, cultural impact, social impact, environment impact, economic impact, local control and financial sustainability on the dependent variable sustainable development. The results of this regression are exhibited in Table 6 (R Square =.238, Durbin-Watson=1.538 and VIF <10).

Table 6. Results of the Regression on Sustainable Development

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.488 <sup>a</sup>	.238	.216	.95354	1.538

a. Predictors: (Constant), MeanFin02, MeanEN, MeanCul, MeanFin01, MeanEC, MeanSoc  
 b. Dependent Variable: MeanSD

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.619	6	9.937	10.928	.000 <sup>b</sup>
	Residual	190.941	210	.909		
	Total	250.560	216			

a. Dependent Variable: MeanSD  
 b. Predictors: (Constant), MeanFin02, MeanEN, MeanCul, MeanFin01, MeanEC, MeanSoc

Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.470	.354		4.154	.000	.773	2.168		
	MeanCul	.223	.088	.205	2.529	.012	.049	.397	.552	1.812
	MeanSoc	.027	.093	.026	.291	.771	-.156	.211	.445	2.248
	MeanEC	.342	.086	.306	3.959	.000	.172	.512	.605	1.652
	MeanEN	-.155	.085	-.146	-1.827	.069	-.322	.012	.567	1.765
	MeanFin01	.131	.076	.129	1.718	.087	-.019	.281	.648	1.544
	MeanFin02	.061	.082	.054	.749	.455	-.100	.222	.703	1.422

a. Dependent Variable: MeanSD

Results of the regression of tourism development impacts on sustainable development indicate clearly that only 2 factors of tourism development impacts, perceived by Chuuk residents that influence sustainable development, are economic impact and cultural impacts as they are statistically significant at 5% of significance level with their coefficient Beta=.306 and 0.205, respectively. Economic impact has a stronger influence on sustainable

development than cultural impact. Meanwhile, the other factors such as social impact, environment impact, local control, and financial sustainability are not statistically meaningful.

Furthermore, to examine the relationship between tourism development impacts and destination tourism development, we ran the second multiple regression with the dependent variable tourism destination development on the 6 independent variables of tourism development impacts. The results of the second regression are presented in Table 7 (R Square =.226, Durbin-Watson=1.559 and VIF <10). These results are consistent with the findings of Ramseook-Munhurrun and Naidoo in 2011 as socio-cultural and economic impacts have a positive influence on tourism development in small islands like Mauritius and Chuuk. Moreover, our results are quite similar to those of Muresan et al. (2016) in the context of rural tourism development.

Table 7. Regression Results on Tourism Destination Development

<b>Model Summary<sup>b</sup></b>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.475 <sup>a</sup>	.226	.204	.91124	1.559
a. Predictors: (Constant), MeanFin02, MeanEN, MeanCul, MeanFin01, MeanEC, MeanSoc					
b. Dependent Variable: MeanT					

<b>ANOVA<sup>a</sup></b>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.814	6	8.469	10.199	.000 <sup>b</sup>
	Residual	174.376	210	.830		
	Total	225.190	216			
a. Dependent Variable: MeanT						
b. Predictors: (Constant), MeanFin02, MeanEN, MeanCul, MeanFin01, MeanEC, MeanSoc						

Table 7 cont'd. Regression Results on Tourism Destination Development

Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.636	.338		4.837	.000	.969	2.303		
	MeanCul	.277	.084	.268	3.280	.001	.110	.443	.552	1.812
	MeanSoc	-.011	.089	-.011	-.119	.906	-.186	.165	.445	2.248
	MeanEC	.242	.083	.229	2.932	.004	.079	.405	.605	1.652
	MeanEN	.100	.081	.100	1.239	.217	-.059	.260	.567	1.765
	MeanFin01	-.057	.073	-.060	-.789	.431	-.201	.086	.648	1.544
	MeanFin02	.061	.078	.057	.783	.434	-.093	.215	.703	1.422

a. Dependent Variable: MeanT

Interestingly, the results of the regression of tourism development impacts on tourism destination development suggest that the 2 factors of economic impact and cultural impacts also have an influence on tourism destination development as they are statistically significant at 5% of significance level with their coefficient Beta = .229 and 0.268, respectively. Contrary to the first regression, cultural impact has a stronger influence than economic impact on tourism destination development. This is also consistent with the research work of Muresan in 2016. This suggests that policy makers should focus more on the cultural impact than on the economic impact to improve destination tourism development for Chuuk State.

In sum, these two regressions reveal that Chuuk residents' perception on economic and cultural impacts affect their support for sustainable development and tourism destination development. The influence of economic impact on sustainable development, however, appears stronger (Beta 0.306) than on tourism destination development (Beta 0.229). In contrast, the influence of cultural impact on tourism destination development (Beta 0.268) is stronger than on sustainable development (Beta 0.205). Besides, the mean of cultural impact is significantly higher (4.0269) than the mean of other independent variables (Table 8).

Meanwhile, the other four factors; namely, social, environmental, local control and financial

sustainability were not found to be statistically significant with respect to Chuuk residents' perceptions on tourism development impacts.

Table 8. Mean of Observation Variables of Tourism Development Impacts on Chuuk State

Code	Items	Mean	Standard deviation
------	-------	------	--------------------

**Environment impact**

**3.7730**

EN1	Tourism has improved the natural environment	3.8423	1.14054
EN2	There is improvement in roads and other public services	3.7523	1.19458
EN3	Chuuk benefits from recreation and sports facilities	3.6667	1.26085
EN4	There is better quality of buildings & village planning	3.8423	1.14054
EN5	The level of urbanization has increased due to tourism development	3.7523	1.19458
EN6	Tourism must improve the environment for future generations	3.6667	1.26085

**Financial stability**

F1	Tourism holds great promise in my village's future	3.7972	1.18497
F2	The tourism industry will continue to play a major role in Chuuk	3.8774	1.20978
F3	Tourism has improved air transportation service	3.8160	1.19205
F4	Tourism reduces the state's dependency on foreign assistance	3.7358	1.22997

Table 8 cont'd. Mean of observation variables of tourism development impacts on Chuuk State

<b>Local control</b>		<b>3.8207</b>	
F5	Tourism development options are determined locally	3.8019	1.08780
F6	Local availability talent and other resources are employed by the industry.	3.8066	1.08648
F7	The tourism development process is locally controlled	3.8774	1.10752
F8	Profits & other benefits are retained locally	3.8019	1.15130
F9	Local residents find it easy to start a business	3.8160	1.19602

<b>Sustainable development</b>		<b>3.909</b>	
SD1	It is important to develop plans to manage the growth of tourism	4.0233	1.18968
SD2	Long-term planning will reduce the negative environment impacts	3.8233	1.25543
SD3	I agree that local authorities support tourism development	3.8512	1.26276
SD4	New environmental protection measures should be developed	3.9395	1.23843

<b>Tourism destination</b>		<b>4.012</b>	
T1	Tourism is a sustainable activity in my community	3.9442	1.14657
T2	I support new tourism facilities	4.0000	1.25676
T3	My community should become more of a tourist destination	3.9581	1.24297
T4	I support tourism and I would like to see it become an important part of my community.	4.1442	1.17316

Table 8. Mean of Observation Variables of Tourism Development Impacts on Chuuk State

<b>Economic impact</b>		<b>3.803</b>	
EC1	The number of jobs has increased due to the development of tourism.	3.6179	1.33145
EC2	The personal income of local residents has increased because of tourism development	3.5708	1.33835
EC3	Chuuk's standard of living has increased because of tourism development	3.6934	1.29357
EC4	Tourism generates substantial taxes for Chuuk	3.8443	1.19212
EC5	Tourism development leads to investment, development, and infrastructural spending in Chuuk	3.8821	1.20829
EC6	Tourism development improves the quality of local services	3.9811	1.13105
EC7	Tourism creates new markets for local products	3.9906	1.11002
EC8	Tourism income mostly goes to local residents	3.8843	1.18013

<b>Cultural impact</b>		<b>4.0269</b>	
SC1	Tourism encourages local and cultural activities (e.g. crafts, arts, etc.)	4.1784	1.03071
SC2	Residents understand differences in people and cultures	3.9718	1.11979
SC3	Tourism has increased local cultural awareness and recognition of Chuuk's cultural heritage sites	3.9577	1.11723
SC4	Tourism has provided opportunities to protect and restore historic sites	4.0000	1.18162



Table 8 cont'd. Mean of observation variables of tourism development impacts on Chuuk State

<b>Social impact</b>		<b>3.8505</b>	
SC5	There is a positive change in Chuuk's lifestyle because of tourism development	3.9343	1.19961
SC6	There is a variety of shopping choices in Chuuk	3.7183	1.25724
SC7	There is a variety of entertainment facilities in Chuuk	3.6901	1.34155
SC8	Tourism development leads to a variety of restaurants in Chuuk	3.8779	1.20304
SC9	Tourists come to Chuuk to embrace the local culture and values	3.9249	1.18321
SC10	Tourism businesses have great respect for local culture and values	3.9577	1.15868

#### 4.2.1.5. Differences between Guam and Chuuk Residents' Perceptions

Because half of the surveys were taken by residents living in Chuuk, and the other half by those now residing in Guam, a 2-sample t test was performed to find if there is any evidence of a significant difference in perceptions of the eight tourism impact factors between the two sample populations. T test results (Table 9) suggest that, among the eight factors identified in the survey, cultural impact was the only variable found to be not statistically significant. Economic and cultural impacts were the strongest two factors that influence perceptions on tourism destination development and sustainable development, with economic factors the strongest influence impacting perceptions.

Differences in perception between Guam and Chuuk domiciled residents were determined using a t test to compare the two groups.

1. Sustainable development:

Chuuk residents perceive this factor as stronger.

2. Financial sustainability:

Guam residents perceive this factor to be stronger

3. Destination development, Local control, Environmental and Economic impacts:

Both Guam and Chuuk residents have the same perceptions

Table 9. Results from T-Test to Test the Difference Perception on the 8 Factors Between the 2 Groups: Chuuk and Guam

No	Factor	Mean (Chuuk)	Mean (Guam)	Sig. (must be <0.05)
1	<b>Tourism destination</b>	4.0863	3.9468	<b>0.001</b>
2	<b>Sustainable development</b>	3.9484	3.8849	<b>0.001</b>
3	<b>Cultural impacts</b>	4.1681	3.8468	<b>0.619</b>
4	<b>Social impacts</b>	3.8634	3.7975	<b>0.007</b>
5	<b>Economic impacts</b>	3.8442	3.7220	<b>0.003</b>
6	<b>Environmental impacts</b>	3.7227	3.8225	<b>0.000</b>
7	<b>Local control</b>	3.7808	3.8254	<b>0.000</b>
8	<b>Financial sustainability</b>	3.8319	3.8333	<b>0.000</b>

Results from the survey's two open ended questions generated different and similar views between Chuuk and Guam respondents (Table 10), but center on the major issues of economic development, infrastructure, environmental issues and attitude toward tourists, as well as improved income, shopping, and cultural concerns. Chuuk respondents seem to be

more positive to the economic, social, cultural impacts and sustainable development of their island while Guam respondents paid more attention to the economic impact of tourism development. Interestingly, the two groups of Chuuk and Guam respondents have the same concern about the unfriendly local residents' attitudes toward tourists visiting their island.

