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The Official Refereed Research Journal of Central Philippine University,
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University Research Center

5000 Jaro, Iloilo City Philippines
Tel. No. (033) 329-1971 to 79 (local 2109) E-Mail: urc@cpu.edu.ph

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MESSAGE

IRVING DOMINGO L. RIO, D.Mgt.

Chairperson, Research Management Committee

Vice President for Academic Affairs

Let me warmly congratulate the faculty from the School of Graduate Studies (SGS) for publishing their research in our university journal. Research is very close to my heart and I strongly encourage the faculty to maximize their potential in research.

As VPAA and Chairperson of the Research Management Committee, my foremost goal is to motivate the faculty from all colleges/departments to grow in research and publication. This is indeed a big challenge, but this school year we have more faculty members who are actively involved in research.

Many of them received training in different research methodologies / methods and there are currently around 80 of them doing mixed methods, discourse analysis, engineering and experimental research and with the right support, we expect them to complete their research before the end of this year.

Every teacher should grow in research and the administration under the leadership of Pres. Teodoro C. Robles, Ph.D. is committed to creating an environment that is truly developmental in nature where educators are inspired and never afraid to conduct research.

In closing, let me refer you to Proverbs 1:5 ***“Let the wise hear and increase in learning, and the one who understands obtain guidance”***. The University Research Center is your partner in your quest to grow in research and is dedicated to providing you with the needed support and guidance.

Thank you and God bless.

TABLE OF CONTENTS

- 1** Violent Village Dispute: A Phenomenological Study
Irving Domingo L. Rio¹, Renia F. Dela Peña², Kareen Jay D. Lozada², Ma. Corazon G. Nieva² and Bernadine T. Baligat²
- 14** Determinants of Tourists' Satisfaction: The Case of DOT Accredited Accommodation Establishments in the Province of Capiz, Philippines
Janet V. Ledesma¹, Mary O' T. Penetrante² and Carmen N. Hernandez²
- 25** Food Tourism Industry in SOCCSKSARGEN Region: Resources, Awareness, Attitude, and Compliance with the Implementing Rules and Regulations on Food Safety and Sanitation among Street Food Vendors
Milchie G. Palapar¹ and Irving Domingo L. Rio²
- 34** Supervisor's Leadership Style, Personnel Empowerment, Engagement, Work-Life Balance, Job Satisfaction and Intention to Stay in the Center for Disease Control and Prevention in Henan Province, China
Xu Bin¹ and Mary O' T. Penetrante²
- 53** Development and Evaluation of Modules for Senior High School Physics Teachers
Edgardo P. Gerada
- 91** Rural-Urban Interactions and Interdependence: Policy Implications for the Enhancement of Linkages between Iloilo City and the Province of Guimaras
Evan Anthony V. Arias¹ and Carmen N. Hernandez²
- 101** Factors Influencing the Decision Not To Retire among the Retiring Personnel of Iloilo Provincial Government
Shara May P. Centina¹ and Gynnyn G. Gumban²
- 111** Factors Associated with the Compliance to Ecological Solid Waste Management Act of 2000 (RA 9003) of Inland Resort Establishments in the Province of Iloilo: Inputs to Policy Enhancement
Tadema B. Formarejo¹, Carmen N. Hernandez² and Lorna T. Grande²
- 119** Knowledge, Experience, Expectation and Satisfaction of Operations Staff on Audit Services of a Microfinance NGO Iloilo
Allen Dave C. Fuego¹ and Rowena M. Libo-on²
- 127** Green Supply Chain Initiatives and Sustainable Performance: A Case Study of Darlings' Milktea Shop in Iloilo
Jengkey H. Ventura¹ and Gynnyn G. Gumban²
- 140** Anxiety to COVID-19 Vaccination among Personnel in a Tertiary Government Hospital in Iloilo City
Marcos D. Bito-onon¹ and Alfonso E. Catolin²
- 154** Level of Performance of the Lupon Members Under the Barangay Justice System as Perceived by the Constituents of the Selected Barangays in Municipality of Badiangan, Iloilo, Philippines
JD Chris Y. Dofeliz¹ and Renia F. De la Peña²
- 170** Sustainable Tourism Awareness-Adherence and Coastal Issues and Concerns of the Selected Coastal Tourism Stakeholders in Southern Iloilo, Philippines
Carmen N. Hernandez¹, Maribel B. Duntun², Ma. Amihan T. Panes² and Febe Rose L. Torres²