Table 10. Chuuk and Guam Open Responses

<b>Chuuk residents</b>	<b>Guam residents</b>
<b>Advantages and Benefits</b> (Summarized from verbatim responses)	
1. More local production such as coconut oil and create new markets for local products.	1. Economic development
2. Growing private economy	2. Increase income
3. Infrastructure development	3. Job creation
4. Environmental improvement	4. Promote natural environment
5. Increased tax revenues	5. More industry expansion for diving and fishing
6. Improve entertainment facilities	
7. Decrease outside dependence	
8. More shopping facilities	
9. Develop new industries	
10. Create more cultural activities	
11. Increase personal income	
<b>Drawbacks</b>	
1. Bad roads and infrastructure	1. Low income
2. Crime and violence	2. Limited accommodations
3. Limited accommodations	3. Poor ground transportation service
4. Cultural degradation	4. Pollution
5. Security	5. Unfriendly attitude toward tourists, not friendly
6. Sometimes residents are not happy with tourists	6. Cultural adaptation

In summary, the empirical study reveals 3 interesting findings.

1. The impacts of tourism development perceived by Chuuk residents is composed of six factors; namely, social impact, cultural impact, economic impact, environment impact, financial sustainability and local control of which cultural impact is strongly perceived.

2. Among these six factors of tourism development impacts, only two factors (economic impact and cultural impact) influence the island's sustainable development and its tourism destination development perceptions. Interestingly, sustainable development is much more affected by economic impact, and tourism destination development is much more affected by cultural impact.

3. Cultural impact is perceived the same way by Chuukese residing both in Chuuk island and in Guam island. Meanwhile, the other attributes of the tourism development impact, as well as sustainable development and tourism destination development are perceived differently by these two groups of Chuuk residents.

As far as advantages and benefits are concerned, Chuuk residing in Chuuk island seem to be quite positive to the economic impact, the environment impact, the cultural impact and sustainable development of their island while Chuuk residing in Guam tend to focus on the economic impact of tourism development. In contrast, regarding drawbacks of tourism development, both Chuuk residents and Guam residents have the same concern over cultural, social issues and more importantly the unfriendly attitude toward tourists visiting their island.

## 4.2.2 Qualitative

### 4.2.2.1. Goal

This analysis is aimed at understanding Chuuk's stage or level of tourism development and corroborating or adding value to the survey on residents' perceptions toward tourism development. The goal is to better understand Chuuk tourism as viewed through the prism of lived experiences and the cultural context, or world view, of study participants living in their own realities. The semi-structured nature of "Key Informants" (KI's) interviewed was intended to focus on the research questions. Key Informants interviewed are not a homogeneous group despite their common ancestry. And their support for or against tourism development is not numerically explicable using survey data alone. Exploring answers to the research questions require more latitude and probing into emergent concepts and perceptions than could be done by the inherently restrictive nature of a quantitative study (Yin, 2016).

### 4.2.2.2. Approach

Data analysis is based on a deductive approach involving the analysis of data within a predetermined framework that is responsive to the research questions.

Qualitative data collection and analysis were done at the same time, each affecting the other, and ultimately manifested in the reflexive written narrative. This descriptive validity is used to quickly verify information during and (or) immediately after each key informant interview and is also a way to summarize emerging data content for later use or examination. Using this dynamic interaction with KI's was a way to capture as much of the observed "event in the field" as possible (Sandelowski, 2000).

#### 4.2.2.3. Content analysis

Interview transcripts were analyzed, using a thematic approach. These transcripts were then entered in Atlas ti 8.0, the computer software that was invaluable in managing and analyzing data from coded and re coded information during the search for, and production of, defined themes and categories. These broad categories or meanings were derived from the analysis of individual KI transcripts and logged accordingly. As a research method, content analysis adheres to both the "naturalistic inquiry" method and "Community-based participatory research" philosophy described earlier (Data Collection). And to varying degrees, this study also used the three approaches of content analysis that Hsieh and Shannon (2005) described, which are conventional, directed, and summative. In the conventional approach, coding is derived directly from text data. The directed approach starts with a theory or research finding that establishes initial coding. And the summative approach is counting and comparing key words or content followed by interpretation of an underlying meaning or context.

#### 4.2.2.4. Informal Conversations

Besides interviewing KI's, the researcher's acquired knowledge and background data come from various informal conversations with people intimately familiar with the FSM and Chuuk (Table 11). These conversations were helpful in corroborating a contextual perspective to the researcher's reflexive narrative of emerging themes and content data.

Table 11. Name List of Informal Conversations with the Researcher

<b>Name</b>	<b>Occupation</b>
Bermance Aldis	Resources and Development, FSM
Ansito Walter	UOG Professor
Willy Williauder	FSM Consul Gen Office & Guide
David Marar	UOG Student
Risenta Cholymay	UOG Student
Alesandria Sloane	UOG Student
Joan Marar	UOG Student
Lee Webber	Dive operator, Micronesian
Pilar Laguana	PATA Chapter Chairman
Art Day	Airline Executive
John Salas	UOG Professor
Robert Ruecho	FSM Consul General
Peter Christian	FSM President
EDLynn	UOG Student
Wally Dias	Airline Executive
Kachutosy Paulus	Chuuk Political Status Chairman and former Chuuk State senator
Mike Sablan	Businessman, Guam & Micronesia
Dr. L.J. Rayphand	Vice Principle of High School of Chuuk
Erhart Aten	Former Governor of Chuuk
Redley Killian	Chamber of Commerce and former FSM Vice President and FSM senator



#### 4.2.2.5. Key Informant Interviews

Four basic themes emerged (Table 12) during these interviews: a) Support for tourism development, b) Current state of tourism and the economy, c) Barriers to tourism development, and d) Major community issues. This table is basically a crude reflection of recurring themes articulated by the key informants interviewed, where the level of agreement is represented by the frequency or number of times the themes are mentioned. Only themes in “A” found 100% agreement. Themes in the B-C-D categories reflected different levels of agreement, depending on the issues and individual informants.

##### a) Support for tourism development

All of the key informants interviewed were favorably disposed to tourism development for the economic benefits of employment, personal and local business incomes, funding for infrastructure and environmental improvements, and more amenities like entertainment, shopping, and cultural activities. The women's association is particularly keen to the idea of an expanded economy providing more social and economic opportunities for young and older women alike. Governor Johnson Elimo felt that “*tourism is one of three pillars for economic development*” in addition to agriculture and fisheries (personal communication, August 9, 2017). Besides U.S. compact funding, United Airlines manager Anthony Mori underscored the importance of tourism for local businesses. This sentiment was shared by all the KI's and reflected in these comments:

“*It's very important,*” “*they bring lots of money*” – Police Chief Mike Sitile

(personal communication, August 11, 2017)

*“Tourism now, the way I envision it, is the number one priority”*

– Governor Johnson Elimo

(personal communication, August 9, 2017)

*“They got the green stuff”* – Senate President Mark Mailo

(personal communication, August 10, 2017)

Tourism is one of the state’s *“development priorities”* – House Speaker Innocent Oneisom

(personal communication, August 10, 2017)

Income, local government revenue, and tourist spending to support jobs and the local economy were the opinions of Julianne Sos (Women’s Association), Faustino Stephen (Weno mayor) and Mino Mori (FSM Telecom), respectively.

Despite these tourism development benefits, however, a number of concerns (some contradictory) were mentioned:

- Dislike for the way tourists behave in public
- Dislike scantily clad women in open public venues
- Tourists not being respectful of the local culture and lifestyle
- Reef damage
- Theft of marine underwater artifacts from shipwrecks
- Concern over the island's "carrying capacity"

Various sentiments regarding these concerns are captured in the following:

*“Culture shock for our people” when they’re seeing tourists do their own way of doing things. Most people in Chuuk would “like to keep their culture or customs.”*

– Police Chief Sitile

(personal communication, August 11, 2017)

Mass market tourism *“would disrupt the culture and way of life of people”*

– Senate President Mailo

(personal communication, August 10, 2017)

The need to strike a balance because of Chuuk’s *“fragile island environment”*

– House Speaker Oneisom

(personal communication, August 10, 2017)

*“Accept tourism to a point where it does not diminish our cultural values”*

– FSM Telecom Vice President Mori

(personal communication, August 10, 2017)

*“Sustainability of utmost importance”* – Governor Elimo

(personal communication, August 9, 2017)

*“There’s a lot of value in our culture”* – Local Attorney Meippen

(personal communication, August 10, 2017)

Meippen went on to say that education could help Chuuk avoid drifting away from traditional customs and values and assimilating more cash driven transactional interests. (personal communication, August 10, 2017).

Tourists don't understand the culture, opined women's association manager Sos, stating further that they are "*not respectful*" of the local culture and therefore do not understand "*what Chuuk has to offer*" (personal communication, August 9, 2017).

Weno Mayor Stephen was particularly concerned over tourist divers collecting souvenirs and artifacts from the shipwrecks that make up Chuuk's underwater museum. Other issues and concerns regarding tourism and the community can be gleaned from the collective perceptions or themes of agreement among KI's (Table 12).

The issue of cultural sensitivity is perhaps best illustrated by an unfortunate incident that Mr. Douglass Marar, General Manager of the state Visitors Bureau, shared with me regarding a small cultural misunderstanding going awry. What started out as a disagreement on how a Chuukese father was handling a domestic dispute with his daughter, at a local hotel bar, escalated into a verbal and physical altercation that earned Chuuk the "unsafe for American tourists" label by US federal officials in the FSM. This incident happened because of cultural differences between an intoxicated American female tourist diver and a Chuukese father who is handling a family matter, in the accepted local context. Interference by the American woman, who is also an officer in the military, did not go well. The American female officer is from a different world view and is accustomed to giving orders and being minded by men of all ages because of her rank and status. According to law enforcement witnesses (per Mr. Marar) (personal communication, August 11, 2017), the American female officer was belligerent,

stumbling around in the melee, and injured her face falling on tables and chairs while the police were trying to restrain her. Several doctors were called to the hospital to witness and tend to her injuries after she filed assault charges on the police.

Table 12. Collective Perceptions (Thematic) of Key Informants by Major Topics & Categories

Category	Level of Agreement
A. Support for Tourism	
<ul style="list-style-type: none"> <li>• Economic benefits, more taxes</li> <li>• Infrastructure improvements</li> <li>• Employment, personal income</li> <li>• Improved amenities, entertainment, shopping, culture</li> </ul>	100%
B. Negative Concerns	
<ul style="list-style-type: none"> <li>• Carrying capacity, small market</li> <li>• Non-payment of taxes</li> <li>• Emigrations, brain drain</li> <li>• No exports, taxes, poor accountability</li> <li>• Sustainability</li> <li>• Need to promote culture &amp; national environment</li> <li>• Mismanagement of compact funds</li> </ul>	78.6%
C. Poor State of Economy	
<ul style="list-style-type: none"> <li>• Safety and security concerns</li> <li>• Environmental degradation</li> <li>• Youth training and antisocial behavior</li> <li>• Health care, crime, and respect for local culture and lifestyle</li> </ul>	71.4%
D. Negative Support for Tourism	
<ul style="list-style-type: none"> <li>• Environmental impacts</li> <li>• Outside decision makers and persistent U.S. hegemony</li> <li>• Increased taxes</li> <li>• Unfunded compact infrastructure</li> <li>• Need for more hotels</li> <li>• Theft of marine artifacts</li> </ul>	64.2%

A. Highly unified Agreement among KI's, Positive Issues

B. Highly unified Agreement on Positive & Negative Issues

C. Generally unified Agreement on Negative Issues

D. Mostly Diversified views on Negative Issues

b) Current state of tourism and the economy

There is an overall sense that the economy and tourism industry have been stagnant for many years and in dire need of improvement. Chuuk is basically a subsistence economy and heavily dependent on Compact funds. Reasons given for this stagnation include high unemployment, very poor infrastructure (roads, ports and utilities), not enough hotel rooms for tourists, inadequate air service, and the inability or lack of political will to confront difficult issues.