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ABSTRACT

Several village disputes in Central Panay have created untold sufferings to indigenous communities due to their violent nature. Some disputes of this nature have escalated to bloody village raids that claimed several lives and untold dislocation of families. Vengeance is considered as a collective village or clan undertaking and is strongly embedded in *Panay-Bukidnon* culture. It is considered as a shared community obligation rather than a personal pursuit (Rio, 2016). This study aims to understand the lived experiences of those who have experienced violent village disputes and qualitative phenomenological research method was utilized to fully explore the phenomenon. Face-to-face unstructured interviews were conducted in their natural habitat. There are five emerging themes: (1) disbelief that they were able to survive years of village disputes; (2) rationalization of vengeance; (3) the necessity to be brave; (4) sufferings endured in the forest; and (5) the importance of peaceful dispute settlement. Exploring and understanding the phenomenon of village disputes will enable the local Government Units (LGUs), the National Commission on Indigenous People, and Non-government organizations to formulate a more realistic means of **maintaining** social order in the hinterlands of Central Panay.

Keywords: inter-village dispute, Panay-Bukidnon, indigenous people, phenomenological study

INTRODUCTION

Placing the law in the hands of its citizens is considered illegal in modern states, although this practice is deeply rooted in the culture of some tribal communities. The enforcement of law and order requires government institutions to constantly make and implement laws in order to address disputes among the people before they reach a level that may threaten social order ((National Institute of Justice 2015).

Vengeance is encouraged in the Panay-Bukidnon culture. The value of a person is expressed in a person's ability to keep his honor in the community (Brandon and Richard 1999). Vengeance has a very important role in the justice system in the Panay-Bukidnon culture. For most members of the tribe, the penalty of incarceration cannot compensate for the loss of a family member. The bereaved family considers vengeance as a shared community obligation rather than a personal pursuit. Failure to avenge can create an impression of the crime committed as just and predisposes a family to abuse by other members of the community. Retaliation that results to the death of members of the other tribe or family provides a counterbalance for the loss. For the Panay Bukidnon, vengeance

sustains morality and serves as a control mechanism to regulate human conduct and strengthen social order in the community (Rio, 2016).

Whitman (2004) argues that people need to rationalize their actions of committing violent acts of vengeance by anchoring it on self-defense or extreme emotional disturbance. In the case of the Panay-Bukidnon, committing acts of vengeance is justified as a community obligation. The culture of vengeance is greatly influenced by the perception of bravery as a desirable virtue that brings many advantages to a person.

The phenomenon of the violent village dispute in this study is anchored on Cohen's Subculture Theory of Violence. Cohen's subcultural theory draws attention to the fact that criminals, in their view, do not act criminally at all. As members of subcultures, they are subject to different behavioral requirements based on values and norms that deviate from those of mainstream society. According to Cohen, these delinquent subcultures are characterized above all by their deviant values and morals, which enable their members to gain prestige and recognition. The behavior that is displayed within the subculture is

fundamentally different from that outside the subculture because of these new norms. For society as a whole, they seem deviant, often criminal (Cohen, A. and Short, J. (1968).

This phenomenological study will focus on the violent village dispute between the two villages in the province of Antique from 1996-1998. The said dispute started when the elders of one village accused residents of the other village of stealing some of their water buffalos. This accusation led to a raid conducted by men from the village of the accusers that claimed the lives of 14 residents and was later followed by a series of retaliatory raids that claimed the lives of 38 people from both villages.

Studying their experiences has significant importance in enriching the body of knowledge of Social Sciences and Social Work programs.

Epistemological and Theoretical Perspective of the Study

Epistemology is defined as the study of the nature, origin, and limits of human knowledge (Martinich and Stroll, 2014). This study is anchored on the epistemology of constructivism which refers to the process by which reality is created by the observer. (Jonassen, 1991). In this study, the participants create their subjective meaning based on their experiences

during the violent dispute in their villages.

Interpretivism is a philosophical doctrine which holds the belief that reality and knowledge are socially constructed by human beings. For interpretivists, researchers assume that access to reality (given or socially constructed) is only through social construction such as language, consciousness, shared meanings, and instruments (Myers, 2008). The position of interpretivis in relation to epistemology and ontology is that interpretivists believe that reality is multiple and relative (Hudson and Ozanne, 1988, cited in Edirisingha (2012).

Purpose of the Study

This purpose of this study is to examine and understand the lived experience of identified survivors after the violent dispute that erupted between two villages in Valderama, Antique from 1996-1998.

Statement of the Problem

The researchers would like to answer the research question: "What does it mean to experience violent dispute? and (2) What is the essence of these experiences after surviving the violent village dispute?"

Significance of the Study

The findings of this study may contribute to the limited literatures on *Panay-Bukidnon* culture and hopefully provide deeper insights into the dynamics of their way of life, which is oftentimes stereotyped by lowlanders as barbaric and violent.

The results of the study may also offer valuable information to local government units, national government agencies, non-profit organizations to formulate more

culture-bound programs and projects without threatening the survival of their indigenous culture.

Delimitation of the Study

This research was confined to an inquiry of information with the members of the elders of a village that was involved in the inter-village dispute in the Province of Antique. Qualitative research does not aim to generalize but to describe in depth the participants lived experiences.

METHODOLOGY

Research Design

Qualitative research offers the opportunity to focus on finding answers to questions centered on social experience, how it is created, and how it gives meaning to human life (Denzin & Lincoln, 1994). A qualitative approach will allow the participants to richly and accurately describe the phenomenon through their personal views.

Methodology

The nature of this phenomenological research is to understand deeper the essences and the lived experiences of participants

based on how they described their real life experiences as survivors of violent village dispute, hence, this research adopted the descriptive phenomenological methodology.

Descriptive phenomenology involves direct exploration, analysis, description of particular phenomena, as free as possible from unexamined presuppositions, aiming at maximum intuitive presentation (Siegelberg, 1975).

Study Participants

The study participants were only the elders from one village who expressed their willingness to be interviewed by the researchers; hence,

clan war survivors from the other village were excluded. The researchers have chosen the purposive sampling which is considered by Welman and Kruger (1999) as the most important type of non-probability sampling in identifying the primary participants of this research.

Research Setting

The study was conducted in one of the two villages in the Province of Antique, in order for them to be comfortable in articulating their experiences.

Data Collection

Hiligaynon was used to interview the participants in order for them to fully express their experiences.

Ethical Consideration

The participants were assured of privacy and confidentiality of their identities. The contents of the ethical consent form were explained to them before they signed at the start of the interview. The right to withdraw anytime was accorded to the participants.

Data Processing and Analysis

Interviews with the village war survivors were recorded using a digital

recorder. The researchers transcribed the interview using Hyner's (1985) method. The researchers conducted the interviews until the saturation point was achieved. The documented interviews were reviewed by listening again to the recorded interview in order to ensure clarity of words. Units of general meaning were delineated and units of meaning relevant to the research question were again delineated. Units of the same meaning related to violent village dispute experience were clustered and the determination of themes was derived from clusters of meaning. A summary was written for each individual interview and the result of each interview was checked with the corresponding participant. Summaries were modified as needed, so with the themes.

Credibility and Dependability of the Study

The researchers applied the techniques of triangulation of sources, member checking, reflexive journaling, and an audit to establish the trustworthiness criteria of credibility, dependability, and conformability (Erlandson et al, 1993).

RESULTS AND DISCUSSION

Themes and Subthemes

After the collection and analysis of the data, five major themes were identified that described the experiences of clan war survivors. The five themes are: (1) Disbelief in Being Alive; (2) Rationalizing Vengeance; (3) Necessity to be Braved; (4) Extreme Distrust to Strangers; and (5) Sufferings Endured in the Forest; and (6) Overwhelming Desire to Settle Disputes.

Emerging Theme #1: Disbelief in Being Alive

People who experienced the pains of the violent village dispute are in disbelief that they were able to survive its brutality. All of the participants have claimed that they were in a state of helplessness and have feared losing their elders. However, it was God's will for them to survive the village war.

Subtheme #1: Will of God

In the words of participant OL "If God decides to extend your life, even if your enemies are going to use many firearms that are enough to bury you, you will not die". This feeling is similar to the findings of a study conducted by Penner (2012) wherein the participants

talked about their God and how their beliefs and religious practices were important in the struggle to survive the Congolese refugee experience. A participant in that study claimed the he was able to escape from his captors because God had given him courage to escape and created the needed distractions to his captors.

Subtheme #2: Fear of Losing the Elders

One participant, had stated that his greatest fear during the massacre was losing the elders of the clan who have protected them from several village raids in the past. He was in near tears when he said "The elders did everything just for us to survive, and where will we go if they are dead and who will take care of us?"

Sub-theme #3: State of Helplessness

Dal narrated "I cannot think properly because I was in shocked because all the houses were burned and I cannot do anything". However, CAN while

crying says "We cannot do anything because they have firearms, after the massacre, some of my brothers and sisters have decided to live in other places and all of us used to live happily in our village". In the study of Almoshmouse (2016), the negative effects of these experiences are more likely to worsen when survivors are displaced or end up seeking refuge in unfamiliar places.