Governor Elimo characterized the island's economy as "*substandard*" when compared to other island economies (personal communication, August 9, 2017); House speaker Oneisom spoke of Chuuk's "*stagnant economy*," (personal communication, August 10, 2017) as did FSM Telecom Vice President Mori, who said that *he "can safely say its grim."* He intimated that most of the economic activities are concentrated in Weno, but that it is "*stagnant*" in the rest of the 39 inhabited islands (personal communication, August 10, 2017). However, even Weno mayor Stephen said that "*there is a lot of room for improvement in developing the economy*" (personal communication, August 10, 2017).

*"The wages for employees have been very low for so many years and never change"*

- Police Chief Sitile

(personal communication, August 11, 2017)

*"Tourism and economy the same"*

- United Airline Manager Mori

(personal communication, August 9, 2017)

Because of the island's political status, it is "*the same economy or poor tourism*"

- Local attorney Meippen

(personal communication, August 10, 2017)

The economic situation "*is up or down,*" based on compact infrastructure investments and spending on government operations.

- Senate President Mailo

(personal communication, August 10, 2017)

In discussing the island's tourism and economy, "*I would say that it could be improved*"

- House Speaker Oneisom

(personal communication, August 10, 2017)

In reference to tourism, "*tourism has not improved, there are no other activities except diving.*"

- Women's executive Sos

(personal communication, August 9, 2017)

*“There is a lot of room for improvement in developing the economy” and “no major increase in tourism”*

- Weno Mayor Stephen

(personal communication, August 10, 2017)

The island’s *“economic state is weak with high unemployment”*

- FSM executive Mori

(personal communication, August 10, 2017)

*“Just looking from the outside in or the inside out, I feel dissatisfied with the present tourism.”*

- NGO volunteer Hartman

(personal communication, August 11, 2017)

*“I think it’s not getting better. I know the number has dropped, and that the interest in the destination, I sense that it’s also dropped.”*

- Chairman Fritz

(personal communication, August 11, 2017)

The one exception to these negative views came from Truk Stop hotel and dive shop owner, Bill Stinnette, who shared that *“the economy is getting better,”* and that *“we’re getting more business here”* at his hotel (personal communication, August 11, 2017). It is fair to say, however, that Stinnette’s hotel is arguably the best (only) “tourist class” lodging



facility benefitting from an uptick in the dive market, and especially business and U.S. government travel. This improvement in his business is spurred by the introduction of Air Nugini's weekly service to Port Moresby and Australia. This new service restored connectivity to the dive market in Australia which was previously served by United Airlines. United terminated this market's indirect, but convenient, access through Guam in 2012.

*"I think it's getting better, because the locals are beginning to understand and have a greater appreciation for the value of tourism, and so there's an effort to support it."*

- Hotel owner Stinnette

(personal communication, August 11, 2017)

c) Barriers to tourism development

Governor Johnson Elimo is especially concerned over the difficulty of attracting investors because of land ownership issues (personal communication, August 9, 2017).

A contentious environment where traditional norms of inheritance is disappearing, and where individuals are asserting authority over property once held in common, are at the heart of much litigation tearing lineages apart and discouraging investment capital. This issue is discussed more extensively by Hezel (1994).

Other barriers include limited seats and high cost of air transportation, lack of natural and skilled labor resources, conflicting regulatory policies between state and federal governments, laid back lifestyle, community apathy toward tourism development, and lack of hotel rooms and tourist facilities.

*“The local labor is shrinking. Education is not good”*

- Hotel owner Bill Stinnette

(personal communication, August 11, 2017)

Indeed, *“the high cost of transportation”* for goods and services in a *“small market”* were reasons House Speaker Oneism recognized as impediments (personal communication, August 10, 2017). An inability to attract foreign investors due to conflicting state and FSM regulations, and the lack of coordination between state and federal officials to ensure unified regulatory administration, were factors cited by Senate president Mailo. Other specific comments associated with barriers:

*“Only one airline for years and cost of air travel”*

– Local attorney Johnny Meippen

(personal communication, August 10, 2017)

Two barriers that an informant *“would say cause a lot of disarray in the economy”* are *“little”* leadership with respect to conflicts of interest, and the *“falling apart education system”*

- Women’s Association Chairman Fritz

(personal communication, August 11, 2017)

The significance of air service as an important “barrier” to development is illustrated by two examples proffered by hotel owner and dive operator Bill Stinnette (personal communication, August 11, 2017):

- 1) A hotel guest “*could not get a flight from Pompei to here,*” said Stinnette, a distance 560 miles away and about an hour’s flight. Stinnette continues, the guest “*wound up catching Air Nugini to Papua New Guinea (1338 miles), from Papua New Guinea to Manila (2441 miles), from Manila to here (2136 miles) see?*” (personal communication, August 11, 2017). Total distance covered for this itinerary is nearly 6,000 miles and two days.
  
- 2) Because of limited seats, Stinnette’s granddaughter was not able to return home from an August 5th wedding on Guam two years ago until the first available seat opened up more than two weeks later on August 21.

*“Lack of strategic planning and mismanagement of compact funds”*

– Weno Mayor Faustino Stephen

(personal communication, August 10, 2017)

Hotel owner Stinnette’s assessment of the island’s human capital problem is quite revealing in terms of the “unintended” consequence of US policy (personal communication, August 11, 2017):

*“The biggest barrier, and it is a serious issue, is labor. The Compact of Free Association allows any person who wants to get on an airplane and go to Guam, Honolulu or the US and we have expended significant time, energy and money training locals, and as*

*soon as they get a skill, poof. They're on an airplane and they leave. And the FSM community in Guam, in Honolulu, in the US, is getting bigger and bigger and bigger.*

*I mean, I'm very serious about this issue and going to do some writing and stuff, but I've had very long-term talented staff get pulled into the US to be a babysitter for a family, see, so they don't have to have a job. There's staff in our hotel right now who are really, really good, and we've invested in them and they will say, "Oh, you know, my sister wants me to come and stay with her. Oh, my brother here there."*

*So the local labor is shrinking. Education is not good. So we've got locals, we need people to work for us. Those that have some English skills and have any interest in working at all, they leave on a regular basis. Then in concert with this happening, the opposite side is that the national government is making the employment of the foreign laborers, specifically the Filipinos, extremely difficult.*

*May 25<sup>th</sup> of this year, they issued a memorandum that said that if a foreign worker does not show up in the island where they've been hired to work within 60 days of the issuance of their work and entry permit, they'll be denied entrance, and there's no reason for that to take place.*

*And see, since 9/11, the US implemented this visa thing. So the process: 30-day job announcement, then we submit a package locally, it circulates here for seven to 10 days, goes to Pohnpei, seven to 10 days, then it has to go to the Philippine Consul in Guam for this red ribbon business, which takes 10 days to two weeks, then it goes to the Philippines, to the worker. He then calls the Embassy for transit visa appointment. It's five weeks. And they don't care. They don't care. They're just throwing up roadblock, hurdle, roadblock.*

*So as businesses are created that require some sophisticated staff, then it's hard to find them locally. The government has created an artificial wage compensation package, because like you were supposed to see some people today, their boss left town, so they stopped showing up. It's a common common thing."*

The hegemony of US influence is also an issue in two aspects: 1) The US dollar as legal tender in a low wage unskilled labor environment, and 2) Enduring TSA, and US customs and immigration procedures while transiting Guam on travel between FSM domestic destinations.

d) Major community issues

Reduction in Compact funding is a big concern for the state's operation and infrastructure improvements. The problem of idle youth getting into trouble from rising alcohol related criminal activity is also a major community concern, adding to the negative safety and security image problem that is gaining traction outside Chuuk. The altercation from that small cultural misunderstanding mentioned above, regular media reports of young Chuukese men arrested for various crimes on Guam, and the recent Air Nugini crash in Weno have all combined to paint Chuuk's unsafe image. Chuuk is a popular wreck diving destination among Australians, and the Australians government's latest travel advisory (December 12, 2018) for the island include the following:

“More crime happens in Chuuk than in other states. The risk of being involved in an incident increases at night. Alcohol plays a major role in most crimes, especially assaults.”

The advisory further cautions against going out alone at night or being alone in isolated locations, “including beaches.”

The U.S. State Department Travel Advisory for Micronesia (November 30, 2018) also announced that:

“Crime rates are significantly higher in Chuuk than in the other states, and incidents in Chuuk have recently included assaults on U.S citizens.” Further, the advisor cautioned, “Do not attempt to intervene in disputes between local citizens.” This last advice is clearly pertinent to the misunderstanding that went awry in the example shared by CVB manager Douglass Marar.

Leadership and education are the biggest community issues for NGO volunteer Mori (2018):

*“The leadership doesn’t help much to educate the kids” and “They make tourists seem like money stiff, not people stuff”*

*“We just learn math and all the courses, but zero on relationship and especially the culture, we missed all of that, there’s a lot of value in our culture.”*

*“Clean up, safety, our old way of being hospitable people”*

*“If they (leaders) would just be serious about their responsibilities. Zero in on disciplining and making people do things.”*

Police chief Sitile feels that the island’s bad image is overblown, and that this outside image is a “*misperception*” of “*things not true*” (personal communication, August 11, 2017). On the other hand, United Airlines manager Anthony Mori felt that local crime and public safety are a big issue (personal communication, August 9, 2017). Crime, health care and education were other top issues brought up by the KI’s.

Attorney Meippen felt that the most important issues currently are “*number one is education and number two is safety*” (personal communication, August 10, 2017). In his view, education is important for Chuuk and FSM to understand and carry out their responsibilities and government roles under COFA. Education is also the key to restoring the island’s hospitality spirit from an increasingly “*transactional*” interaction with tourist to a much more personal relationship between host and visitor (as in the past). Through education, the government can encourage residents to extend the hospitality spirit to visitors and not just view them simply as a “*source of cash.*”

The issue of crime and public safety is a sentiment reflected in the following comments:

“*Education is where it starts,*” Senate President Mailo said in alluding to the violence and lack of youth involvement in community affairs (personal communication, August 10, 2017). After grade school, many go to 9<sup>th</sup> grade in high school and then do nothing.

“*Too many young men and women doing nothing,*” “*they go out and live in the communities and cause problems for folks.*”

– Senate President Mailo

(personal communication, August 10, 2017)

Women’s association manager Julianne Sos felt that public safety is an important community concern after the need to clean up and beautify the trash ridden island (personal communication, August 9, 2017). For Weno mayor Stephen, building more roads to open up

arable land for agriculture and reduce capital leaks through import substitution of food stuff makes the island more self-reliant. Keeping the money circulating in the local economy can improve quality of life and public safety. Increased taxes, youth education, HR training programs, and health care round off the diversity of important community issues mentioned by KI's interviewed. This list of community concerns reflects the diversity of KI opinions, and can be the focus of future study. But the most compelling concerns raised centered on the Chuukese culture.

A major community issue for FSM Telecom Vice President Mori is preserving Chuuk's culture. Despite being a matriarchal society, there is deep respect afforded men folks as described by Telecom executive Mino Mori (personal communication, August 10, 2017):

Mori remembers his mother admonishing his older sisters to pay respect to men in the family whenever they pass them. This is done by walking over to the men, hunched and bent over, before proceeding on their way. This cultural practice is still done in the outer islands. However, islands in the lagoon have become more westernized and are often reminded that *"God created dents in your body, so you can bow and respect your brothers and walk over."* The essence of this custom and cultural tradition is that women cannot simply walk past the men without first acknowledging and giving due respect.

The importance of, and concerns over, the islands cultural integrity has already been mentioned in the KI's support for tourism development.