Emerging Theme No. 2: Rationalizing Vengeance

Failure to avenge the death of a family member can create an impression of the crime committed as just and predisposes a family to abuse by other members of the community. For the *Panay Bukidnon*, vengeance sustains morality and serves as a control mechanism to regulate human conduct and strengthen social order in the community (Rio.2016)

Subtheme #1: Justice through Vengeance

Those who have experienced the village war wanted to seek justice through revenge. YOK stated "since you attack a peaceful village, it is just right that you die. I am happy that we killed a member of their

family because they also killed a member of our family and we are now even". KAP added "It's good that we have taken vengeance because they completely destroyed our lives".

Subtheme #2: The Joy of Taking Revenge

In the words of YOK "I felt great when my family has finally taken vengeance for the damage and pain that they had caused us, it is just right for them to also experience the horror brought by our vengeance because they deserve it". It agrees with Gollwitzer (2010), that there are some situations wherein those seeking revenge have experienced satisfaction of doing the act when the offender knows the connection between the original insult and the retaliation.

Emerging Theme No. 3: The Necessity to be Brave

People residing at the mountain village and experienced violent conflict have developed strong courage to survive.

Subtheme #1. Bravery as Det'ente against Oppression

The devastating effect of violent dispute caused the villagers to stand up and become brave to fight for themselves and their family. Most of the participants said *"Our sense of bravery became dominant over being fearful and terrified, we will not allow them to call us cowards"*.

The need for bravery and the necessity to resort to war also correlates with the study of Sheffer, D. (2009) that Americans believed that war could be necessary and inevitable, the only solution to conflicting viewpoints.

Subtheme #2. Willingness to Kill

"We found ourselves in need to become more audacious and firm to fight back," OL said. His statement correlates to Col. John Rietzell who conducted a seminar on "War on Terror" at the University of Redlands in 2007. He highlighted that the natural human instinct for any person in the situation of war is to fight for their life. The villagers developed in them the

desire and willingness to take life because they believed that either they'll fight back or not, they will still be killed.

Subtheme #3. Collective Self-defense for Survival

Most of the participants said that, *"we value our family that's why we have to fight for them..* It is the same as to the work made by Nixon, R.M, (1985) entitled A World Threat; All Nations Must Fight Terrorism, Fourth Edition; Seattle Times. It states: "We must recognize that where our interests are clearly involved, we must take risks to protect them."

Emerging Theme No. 4: Extreme Distrust to Strangers

Victims of violent crimes demonstrated that the effects of violent crime were persistent. (Shapland, Wilmore, & Duff, 1985).

Subtheme #1: Fear of Reprisal

OL further added, "when we were working in the fields, someone has to look-out for the presence of the enemy by climbing a tree and scouting the environment". However,

KAP said "I can never trust them because I feel they have a grudge on us because we also killed some of them".

Karina Schumann and Michael Ross consider blood feuds "retaliatory cycles of violence between warring families or clans, it may endure for generations, with one act of blood revenge being followed by a retaliatory act of revenge in an endless cycle of violence (Schuman & Ross, 2010).

Subtheme #2: Unexplained Anxiety

Fear and anxiety were closely related. Potentially unpredictable situations led to feelings of anxiety or paranoia related to a fear of re-victimization.

"Even when I am asleep, I experienced waking up in the middle of the night and feeling afraid" said CAN. She feels very nervous every time she sees men in military uniform carrying firearms.

Subtheme #3: Very Limited Social Engagement

Children were prohibited by their parents to play outside

the village for fear that they might be taken hostage by people from the other village. The memory of KAP is still vivid when he said "we don't play outside the village anymore because we fear that we might be taken hostage". Fear of crime can result in withdrawal from social situations, including avoidance of situations that increase the risk for delinquency and victimization (Yuan & McNeeley, 2017).

Emerging Theme No. 5: Sufferings Endured in the Forest

Subtheme #1 Seeking Shelter in the Wilderness

After all their houses were burned, some residents fled to the safety of the forest and not knowing where they will go. For CAN, the decision to leave the village immediately was done without any second thoughts when she narrated "we can never forget what we had experienced, what we normally cannot endure, we endured and what we normally don't eat, we ate just to survive". KAP also narrated "we fled to the mountains and

made shelters made of grasses and slept on the cold ground”.

Subtheme #2 Pain and Hunger

YOK said “because of hunger, I was forced to eat uncooked rice in order to survive”. Those could not endure the sufferings took the risk of going back to the village. KAP saw of them leave there hiding place when he narrated “some left and went back to the village while, we decided to stay and built shelters made of grasses”.

The children were not spared from the ordeal, CAN narrated “the feet of the children were bleeding because they are not used to walk in this kind of terrain”.

Emerging Theme # 6: Overwhelming Desire to Settle the Dispute

Dispute settlement takes the form it does because it is necessary to sustain a social order that is undifferentiated, multiplex, and integrated on the basis of a kinship structure. (Katherine S. Newman, 1983)

Subtheme #1: Initiative to lead

In the words of one villager, “I will take the responsibility to settle things when there will be disagreements in your midst. I want peace and unity to reign here in the village, just call me if you need somebody to meddle and resolve arguments and quarrel between families, I will take whatever it costs just to fix things) he further convinced the villagers.

Subtheme #2: Aspiration for peaceful resolution

When asked about how he managed to convince those who didn’t want to convene, a villager answered: “I just didn’t force them to follow what we wanted; we just convince them one step at a time because I believed that if we would compel them to do so, they would just continue disregarding our plea for settlement. When you can recognize the legitimacy of conflicting needs and become willing to examine them in an environment of compassionate understanding, it opens pathways to creative problem

solving, team building, and improved relationships.

Subtheme #3: Importance of Open Communication

In the end, the villagers were able to live together in unity again for they chose to communicate to each other in order to solve the conflict. DAL explained to us that "One of the things I asked them to do in order to avoid conflict is to talk or communicate to one another first before they would react, I requested all the residents from our village to come back not only to get back to their own place to settle but also to resolve things and reconcile with one another in order to live together peacefully.

CONCLUSIONS

All of the participants have witnessed different levels of brutality and in fact, many of them don't know why they were able to survive. Many of them have endured for months the harsh environment and sufferings while hiding in the forest. The events forced them to be brave and seek

vengeance in order to express their desire to seek justice and retribution. Many have experienced unexplained anxiety and paranoia, this created among themselves extreme mistrust of strangers and the conscious effort that future disputes should be settled as soon as possible though peaceful means in order to avoid future sufferings of the people.

RECOMMENDATION

It is recommended to strengthen the indigenous dispute resolution, especially in villages located in far flung areas where the semblance of government is absent. The local government units and the National Commission on Indigenous People should hold regular dialogues with the indigenous people at least twice a year in order to know their problems and concerns and hopefully prevent disputes from happening;

The local police should make their presence known to indigenous communities and they should participate in dispute settlement on regular basis, and, invite tribal elders to attend LGU level discussions on local affairs in order to foster stronger relationship.

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Determinants of Tourists' Satisfaction: The Case of DOT Accredited Accommodation Establishments in the Province of Capiz, Philippines

Janet V. Ledesma¹, Mary O' T. Penetrante² and Carmen N. Hernandez²

ABSTRACT

This study used causal comparative design to determine the determinant effect of customer perception and customer expectation on customer satisfaction given the customer experience of the quality of services of DOT accredited accommodation establishments in the Province of Capiz. The results show that the tourists' overall satisfaction using the expectations and experience gap score is less than zero (-0.0357) which means they are dissatisfied. However, their overall satisfaction using perceptions and experience gap score is greater than zero (0.0026) which means they are satisfied. The overall net satisfaction was dissatisfied (mean difference=-0.0383). Specifically, they are only satisfied in one of the five dimensions and that is empathy (mean difference = 0.037), that is they are satisfied with the establishment 24-hour operation, providing them personal attention, considering their best interests at heart, and understanding your special needs. This also means that the accommodation establishments should work more on their assurance, responsiveness, tangibility, and responsiveness.

Keywords: Determinants, Customer Satisfaction, Expectation, Perception, Experience.

INTRODUCTION

Background of the Study

The recent development in the tourism industry during the last couple of decades has attracted the attention of various sectors and spur initiatives that hasten market competition. For one, the technological advancement provided the opportunity for tourists to know more about tourist destinations including available accommodations and amenities prior to making a purchase decision. This development has prompted the importance of the pre-purchase attributes of a product or service in understanding customer satisfaction and in developing competitive advantage (Mill, 2018).

Which factors influence customer satisfaction, which variables change customer satisfaction in which ways, how these variables can be managed, for which segments and which activities can be designed are the main questions that marketing managers usually consider. However, a review of literature shows that there is no universally accepted measure of customer satisfaction.

One ongoing debate in consumer satisfaction circles is the extent to which it is affected by cognitive (perception) process or by an emotional (expectation) state (Mill, 2018). In early years, Howard and

Sheth (1969) define satisfaction as the buyer's cognitive state (perception) of being adequately or inadequately rewarded for the sacrifice he has undergone. Engel and Blackwood (1982) see it as an evaluation that the chosen alternative is consistent with beliefs (expectation) with respect to that alternative. Oh, and Parks (1997) said that it is probably a complex human process involving extensive cognitive, affective, and other undiscovered psychological and physiological dynamics.