Other miscellaneous community issues raised;

- FSM collaboration for more funding
- Importance of state and FSM municipal leaders working together



- Growing anti-social behavior among idle youth
- Economic activity concentrated in Weno and not spread out
- Emigration, or the "brain drain"
- Mismanagement of Compact funds
- Not paying taxes
- Management accountability in the delivery of public services

#### 4.2.2.6. Chuuk Visitors Bureau

The reasons for Chuuk's moribund economy, painted collectively by key informants, were essentially corroborated by Douglas Marar, the state's tourism bureau General Manager and former United Airline employee. (Appendix III) To address declining revenues, the government three years ago raised port fees and charges for fishing vessels making port calls to the island. However, this backfired when these vessels started going elsewhere, causing a significant revenue loss to the island. The government subsequently dropped these charges to encourage their return, but to little or no avail, despite lowering fees to a lower level than the original rates before the "*ill-advised*" (Marar's words) law was passed.

Marar acknowledges the difficulty of not having good air connectivity and the state's vulnerability to airline operating decisions driven more by external interests than by the FSM's unique requirements. Chuuk is currently served by a legacy carrier operating the route as an incremental "en route" stopover destination rather than the focus for growth and development perhaps better served by a different air service model. When United stopped its Cairns Guam / to Japan route, for instance, the number of divers to Chuuk dropped significantly because Australian divers make up a significant percentage of Chuuk's total

dive market, and the only way to reach the island was from this Guam "en route" connection. The FSM was able to attract the interest of Air Niugini, which recently started a weekly Port Moresby service to Chuuk. Divers from Australia can now reach Chuuk because of the connecting air service to Port Moresby in New Guinea. Flights arrive in Chuuk from Port Moresby at around 6:00 pm on Saturdays and return the next day at 8:00 am.

Air Niugini is also contemplating direct service between Tokyo and Chuuk next year. This direct city pairing should greatly improve Chuuk's market accessibility by obviating the Guam stopover and the inconvenience of going through US government formalities.

The issue of public safety and crime is a serious matter for the tourism bureau. Marar mentioned the island's alcohol abuse and crime problem, particularly among the "*uneducated*" youth population who watch and then act out or mimic fight and other violence seen in the movies or videos. According to Marar, it is the young people not in school who make up the biggest source of criminal mischief.

As to the environment, Marar believes this is not as much a problem with the tourists as it is with the bigger local problem of heavy littering and disposal of trash and other solid waste. Indeed, a community awareness task force has been recently established to address this problem and a community wide trash pick-up and disposal program every last Saturday of the month is now being done as part of the state's beautification initiative.

Another concern of the tourism bureau is the island's lack of management competence in the delivery of basic public services and the need for Chuuk to develop

human capital with a "*customer centric*" attitude, particularly in an increasingly service driven and experiential (tourism) economy.

#### 4.2.2.7. Policy Issues

Gleaned from the key informants and various conversations are the multifaceted nature of development barriers requiring policy attention (Figure 8) and the breadth and depth of issues impacted by (or impacting) air service (Figure 9). Concerns over the island's acculturation from tourism development is no less daunting (Figure 10). As these illustrations reveal, the enormity of policy related issues to be addressed in developing the island's tourism industry is a challenge not easily overcome. It also emphasizes the lack of clarity in Chuuk's tourism development stage and supports "complexity theory" in ascribing the island's theoretical basis for development.

That said, however, policy makers are well advised to heed the following impacts that this study empirically shows influence residents' attitudes toward tourism development:

- Culture
- Economic
- Social
- Environmental
- Financial Sustainability
- Local Control

Moreover, empirical data suggests that economic and cultural factors most influence residents' perceptions on the island's destination development improvements and need for sustainable development (i.e. managed growth, better environmental protection, long term planning).