Recent development in assessing customer satisfaction is the understanding of the state of customer behavior prior to purchase decision and consummation of service and after that. Knowing what customers expect and how they perceive the services being offered by establishments are believed to be the important concepts to understanding customer satisfaction. Many researchers said that these behaviors should be considered in the assessment of satisfaction considering that today, customers have the chance to experience the service through sensing (word of mouth, advertisement, virtual tour of the place, chat, messages, and other social media means) prior to making a purchase decision. This has

led to assessment models in measuring customer satisfaction that include customer behavior at the pre, during, and post purchase stage.

The Expectancy-Disconfirmation Paradigm (EDP) developed by Oliver (1977), received the widest acceptance among researchers which generally imply conscious comparison between a cognitive state prior to an event (expectation) and a subsequent cognitive state (perception), usually realized after the event is experienced (Oliver, 1980). Comparing the customer's expectation with experience (expectation-experience gap) and perception with experience (perception-experience gap) and determining the resultant difference between these two dimensions would result in the overall net customer satisfaction.

Truong & Foster (2015) suggested that to measure tourist satisfaction, a tourist's experience at the destination visited and the expectations about the destination could be compared. This is also consistent with the ways Revfine.com, an acknowledge knowledge platform for the global hospitality and travel industry, measures tourist satisfaction - how tourism products and services supplied by a provider of the tourism system meet or surpass expectation of tourist (<https://www.revfine.com/tourism-industry/>). The gap between the two

variables decides whether the customer is satisfied or dissatisfied. This gap is known as Customer Gap in the earlier studies of Parasuraman, et al., (1985) and TTI Global Research (<https://www.tti-global-research.co.uk/customer-expectation-customer-perception-gap-analysis-pzb>).

The EDP is gaining wide acceptance in measuring customer satisfaction processes especially where customers are given the chance to virtually experience the service prior to making a purchase decision. This process of sensing the service allows the customer to develop an expectation of the service and the process is completed when customers compare the actual service performance with their pre-experience standard or expectation (Beardon & Teel 1993, Cardozo 1965, Day 1977, Oliver 1980).

Indeed, there is a need to look at the effect of customer expectation and perception on customer satisfaction of accommodation services given their experience of the service to enable the hotel managers better understand which of these two variables, measured before the purchase decision, has better effect on customer satisfaction so that better strategies may be developed to enhance their market competitiveness. In a related study, the findings show high

sustainable tourism adherence and awareness on current coastal issues and concerns (Hernandez, et al., 2021). As Cornella (2015) and Marinao (2017) pointed out, the key motivation for the growing emphasis on customer satisfaction is that high customer satisfaction led to a stronger competitive position resulting in higher market share and profit. Customer satisfaction is also generally assumed to be a significant determinant of repeat sales, positive word-of-mouth, and customer loyalty since satisfied customers return and buy more, and they tell other people about their experiences (Fornell, et al., 2006).

It is with these assumptions on customer perception and expectation, at the pre and post purchase stage that have led to the following questions: Which of the two variables when measured against customer experience is a better determinant of customer satisfaction? Results of this study may provide empirical evidence on the academic debate as to the determinant effect of perception and expectation on overall consumer satisfaction and could inform the development of a strategic framework to improve the quality of service of the accommodation facilities in the Province of Capiz that will eventually increase the tourist satisfaction and

improve market competitiveness.

Objectives of the Study

1. determine the tourists' level of perceptions of the service quality of accommodation establishments in terms of the following dimensions: assurance, responsiveness, tangibility, empathy, and reliability;
2. determine the tourists' level of expectations of the service quality of accommodation establishments in terms of the following dimensions: assurance, responsiveness, tangibility, empathy, and reliability;
3. determine the tourists' level of experience of the service quality of accommodation establishments in terms of the following dimensions: assurance, responsiveness, tangibility, empathy, and reliability;
4. determine the tourists' level of satisfaction using expectation - experience gap score of the quality of services of accommodation establishments;
5. determine the tourist level of satisfaction using perception - experience gap score of these services of accommodation establishments;
6. Determine the tourists' overall net satisfaction score using the expectation – perception gap scores; and,
7. Determine which of the two independent variables – tourists' expectation or tourists' perception, is a better determinant of tourists' satisfaction.

Theoretical Framework of the Study

The Expectancy-Disconfirmation Paradigm developed by Oliver in 1977 was the framework employed in this study to determine customer satisfaction of the quality of service of accommodation establishments especially in a rapidly growing competitive e-marketplace. The expectation or desire, experience, and perception are the variables defined in three distinct time periods, pre-purchase, during the experience, and post-purchase. The difference in the dimensions determines customer satisfaction.

Scope and Limitation of the Study

This study was conducted in March to September 2020 among 384

tourists, both domestic and foreign who availed of the services of ten (10) DOT accredited accommodation establishments in the Province of Capiz.

The study was limited only to tourists who availed of the services in the ten DOT accredited accommodation establishments during the time of the conduct of study in March to September 2020, the period when the first wave of COVID-19 pandemic hit the country and travel restriction were at its height that resulted to fewer foreign tourists in the province. This has limited the number of foreign tourist respondents who participated in the study. Results could have been more comprehensive with more foreign tourists respondents included in the study.

RESEARCH DESIGN AND METHODOLOGY

This study utilized a causal-comparative research design to determine the determinants of tourist satisfaction. The dimensions of tourist expectations, perceptions and experiences includes assurance, empathy, reliability, responsiveness, and tangibility which were all based on the SERQUAL model espoused by Parasuraman et al., (1988) since these dimensions are said to be most appropriately used in the tourism

service sector. Systematic sampling was used to select the respondents from those who availed of the services of the ten DOT accredited accommodation establishments, taking every 1st and 2nd tourist clients during the day. This process is repeated every day for one month until all 384 tourists are completed.

Mean scores of tourist perceptions, expectations, and experience were determined Then the

customer net satisfaction was determined using the formula: (Mean expectation minus mean experience) – (Mean perception minus mean experience) using the EDP Model by Oliver (1997). To determine whether significant differences exist between

the mean scores of the dimensions of expectation and perceptions, T-test was used. To determine which of the independent variables are significant determinants of customer satisfaction, Pearson's r correlation and linear regression was used.

RESULTS AND DISCUSSION

Tourists Satisfaction of the Quality of Services of the Accommodation Establishments

Table 1 shows the test results when the tourists' satisfaction was determined using the difference in the mean scores of perception and experience of the quality of service of the ten DOT accredited accommodation establishments. The data revealed that the difference in the mean scores of tourist perceptions and experience (perception-experience gap) was greater than zero (mean = 0.0026), which means that the tourist is satisfied with the overall services of accommodation establishments based on their perception and experience of the services. This finding suggests that there is enough evidence to reject the null hypothesis (H05) and accept the

alternative hypothesis (Ha5) that the tourists' mean score of satisfaction is greater than zero which means that the tourists are satisfied with the quality of service of the ten accommodation establishments.

Specifically, when each of the five domains were subjected to a test of differences, the data show that assurance (mean = 0.0052), empathy (mean = 0.0208) and reliability (mean = 0.0234) have results greater than zero. This means that tourists were satisfied with the services in these three dimensions. However, negative differences were observed in the mean scores of responsiveness (-0.0091), and tangibility (mean = -0.0072) which indicates that the tourists are dissatisfied with the said quality of services of the accommodation establishments.

Table 1

Difference in the Mean Scores of Tourist Perception and Experience of the Quality of Service of Accommodation Establishments (N=384).

<i>Indicators</i>	<i>Perception</i>		<i>Experience</i>		<i>Satisfaction</i>	<i>df</i>	<i>Interpretation</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean of Diff</i>		
Overall	3.587	0.3650	3.590	0.3523	0.0026	383	Satisfied
Assurance	3.681	0.4037	3.676	0.3987	0.0052	383	Satisfied
Responsiveness	3.617	0.4205	3.626	0.4381	-0.0091	383	Dissatisfied
Tangibility	3.531	0.4612	3.538	0.4387	-0.0072	383	Dissatisfied
Empathy	3.566	0.4530	3.545	0.4160	0.0208	383	Satisfied
Reliability	3.579	0.4082	3.556	0.4398	0.0234	383	Satisfied

Tourists Satisfaction of the Quality of Services of the Accommodation Establishments

Table 2 shows the test results when the tourists’ satisfaction was determined using the difference in the mean scores of expectation and experience of the quality of service of the ten DOT accredited accommodation establishments. The data revealed that the difference in the mean scores of tourist expectations and experience (expectation-experience gap) was less than zero (mean =-0.0357), which means that the tourists are not satisfied with the overall services of accommodation establishments. This finding suggests that there is not enough evidence to reject the null hypothesis (H06) that the tourists’ mean score of satisfaction

is not greater than zero, which means that the tourists are not satisfied with the quality of service of the ten accommodation establishments.