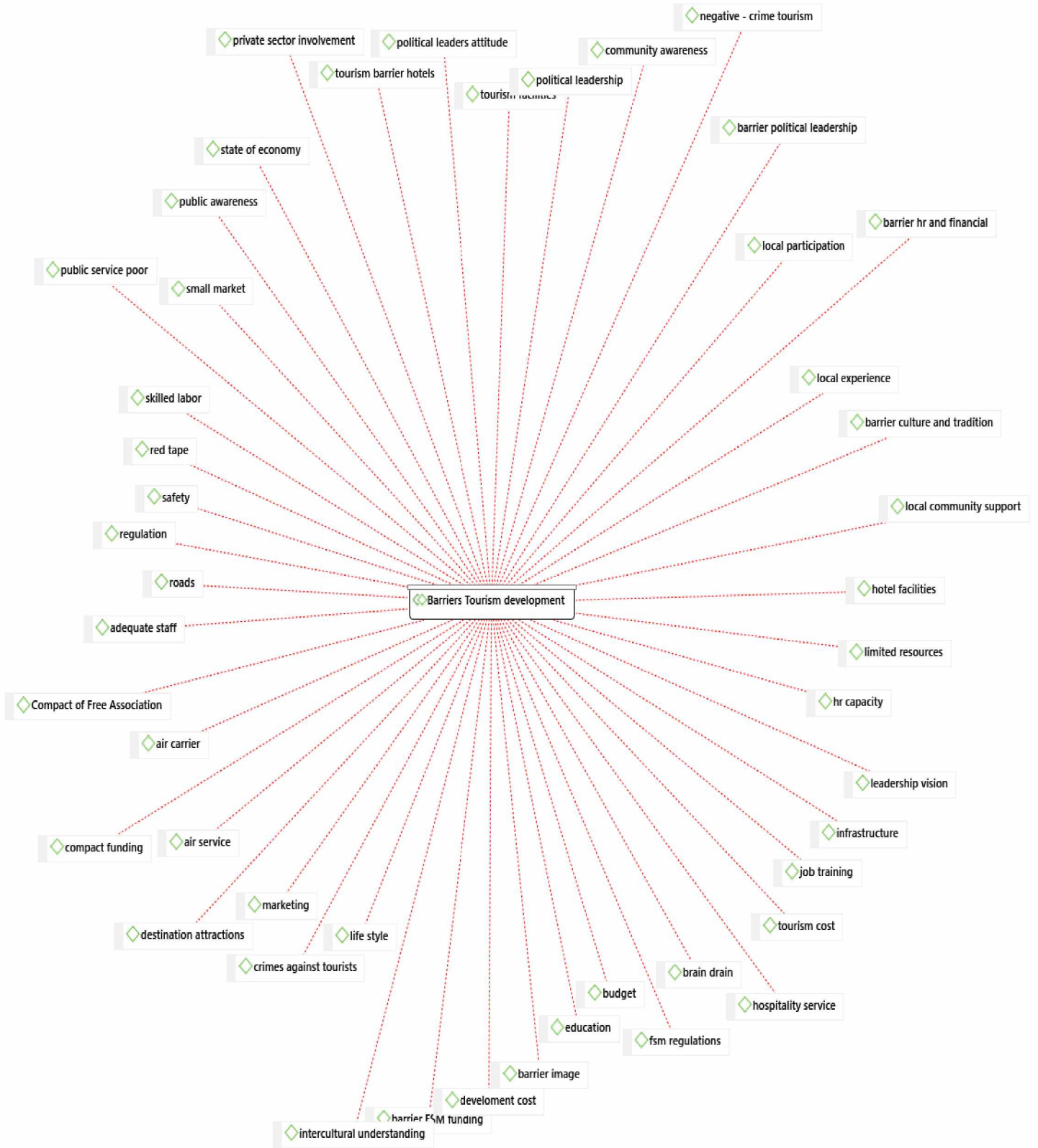


Figure 8. Barriers to Tourism Development

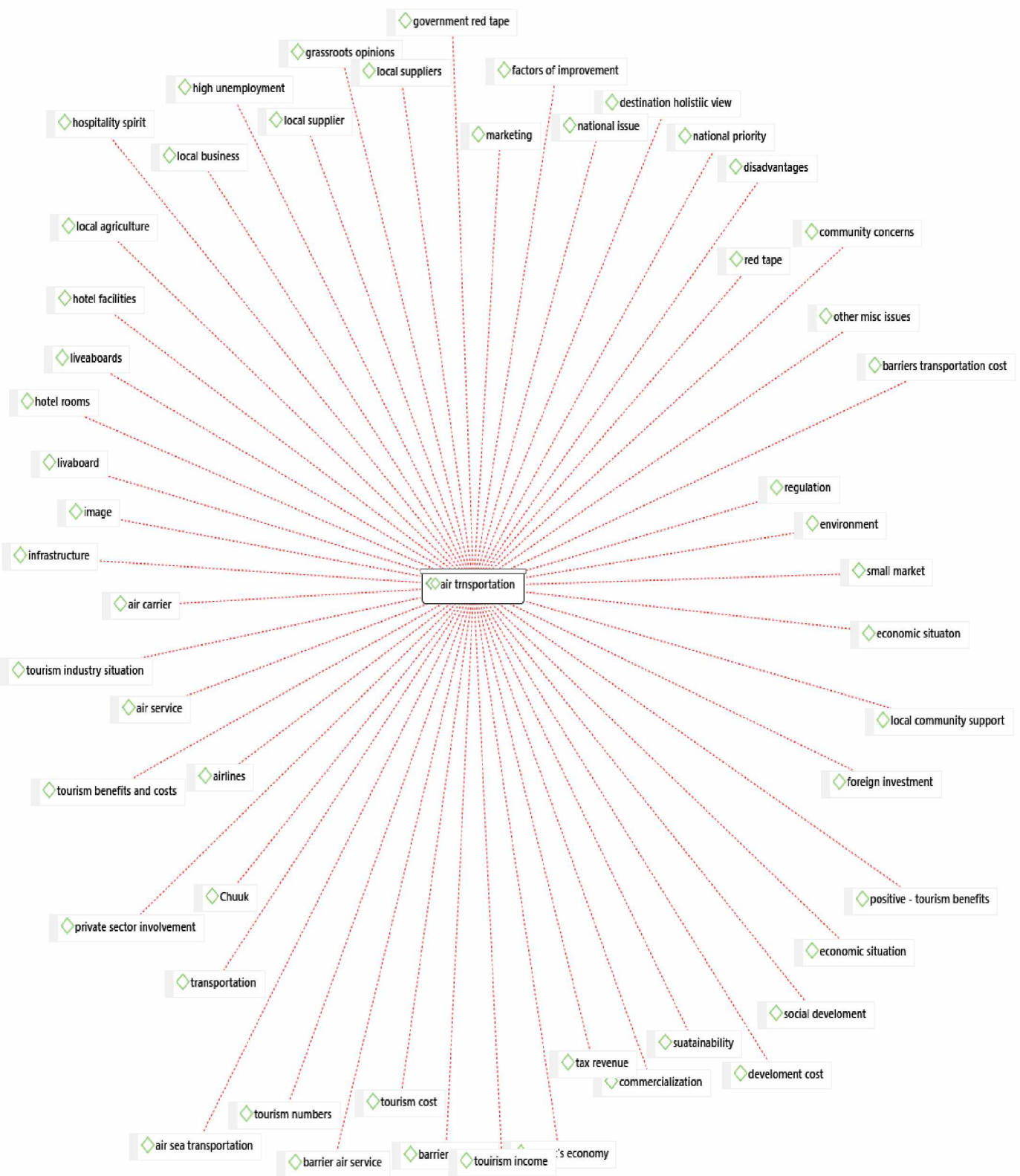


Figure 9. Issues Impacted/Impacting Air Transportation

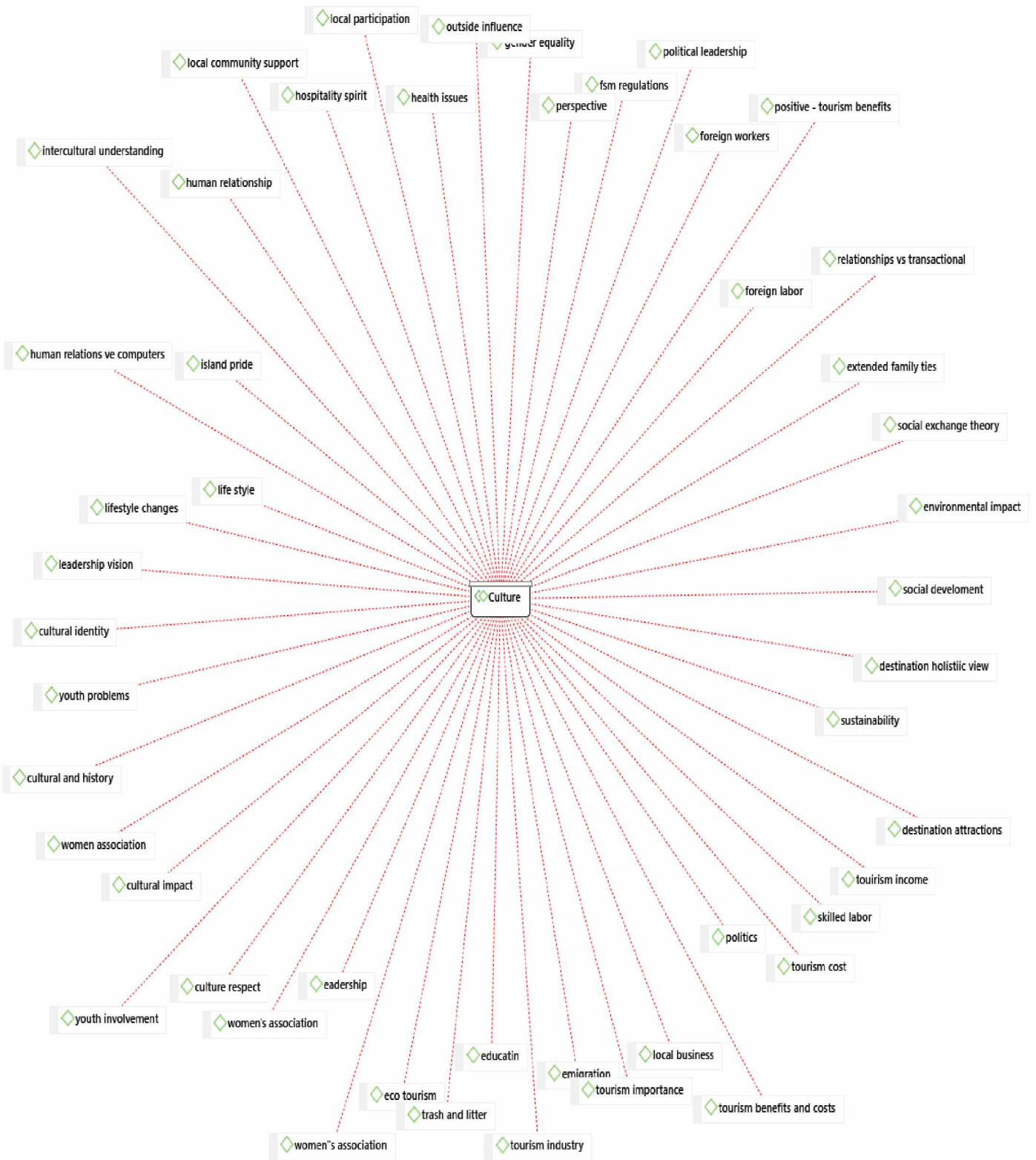


Figure 10. Concerns Regarding Culture

#### 4.2.2.8. Stage of Tourism Development

Core principles of the Social Exchange Theory seem applicable, based on various aspects of the island's development activity conforming to parts of the Butler Life cycle and Irridex models. However, determining the island's stage of tourism development, with any degree of precision, will require more information than is now contained in the literature, or than has been revealed thus far by this study. Chuuk tourism today does not appear to be a product of linear progression and is more the ad hoc pattern of the way in which its various aspects have been triggered to emerge. Were the researcher able to align Chuuk's development stage to any one of the theories mentioned, the result will still be descriptive and explanatory in nature and not the "theoretical basis" sociologically for the development of tourism.

The literature on tourism development models is dominated by the premise of linear progression and predictive “reductionist” thought (Stevenson, 2009). However, as in the case of Chuuk, the industry itself is an enterprise of nonlinear character, functioning in a dynamic environment of human cultural settings, productive elements of the economy, and social institutions that result in multiple outcomes not proportional to invested inputs (Stevenson, 2012).

Agents for tourism development in Chuuk are impacted by factors internal and external, controllable and non-controllable, at micro and macro levels, as a complex and fragile island ecosystem. And the theoretical basis to describe the island's stage of tourism development can be elusive based on current knowledge. In this respect, the researcher would challenge meaningful use of conventional reductionist models to understand the stage of tourism development in Chuuk.



Besides the inherent development problems of SIDS, it is important to understand the complex nature of Chuuk's tourism development environment. Thus, investigating how outcomes of which public policies facilitate tourism growth in non-linear ways, that add or subtract from established goals, is an endeavor worth pursuing. In this regard, the researcher argues that the traditional body of tourism development theories, and the lineal or reductionist philosophies entailed therein, are not as applicable to Chuuk as might be the application of "Complexity Theory." At the heart of this theory is the uncertainty and non-linearity of factors interacting in dynamic fashion. It is a theory that focuses on complex systems involving many interacting parts that result in "some sense of order," but not necessarily establishing knowledge in an epistemic sense.

The value of this theory is the holistic nature it brings to the discussion and analysis of public policy. For Chuuk, it is a way to focus and understand broad themes and outcomes from competing areas of interest. And it is a way to air public discourse based on information that is anchored in local context. Nordtveit's (2007) views of complexity theory is applicable to Chuuk where actors in the island's socio economic "system;" whether donor or beneficiary, or individual, and producer or consumer, are not in equilibrium, but multidimensional and nonlinear. This theory supports the argument that complexity and tourism development are brought together by human cultural settings, productive elements of the economy, and social institutions in a complex, dynamic, and nonlinear fashion (Nordtveit, 2007). And instead of reducing Chuuk's "complexity environment" to that which can be objectively measured, this theoretical approach is initiated by first recognizing the necessarily complex nature of tourism development in Chuuk and other SIDS (Kuhn, 2008).

Tourism development in Chuuk does not appear to fit any of the stage based linear models that Hunt and Stronza (2014) have described (Figure 11), and which derive from mature destinations in developed countries. One reason might be that the financial largesse from COFA funding disrupted (indeed preempted) the organic evolution and scale up of the island's supply chain, and that inbound arrivals were the product of a U.S. funded cash economy. Another reason might be the persistence of an air service model not as attuned to the island's needs as it is to the larger markets served. The need for more responsive regional service is an important strategic issue for economic development, but outside the scope of this study.

Yet another reason might be the misapplication of social exchange theory to these stage-based models in the context of an emerging destination newly thrust into the tourism industry (Hunt and Stronza, 2014). Ethnographic data revealed mixed feelings in these emerging destinations, indicating complex and even contradictory attitudes towards tourism much the same way that this study has revealed mixed feelings for tourism development within the Chuukese community.

Conventional stage-based models illustrate how community perceptions are a function of residents' exposure to, and participation in, the tourism industry. However, a deviation from this pattern is proffered by ecotourism scholarship which draws largely from research in developing countries, and which emphasizes socio cultural elements using ethnographic data to understand emergent destinations. Hunt and Stronza (2014) do not argue for or against the community's linear relationship between tourism experience and resident's attitudes but point out the complexity of theoretical perspectives and the

opportunities to integrate parallel design methodology in addressing stage-based models and nonlinear emerging destinations like Chuuk.

Stage based linearity is not necessarily disputed by the ecotourism development model, which posits that negative residents' attitudes in the later stages of development may be offset by more favorable impacts on their quality of life, depending upon their participation in, and the "extra-economic" benefits received from, the industry.

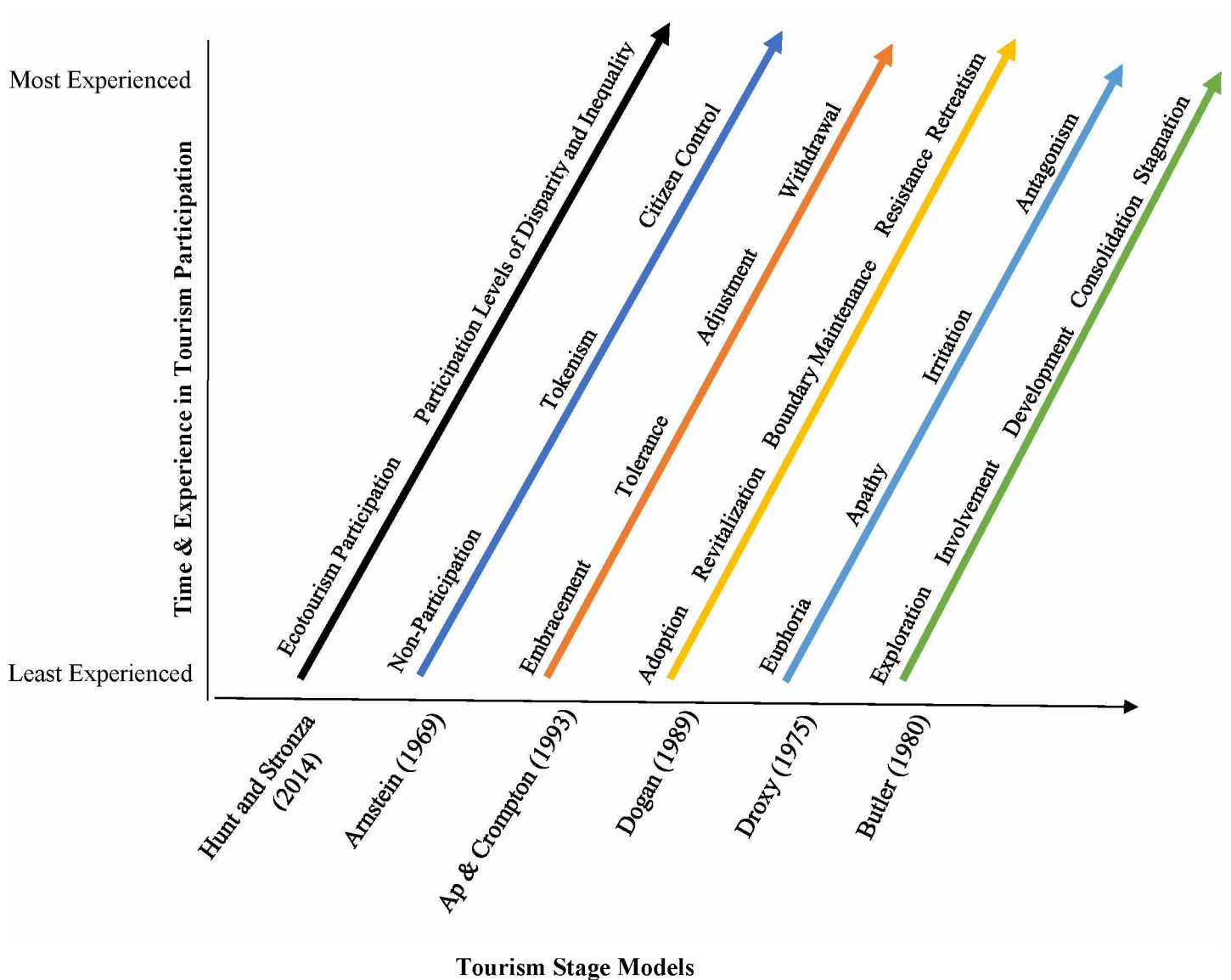


Figure 11. Theoretical Frameworks, Tourism Stage Models (Adapted from Hunt and Stronza, 2014)

## Chapter 5

### MERGING DATA

Integrating quantitative and qualitative data is a way for the study to benefit from the complementarity of two radically different data sets. It is a way to use information that cannot be measured to corroborate, dispute, or otherwise add value to numerically driven results. Creswell (2014) described different ways for data to be merged, and the model used for this study is one that first reports quantitative statistical results followed by a discussion of qualitative findings. These qualitative findings provide added value by strengthening statistical evidence. This approach is also appropriate because of the comparative perceptions explored between sampled populations (survey) and selected key informants (interviews).

Merging qualitative and quantitative data after their separate and independent analysis is a way to explore phenomena for corroborative or discordant information. However, based on the in-depth interviews of KI's, and the exploratory nature of these interviews, it was quickly discovered that converting content data into the binary scheme of statistical analysis was not possible at this time. Survey data from each topic or issue making up the areas of agreement among the KI's would first need to be gathered and results from them used to design the instrument for in depth structured or semi structured interviews that can confirm, amplify or clarify survey responses in a more "sequential" approach that this study's parallel design did not adopt due to time and resource limitations.

Despite this shortcoming, however, an attempt is made to enumerate the frequency of certain themes or issues that find agreement among the KI's interviewed, and which are summarized into the four broad categories (A, B, C, D) listed in Table 12.

## 5.1 Side-By-Side Comparison

Equal priority was given to both quantitative and qualitative studies where the convergence of statistical generalizations and interview data are merged (Table 13). The researcher did not attempt a numeric data transformation variant in this parallel design because of inherent limitations in the data collected.

This research is the first of its kind in an isolated region lacking academic literature on tourism. As such, the emphasis is gathering basic information which can be used for further research, perhaps within the “transformative framework” that Creswell (2014) describes. Data collected and analyzed for one study can be used to refine data collection instruments or sharpen topics of inquiry.

A transformative framework can set forth sequential strategies to develop research scholarship that can address issues of social justice and inequality that Chuuk and the FSM islands have been enduring for decades. Quantitative and qualitative research can develop the factual basis for change and a call to action politically, socio-economically, and environmentally. As an example, the current air service model is not a good fit for the islands whose economic development remain stifled because of their inability to access external markets which can absorb the production of goods and services in excess of their small markets. The legacy carrier now serving Chuuk is more driven by the larger markets of Guam, Hawaii, and East Asia than by the vested interests of a much smaller market community where frequency in connectivity is needed more (small regional aircraft) than larger transpacific aircraft.

Creating domestic employment opportunities can also reduce the rate of emigration and the hollowing out of cultural lineages in the various islands and villages. Finally, the

organic growth in the economy, if sustained, will ultimately improve the island's quality of life.

In applying complexity theory to Chuuk's stage of development, the researcher believes that this research framework would be appropriate for an economically marginalized community where policy makers must make decisions on priority, timing and their associated interactions. Using mixed method designs, further research is needed using a combination of convergent, exploratory, and explanatory designs to address social justice issues on air service, the adverse effects of US hegemony, and local control over Chuuk's destination development and sustainability.

Table 13. Chuuk Tourism Development Perceptions. Side-by-Side Comparative Results

Theme	Quantitative Data (Resident Survey)	Qualitative Data (KI Interviews)
1. Chuuk residents generally support tourism development	Support for tourism based on: <ul style="list-style-type: none"> <li>• Economic benefits and jobs</li> <li>• Infrastructure improvement</li> <li>• Environmental Improvement</li> <li>• More tourism facilities</li> <li>• More shopping, entertainment, and cultural amenities</li> </ul>	Level of KI agreement 100% for: <ul style="list-style-type: none"> <li>• Economic benefits</li> <li>• More tax revenue</li> <li>• Infrastructure improvement</li> <li>• Employment &amp; personal income</li> <li>• Better shopping, in entertainment and recreation facilities</li> </ul>
2. Residents’ support for tourism affected by perceptions on different factors of development	Key factors of importance: <ul style="list-style-type: none"> <li>• Social impacts</li> <li>• Cultural impacts</li> <li>• Economic impacts</li> <li>• Environmental Impacts</li> <li>• Financial sustainability</li> <li>• Local control</li> </ul>	Level of KI agreement 78.6% for: <ul style="list-style-type: none"> <li>• Emigration, brain drain</li> <li>• Mismanagement of COFA funds</li> <li>• Carrying capacity</li> <li>• Sustainability</li> </ul> Level of KI agreement 71.4% for: <ul style="list-style-type: none"> <li>• Safety &amp; security</li> <li>• Youth antisocial behavior</li> <li>• Environmental degradation</li> <li>• Health care</li> <li>• Crime</li> <li>• Respect for local culture</li> </ul>
3. Factors most influential to residents’ perceptions on tourism development	a) Cultural impacts	a) A sampling of cultural sentiments “Cultural shock for our people” in reference to tourist behavior, and Chuuk would “like to keep their culture or customs” - Police Chief Sitile  Mass market tourism “would disrupt the culture and way of life of people” - Senate President Mailo

We can “accept tourism to a point where it does not diminish our cultural values”

- Telecom VP Mori

“There’s a lot of value in our culture”

- Local attorney Meippen

Tourists are “not respectful” of the local culture and do not understand “what Chuuk has to offer”

- Women’s Association  
Manager Sos

Besides the economic benefit, “equally important is just the exchange, the interaction of the visitor seeing our culture, our custom and interacting, and our local people interacting with them. It’s all educational from both sides.”

- Hotel owner Stinnette

“The visitor who, unaware, doesn’t honor or respect and don’t even know that they’re causing difficulty.”

- Stinnette

“Locals can be easily taken advantage of, because they don’t want to offend and they’re good in their nature.”

- Stinnette

Concern over watering down cultural authenticity is reflected in these sentiments by Women’s Association Chairman Fritz:

“They dilute it up, some of the cultural things... what I call the shortcuts on everything on the culture.”

“The culture is no longer genuine”



“The dance is no longer real  
Chuukese”

“There’s a lot of compromising  
because people are after the money”

Comments from NGO volunteer Mori:

“It’s the new mentality about money,  
making it. Less on relationship.” The  
“new mentality, cash, me, me, me”

“We may be small islands and we  
don’t have oil, gold, silver, all that  
riches, but we’re rich with our  
culture.”

“In our culture, the foreigners were the  
strangers who you treat them good first”

b) Economic impacts

b) A sampling of economic  
sentiments

“Tourism now, the way I envision it, is  
the number one priority”

- Governor Elimo

Tourism is one of the state’s  
“development priorities”

- House Speaker Oneisom

“They got the green stuff”

- Senate President Mailo

“They bring lots of money”

- Police Chief Sitile

“Tourism is one of the most important”  
sectors in our economy “besides the  
compact money from the United  
States,” and local business activities  
will increase in, “for example,  
handicrafts, and car rentals, restaurants”

- United manager Mori

“It generates local revenue for our government” as well as “more jobs and cleaner environment”

- Weno mayor Stephen

“Income” was the answer given when asked about the benefits of tourism

- Women’s Association manager  
Sos

FSM Telecom V.P. Mori, in discussing tourism, “oh, its very important. I think part of our livelihood.” “I’m a simple person. Tourism comes in, drops of money, we can find work, we go and buy food for the family, buy clothes.”

“I only see the benefit” and the “negative impact can only be done on those who are not thinking”

- Attorney Meippen

According to CVB officer Nely Ruben, the bureaucracy can be stifling for hotel and tourism facilities investors.

“Investors have to go through some documentation with the national government, again they have to deal with Chuuk State officials who “always say” that the papers sent off to the national government “is always stuck and then stop. They just stop from there.”



## Chapter 6

### KEY FINDINGS AND CONCLUSIONS

#### 6.1. Quantitative Study

- a. Residents in Chuuk generally support tourism development, but are sensitive to social, cultural, economic, and environmental impacts as well as the impacts on financial sustainability and local control.
  
- b. Among tourism development impacts, economic and cultural impacts were the only factors influencing resident's perceptions on sustainable development and the development of Chuuk as a tourist destination. This is a reflection of residents' beliefs that the island will benefit from tourism, the development of tourist facilities, and expanded amenities such as shopping, entertainment and cultural activities. It also reflects residents' expectations for managed growth, long term planning and laws to protect the environment.

Interestingly, perceptions of economic impacts to tourism development align more closely to sustainable development while Chuuk's development as a tourism destination is affected more by cultural impacts.

- c. Four factors were perceived differently by Guam and Chuuk sampled residents. Sustainable development is perceived stronger among Chuuk sampled residents than among Chuukese who live on Guam. This perception is aligned to such issues as long-term planning, managed growth, and environmental protection. On the other

hand, Guam residents perceive financial sustainability, social impact, and cultural impact stronger than among Chuuk residents.

- d. Guam and Chuuk residents have the same perceptions concerning destination development, local control, environmental impact, and economic impact.
- e. The positive benefits of tourism among Chuuk residents center on economic, environmental, cultural, and sustainable development impacts while the focus among Guam residents is economic.
- f. Negative aspects of tourism development were shared by Guam and Chuuk residents with respect to cultural and social issues. In particular, the need to address unfriendly attitudes toward tourists is an issue shared by both groups.

## 6.2. Qualitative Study

Survey data indicating residents' support for tourism development is generally corroborated by the 14 key informants interviewed. In particular, there is 100% agreement with survey data supporting tourism development for the economic benefits perceived, as well as improvements in the island's tourist facilities, infrastructure, environment, shopping and entertainment.

Although not unanimous, key informants were mostly in agreement (more than 70%) with six factors empirically determined to significantly impact residents' perceptions toward tourism development.

The factors (from factor reduction) influencing residents' perceptions are: Economic, Environment, Social, Cultural, Local Control, and Financial Sustainability. Although supported by KI interviews, the degree of significance for each factor cannot be established without additional survey data for each of the variables (topics) or issues listed in the four broad categories or themes of KI perceptions (Table 12). Quantitative survey data revealed that economic and cultural issues were the two strongest factors influencing residents' perceptions on tourism destination development and sustainable development. Again, this finding can only be supported by content analysis from a general sense of agreement than from a more definitive metric for the reasons already stated. Despite this shortcoming, however, data triangulation provide corroborative or supportive themes regarding the importance of economic and cultural impacts toward tourism development (Table 13).

### 6.3. Open Ended Survey Data

Support for tourism development emerged from the open-ended survey questions with various economic benefits at the core of support. Improvements in the island's infrastructure, entertainment and shopping facilities, as well as higher tax revenues, more personal income and better opportunities for local businesses (more local products) were among the reasons for support. Reducing dependency from outsiders, developing the private sector, and support for the environment and culture rounded out the list of reasons in support for tourism development. These listed issues found agreement in both the Chuuk and Guam residents sampled.

Negative perceptions differed, however, between the Chuuk and Guam residents surveyed. Chuuk residents perceived bad roads, crime, and cultural disrespect to be main

issues of concern, whereas Guam residents view low income, poor transportation, and pollution to be more important issues for development. Low income is not a surprising outcome for Guam residents used to the Guam and US minimum wage structure, which is about five times the hourly rate paid in Chuuk. The only areas of agreement between Chuuk and Guam residents relate to the lack of hotel rooms and mixed perceptions because of culturally different perspectives. Results from KI interviews and various conversations essentially corroborate the general themes of support and reasons for mixed perceptions of tourism development.

#### 6.4. Policy Implications and Recommendations

This research work explores factors that impact tourism development in Chuuk and ascertains residents' perceptions of how these factors affect their support for tourism development. Findings from the study have policy implications for the Chuukese community and are enumerated below.

1. The study provides empirical evidence of the Chuukese community's support for tourism and provides a glimpse into the factors impacting residents' perceptions toward tourism development. More importantly, it provides useful information that the government can use to implement its "Action Plan 2023," adopted in January 2015. This action plan is aimed at touting the benefits of tourism to the island's community leaders and the general public.

2. In planning development initiatives and communications strategy, policy makers should mind six important factors affecting residents' perceptions toward tourism development; namely, cultural impact, social impact, economic impact, environmental impact, financial sustainability, and local control.
  
3. Financial sustainability in the study is about managing growth, long term planning and protecting the environment while being sensitive to economic and cultural impacts, with particular emphasis on economic factors. Because a significant part of the island's economy is being driven by the \$92.7 million COFA subsidized wages and salaries, the importance of financial sustainability cannot be overstated. This annual subsidy expires in 2023.
  
4. In formulating policy and development initiatives, it is important to know that residents' perceptions of sustainable development are much more affected by economic impact.
  
5. It is also important to know that cultural impact perceptions are sensitized to the development of infrastructure and other improvements in the island's tourist facilities.
  
6. Strengthening the island's cultural identity and local participation in the industry can enhance the island's cultural attraction and local support for tourism development.



7. The study examined two groups of Chuuk residents; namely, those who live in Chuuk and those residing on Guam. Residents who live on both islands have the same perceptions on economic impact and policy makers need to focus immediate attention on improvements in the island's infrastructure and tourism facilities.
8. Chuuk is already a known wreck diving destination. However, to support hotel development and more air seat capacity, it will be necessary to market other attractions, such as the island's cultural heritage, history, and other natural assets.
9. Air service, human capital and foreign behavior are three issues requiring immediate and sustained attention. These issues and the crime rate, especially among idle youth, are concerns that affect tourism development. Clearly, those issues are not easily solved. However, paying for (indeed enduring) the same levels of service performance and expecting different outcomes is hardly a recipe for success.
10. To achieve the sustainability and destination improvements that the study found to be important to local residents, a sustained public education campaign is needed. The goal of this multi-channel campaign is winning political support, generating residents' involvement, and changing the community's mindset toward a call to action. Changing this mindset can lead to resolving thorny land ownership and other issues.

## 6.5 Limitations and Future Research

This study is the first of its kind for Micronesia and essentially exploratory in nature.

Therefore, a number of limitations of the research come to mind:

1. Literature reviewed and used to design the study derive largely from more developed countries and the findings may not fully reflect conditions that are ubiquitous to the small insular economies of Micronesia.
2. The researcher's reflexive narrative and convenience sampling strategy are subject to biases and random error. In particular, the study's data triangulation does not have the robust confirmatory validity that other resource intensive strategies can provide. Data triangulation was based on limited time and financial resources, to the exclusion of other triangulation methods described by Jack and Raturi (2006), to wit: Investigator, theory, and methodology.
3. Another issue of the study is limiting the geographically sampled residents to those living in Chuuk and Guam. Citizens of Chuuk are eligible to live and work in the U.S. indefinitely as part of the Compact. Emigration pressures from limited opportunity and a growing population have resulted in the number of residents living elsewhere growing from 1,000 in 1980 to 25,000 by 2015(IOM, 2015), or half the number of residents still living in Chuuk today.  
  
Because of this, perhaps the two islands may not have captured important perceptions that have been shaped by differences in social and cultural

homology. Residents in Hawaii and the U.S. mainland are exposed to a much more different socioeconomic environment than their Guam and Chuuk counterparts, prompting the need for more research to see if these differences impact perceptions based on spatial, organizational, socio cultural and economic differences.

4. The exploratory nature of the study opens up opportunity for more research in three areas:

First, data collection took place over a short span of three months in late summer and early fall of 2017, and further research at different times of the year may be warranted to corroborate generalized data and other information in this study.

Second, expanding sample size using a more sequential triangulation strategy can refine the instruments used to better understand residents' perceptions toward tourism development. Doing this, in the context of a transformation framework, can be helpful in facilitating the social changes needed for the island's tourism development.

Finally, expanding use of indigenous methods is made compelling by the empirical significance found for "culture" and "sustainability," both of which are deeply embedded in the community's indigeneity. Although more time consuming and costly, this approach can potentially reveal issues of small island destinations that have escaped the reach of literature and scholarship more reflective of larger more developed communities.

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## APPENDICES

### A. Biographies of Key Informants

#### Key Informant Biographies:

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1. Johnson Elimo - Chuuk State Governor
  - Johnson Elimo, from Weno, Penia.
  - Graduated from Xavier in 1977 and studied at Weber State University in Ogden Utah. Mr. Elimo also graduated from University of Hawai'i @ Manoa with a master's degree.
  - Serve 2 term as Chuuk Lieutenant State Governor since 2005 - 2011
  - Became Governor of Chuuk State in 2011 by the time Simina resigned as governor in July 2011 and became Chuuk State's at-large senator in the national congress of FSM
  - Previous Job - Chuuk Weather Station as a meteorologist
  
2. Innocente Oneisom - House of Representative Speaker 14th Chuuk State Legislature
  - Innocenti Oneisom is a Xavier graduate, graduated in 1978 and also graduated from Gonzaga in Spokane, Washington with a degree in Psychology.
  - University of Hawaii at Manoa alumni - 1978 - 1979
  - Saint Mary's University San Antonio Texas -1979 -1982
  - Teacher at Xavier High School - 1982-1984
  - Director Youth Link, MICSEM 1985-1990
  - Representative, Vice Chairman, J&GO Committee CSL - 1993-1995
  - Member, Judiciary & Governmental Operation Committee, CSL - 1995-1997
  - Chairman, Judiciary & Governmental Operation Committee, CSL - 1997-2001
  - Floor Leader House of Representative 2001- 2011
  - Speaker, House of Representative, 11th -14th Chuuk Legislature 2011 till 2019
  - Other Office Hold
    - APIL Board of Directors
    - Social Security Board of Trust
    - Saramen Chuuk Academy Board Member
    - Caroline Catholic Pastoral Institute Board Member
  
3. Mark Mailo - Senate President
  - From Weno Island (Mechitiw/Mwan)
  - Went to Palau High School
  - President of Chuuk State Political status
  - President of House of Senate Legislature
  - Former Director of Chuuk Marine Resource Center
  - Owns commercial space - renting out to private clinics
  
4. Faustino Stephen - Mayor of Weno Municipality
  - From Weno, Nepukos
  - Former employee of Chuuk Marine Resource Center
  - St. Cecilia School graduate
  - Chuuk High School graduate
  
5. Julianne Mori Sos - Adm. Dir. Woman's Association (No longer with the Woman's Association)



- From Weno, Kurassa and the island of Eot
  - Graduated 2002 from Saramen Chuuk Academy
  - Former Finance and Administrative Manager, Chuuk Women Council
  - FO of a newly founded Civil Society Organization for people with Disabilities in Chuuk
6. Mino Mori - FSM Telecom Mgr.
    - Former Mayor, Eot Municipality
    - Vice President of Telecommunication- Chuuk Branch
    - Graduated from St. Cecilia School & Xavier High School.
  7. Linda Hartman - NGO Volunteer
    - From the island of Feffen
    - Owner of Bayview- leased out commercial spaces for outside businesses.
  8. Anthony Mori - United Airline Mgr.
    - From Weno, Kurassa
    - Recently appointed as a member of the Foreign Investment Review Panel - April 2018
    - Chuuk High School Graduate
  9. Mason Fritz - Chairman, Women's Association
    - From the island of Tonoas
    - Former Director of Chuuk Visitors Bureau
  10. Johnny Meippen - Attorney
    - From the island of Uman
    - Currently secretary of Chuuk state political status commission
    - Private Lawyer/Attorney- EPA's private lawyer
    - Former Attorney General employee
  11. Josephina Estepa - Owner, Gem VJ Enterprises
    - From Philippines
    - Owner of Sunrise Restaurant , Car shop and Hair Salon and construction work.
    - Former employee of Tatasi Wainit
  12. Mike Sitile - Chief of Police
    - From the outer island of Chuuk - Namwuluk
    - Former House of Representative Mortlock Region
  13. Bill Stinnette - Proprietor, Truk Stop Hotel
    - U.S Veteran
    - Honolulu Police Department
    - Former Director of Public Safety for Chuuk State
    - Former Police Officer of Chuuk State
  14. Nely Ruben - Mgt. Service Officer Chuuk Visitor Bureau
    - From the Island of Tonoas
    - Chuuk Women's Council NGO
    - Acting Director of Chuuk Visitor Bureau
    - Graduated of Saramen Chuuk Academy

## B. IRB Letter of Approval



(907) 474-7800  
(907) 474-5444 fax  
uaf-irb@alaska.edu  
www.uaf.edu/irb

### Institutional Review Board

909 N Koyukuk Dr. Suite 212, P.O. Box 757270, Fairbanks, Alaska 99775-7270

June 16, 2017

To: Barbera Adams  
Principal Investigator

From: University of Alaska Fairbanks IRB

Re: [1069215-1] Chuuk's Tourism Industry: A Grounded Theory Study of Residents' Perceptions

Thank you for submitting the New Project referenced below. The submission was handled by Exempt Review. The Office of Research Integrity has determined that the proposed research qualifies for exemption from the requirements of 45 CFR 46. This exemption does not waive the researchers' responsibility to adhere to basic ethical principles for the responsible conduct of research and discipline specific professional standards.

Title:	Chuuk's Tourism Industry: A Grounded Theory Study of Residents' Perceptions
Received:	May 15, 2017
Exemption Category:	2
Effective Date:	June 16, 2017

This action is included on the June 21, 2017 IRB Agenda.

*Prior to making substantive changes to the scope of research, research tools, or personnel involved on the project, please contact the Office of Research Integrity to determine whether or not additional review is required. Additional review is not required for small editorial changes to improve the clarity or readability of the research tools or other documents.*

## C. Notes

G.P. Notes | 11/29/18 | Pacific Start

Meeting with Douglas Marar, General Manager, Chuuk Visitors Bureau

1. Discussed wide ranging issues re: Chuuk tourism, specifically the economy, environment, cultural misunderstanding (tourists), air service, safety and security issues, and community concerns.
2. Economy
  - Not much improvement, about the same, due to poor infrastructure (except power is better)
  - The government had increased fees and charges for fishing vessels to raise revenue. However, this backfired because vessels quit visiting Chuuk. The government has since dropped these port fees and charges even below the levels originally in place, but fishing ships have not returned. Lost revenue to the economy and state budget have hurt government operations and recovery from this policy (ill-advised) has been slow.
3. Environment

Heavy littering and trash is a big issue that needs attention. Chuuk has started monthly trash pick-up and trash dumping every last Saturday of the month, but more still needs to be done for beautification effort. A community awareness task force has been created to address this problem. Environmental degradation from tourists does not seem to be as big an issue as the need for the local community to clean up the islands and keep them clean.
4. Tourism Industry Continued

And personal safety issues:

a) Cultural Misunderstanding

What started out as a disagreement on how a Chuukese father was handling a domestic dispute with his daughter escalated into a verbal and physical altercation that earned Chuuk the “unsafe for tourists” destination label by the U.S. State Department in the FSM. This incident occurred because of cultural differences on how a domestic family matter is being handled, in the accepted local context, and the interference of an intoxicated American female military officer who is of a different world view, and who is used to being minded by men because of her military rank and status. According to law enforcement witnesses, the female officer was belligerent, stumbling around in the melee, and injured her face falling on tables and chairs while police were trying to restrain her. Several doctors were called to the hospital to witness and tend to her injuries after she filed assault charges on police officers who were trying to restrain her.

b) Safety and Security

There is an alcohol related crime problem in Chuuk that is adding to the main perpetrators of these criminal activity are the uneducated youth who mimic and act out the fight movies and videos they see. The educated youth population basically do not get involved with this type of behavior, but young people not in school have been the biggest source of criminal mischief in the community. Media coverage of this activity is magnified as news of this problem spreads. This negative image is reinforced by media coverage of Chuukese crimes committed on Guam, again usually by young men with little or no high school education.

5. Community Concerns

There is strong concern over the lack of management competence in the delivery of public services. The island’s service culture and underdeveloped human resources must be improved to a more customer-centric attitude in an increasingly service driven (i.e. tourism) economy.

## D. SPSS Raw Data

### 1. Test of reliability

#### 1. *Social-cultural impacts*

##### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.931	.932	10

##### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SC1	35.0329	73.221	.679	.776	.927
SC2	35.2394	72.183	.674	.744	.927
SC3	35.2535	70.973	.745	.792	.923
SC4	35.2113	71.309	.679	.659	.927
SC5	35.2770	69.239	.780	.683	.921
SC6	35.4930	69.006	.750	.717	.923
SC7	35.5211	68.713	.708	.734	.926
SC8	35.3333	69.846	.744	.710	.923
SC9	35.2864	69.451	.781	.764	.921
SC10	35.2535	70.049	.766	.727	.922

#### 2. *Economic impacts*

##### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.919	.921	8

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EC1	26,8066	47,493	,666	,600	,915
EC2	26,8538	46,874	,700	,602	,912
EC3	26,7311	45,942	,791	,685	,904
EC4	26,5802	48,321	,709	,610	,911
EC5	26,5425	47,235	,770	,640	,906
EC6	26,4434	48,371	,752	,754	,908
EC7	26,4340	48,380	,769	,816	,906
EC8	26,5802	48,330	,717	,728	,910

*3. Environment impacts*

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,914	,913	6

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EN1	18.7973	27.321	,679	,522	,909
EN2	18.8874	25.829	,779	,676	,895
EN3	18.9730	25.140	,790	,732	,894
EN4	19.0000	24.833	,823	,743	,889
EN5	18.9414	25.558	,794	,666	,893
EN6	18.5991	26.956	,682	,551	,909

#### 4. Financial impacts

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.874	.875	9

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
F1	30.5330	43.122	.644	.603	.858
F2	30.4528	44.505	.531	.727	.868
F3	30.5142	43.388	.620	.753	.860
F4	30.5943	42.783	.637	.672	.859
F5	30.5283	45.303	.550	.570	.866
F6	30.5236	43.625	.679	.684	.856
F7	30.4528	43.254	.691	.682	.854
F8	30.5283	44.298	.582	.686	.864
F9	30.5142	43.682	.597	.619	.862

#### 5. Sustainable development impacts

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.897	.896	4

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SD1	11.6140	11.668	.690	.531	.895
SD2	11.8140	10.461	.819	.678	.848
SD3	11.7860	10.702	.774	.662	.866
SD4	11.6977	10.670	.802	.675	.855

*6. Tourism destination impact*

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,871	,869	4

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
T1	12,1023	10,980	,587	,361	,885
T2	12,0465	9,091	,803	,649	,801
T3	12,0884	9,473	,750	,594	,824
T4	11,9023	9,780	,763	,614	,819

The reliability analysis yielded favorable results. All of factors exhibited in Table 3 have a high degree of reliability in terms of Cronbach's Alpha (>0.7). in order to run the exploratory factor Analysis in the next step.

**2. Exploratory factor analysis**

After exploratory factor analysis, we obtain 6 factors with all factor loadings >0.5 exhibited in Table 4.



Table 4. EFA results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.876
Bartlett's Test of Sphericity	Approx. Chi-Square	6074.017
	df	528
	Sig.	.000

Total Variance Explained										
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	13.006	39.413	39.413	13.006	39.413	39.413	5.017	15.203	15.203	
2	3.405	10.319	49.732	3.405	10.319	49.732	4.830	14.635	29.839	
3	2.750	8.333	58.065	2.750	8.333	58.065	4.301	13.033	42.872	
4	2.223	6.738	64.802	2.223	6.738	64.802	3.793	11.495	54.367	
5	1.894	5.738	70.540	1.894	5.738	70.540	3.459	10.481	64.848	
6	1.362	4.126	74.667	1.362	4.126	74.667	3.240	9.819	74.667	
7	.958	2.904	77.571							
8	.792	2.400	79.971							
9	.751	2.277	82.248							
10	.634	1.922	84.170							
11	.554	1.680	85.851							
12	.491	1.489	87.340							
13	.470	1.424	88.764							
14	.406	1.232	89.996							
15	.339	1.028	91.024							
16	.317	.961	91.985							
17	.290	.878	92.863							
18	.279	.845	93.708							
19	.242	.734	94.442							
20	.220	.667	95.109							
21	.208	.632	95.741							
22	.190	.575	96.316							
23	.174	.526	96.842							
24	.166	.504	97.346							
25	.150	.453	97.799							
26	.123	.373	98.172							
27	.110	.333	98.505							
28	.105	.319	98.824							
29	.094	.285	99.108							
30	.082	.249	99.357							
31	.078	.237	99.595							
32	.074	.223	99.818							
33	.060	.182	100.000							

Extraction Method: Principal Component Analysis.

Rotated Component Matrix <sup>a</sup>						
	Component					
	1	2	3	4	5	6
EC3	.790					
EC5	.773					
EC4	.768					
EC2	.752					
EC1	.750					
EC7	.699					
EC6	.691					
EC8	.612					
EN2		.822				
EN3		.804				
EN4		.800				
EN5		.786				
EN6		.746				
EN1		.715				
SC7			.813			
SC6			.802			
SC9			.771			
SC10			.764			
SC8			.737			
SC5			.624			
F7				.819		
F8				.813		
F6				.807		
F9				.786		
F5				.736		
SC1					.860	
SC2					.826	
SC3					.799	
SC4					.728	
F2						.872
F3						.843
F4						.792
F1						.657
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 7 iterations.						

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.797
Bartlett's Test of Sphericity	Approx. Chi-Square	545.404
	df	6
	Sig.	.000

<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.055	76.385	76.385	3.055	76.385	76.385
2	.493	12.333	88.718			
3	.245	6.126	94.843			
4	.206	5.157	100.000			

Extraction Method: Principal Component Analysis.

<b>Component Matrix<sup>a</sup></b>	
	Component
	1
SD2	.904
SD4	.894
SD3	.877
SD1	.818

Extraction Method: Principal Component Analysis.

a. 1 component(s) extracted.

*Tourism destination*

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.813
Bartlett's Test of Sphericity	Approx. Chi-Square	446.905
	df	6
	Sig.	.000

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.813
Bartlett's Test of Sphericity	Approx. Chi-Square	446.905
	df	6
	Sig.	.000

<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.887	72.175	72.175	2.887	72.175	72.175
2	.568	14.212	86.387			
3	.288	7.190	93.577			
4	.257	6.423	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix <sup>a</sup>	
	Component
	1
T2	.901
T4	.877
T3	.869
T1	.743
Extraction Method: Principal Component Analysis.	
a. 1 component(s) extracted.	

#### T-tests

##### 1. Tourism destination

**Group Statistics**

	resident	N	Mean	Std. Deviation	Std. Error Mean
T	.00	113	4.0863	1.12191	.10554
	1.00	105	3.9468	.89939	.08777

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
T	Equal variances assumed	11.017	.001	1.008	216	.315	.13946
	Equal variances not assumed			1.016	211.531	.311	.13946

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
T	Equal variances assumed	.13837	-.13328	.41219
	Equal variances not assumed	.13727	-.13113	.41005

**2. Sustainable development**

**Group Statistics**

	resident	N	Mean	Std. Deviation	Std. Error Mean
SD	.00	113	3.9484	1.21429	.11423
	1.00	105	3.8849	.91063	.08887

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
SD	Equal variances assumed	11.224	.001	.434	216	.665	.06346
	Equal variances not assumed			.438	206.958	.662	.06346

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
SD	Equal variances assumed	.14623	-.22476	.35168
	Equal variances not assumed	.14473	-.22187	.34879

### 3. Cultural impact

**Group Statistics**

	resident	N	Mean	Std. Deviation	Std. Error Mean
CUL	.00	119	4.1681	.96520	.08848
	1.00	105	3.8468	.99116	.09673

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
CUL	Equal variances assumed	.248	.619	2.455	222	.015	.32124
	Equal variances not assumed			2.451	216.971	.015	.32124

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
CUL	Equal variances assumed	.13087	.06333	.57915
	Equal variances not assumed	.13109	.06287	.57962

### 4. Social impact

	resident	N	Mean	Std. Deviation	Std. Error Mean
SOC	.00	119	3.8634	1.13424	.10398
	1.00	105	3.7975	.94158	.09189

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
SOC	Equal variances assumed	7.400	.007	.470	222	.639	.06599
	Equal variances not assumed			.476	221.203	.635	.06599

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
SOC	Equal variances assumed	.14037	-.21065	.34262
	Equal variances not assumed	.13876	-.20748	.33945

**5. Economic impact**

**Group Statistics**

	resident	N	Mean	Std. Deviation	Std. Error Mean
EC	.00	119	3.8442	1.04703	.09598
	1.00	105	3.7220	.86786	.08469



**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
EC	Equal variances assumed	8.989	.003	.944	222	.346	.12224
	Equal variances not assumed			.955	221.163	.341	.12224

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
EC	Equal variances assumed	.12951	-.13298	.37746
	Equal variances not assumed	.12801	-.13003	.37451

**6. Environment impact**

**Group Statistics**

	resident	N	Mean	Std. Deviation	Std. Error Mean
EN	.00	119	3.7227	1.13481	.10403
	1.00	105	3.8225	.84754	.08271

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
EN	Equal variances assumed	14.687	.000	-.738	222	.461	-.09985
	Equal variances not assumed			-.751	216.280	.453	-.09985

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
EN	Equal variances assumed	.13529	-.36647	.16677
	Equal variances not assumed	.13290	-.36180	.16210

**7. Financial sustainability**

**Group Statistics**

resident	N	Mean	Std. Deviation	Std. Error Mean
.00	119	3.7808	1.21939	.11178
1.00	105	3.8254	.86414	.08433

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
FS	Equal variances assumed	18.007	.000	-.312	222	.755	-.04458
	Equal variances not assumed			-.318	212.458	.750	-.04458

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
FS	Equal variances assumed	.14297	-.32633	.23716
	Equal variances not assumed	.14002	-.32060	.23143

**8. Local control**

**Group Statistics**

	resident	N	Mean	Std. Deviation	Std. Error Mean
LC	.00	113	3.8319	1.06388	.10008
	1.00	105	3.8333	.81367	.07941

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
LC	Equal variances assumed	13.795	.000	-.011	216	.991	-.00147
	Equal variances not assumed			-.012	208.439	.991	-.00147

**Independent Samples Test**

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
LC	Equal variances assumed	.12899	-.25572	.25278
	Equal variances not assumed	.12776	-.25333	.25038