Specifically, when each of the five domains were subjected to test of differences, the data show that only empathy of the five domains has positive difference (mean=0.0245), while assurance (mean=-0.0579), responsiveness (mean=-0.612), tangibility (mean=-0.0072), and reliability (mean=-0.0357) have negative difference. This means that the tourists were satisfied only with the quality-of-service empathy but were dissatisfied with assurance, responsiveness, tangibility, and reliability.

Table 2

Difference in the Mean Scores of Tourist Expectation and Experience of the Quality of Service of Accommodation Establishments (N=384).

<i>Indicators</i>	<i>Expectation</i>		<i>Experience</i>		<i>Satisfaction</i> Mean of Diff	<i>df</i>	<i>Interpretation</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>			
Overall	3.554	0.3709	3.590	0.3523	-0.0357	383	Dissatisfied
Assurance	3.618	0.4354	3.676	0.3987	-0.0579	383	Dissatisfied
Responsiveness	3.564	0.4424	3.626	0.4381	-0.6125	383	Dissatisfied
Tangibility	3.531	0.4612	3.538	0.4387	-0.0072	383	Dissatisfied
Empathy	3.569	0.4499	3.545	0.4160	0.0245	383	Satisfied
Reliability	3.520	0.4481	3.556	0.4398	-0.0357	383	Dissatisfied

The data in Table 3 shows that the tourists overall net satisfaction was dissatisfied (mean difference = -0.0383). Specifically, they are only satisfied in one of the five dimensions and that is empathy (mean difference = 0.037). This means that the tourists are only satisfied with the establishment's 24-hour operation,

providing them personal attention, considering their best interests at heart, and understanding your special needs. This also means that the accommodation establishments should work more on their assurance, responsiveness, tangibility, and responsiveness.

Table 3

Overall Satisfaction of the Quality of Service of Accommodation Establishments (N=384).

<i>Indicators</i>	<i>Mean of Satisfaction Expectation</i>	<i>Mean of Satisfaction Perception</i>	<i>Overall Net Satisfaction</i>	<i>Interpretation</i>
Overall	-0.0357	0.0026	-0.0383	Dissatisfied
Assurance	-0.0579	0.0052	-0.0631	Dissatisfied
Responsiveness	-0.6125	-0.0091	-0.6034	Dissatisfied
Tangibility	-0.0072	-0.0072	0.00	Dissatisfied
Empathy	0.0245	0.0208	0.0037	Satisfied
Reliability	-0.0357	0.0234	-0.0591	Dissatisfied

CONCLUSION AND RECOMMENDATION

Conclusions

The tourists' overall satisfaction mean score as the difference between the mean scores of their perceptions and experience is greater than zero (0.0026) which means they are satisfied. The tourists' overall satisfaction mean score as the difference between the mean scores of their expectations and experience is less than zero (-0.0357) which means they are dissatisfied. Perceived Assurance and Expected tangibility are the two determinants of tourist satisfaction.

Recommendations

The local tourism office must intensify their tourism operations and management program in the Province of Capiz. Province of Capiz in tourism operations and management programs as one of the most important stakeholders. The accommodation establishments in the Province of Capiz must coordinate with the Department of Tourism in giving proper training and updating of their employees and staff especially on the new trends in the industry. The accommodation establishment must take into

consideration the suggestions and recommendations of their valued clientele as well as the accrediting bodies like Department of Tourism especially if it will affect continuous improvement of their service quality.

The accommodation establishments shall also coordinate with the local tourism office or local government units to plan out for unique activities that will heighten the tourist experience during the duration of their stay in the Province. To increase overall tourist satisfaction, it also recommended to improve the operations and management of the accommodation establishments in the Province of Capiz. Furthermore, to make a significant change and improvement in the service quality a strategic framework shall be formulated. This strategic framework shall consider creating and inclusion of activities to strengthen tourist perception, expectation, and experience. On the operations and management side, strategic alliance with other members of the supply chain is also recommended as part of the activities.

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Food Tourism Industry in SOCCSKSARGEN Region: Availability of Resources, Awareness, Attitude, and Compliance with the Implementing Rules and Regulations on Food Safety and Sanitation among Street Food Vendor

Milchie G. Palapar¹ and Irving Domingo L. Rio²

ABSTRACT

A predictive correlational study determined the level of resources, awareness, attitude, and extent of compliance with the Implementing Rules and Regulations (IRRs) on food safety and sanitation among street food vendors in food tourism industry in SOCCSKSARGEN Region, Philippines. The answers of 265 randomly selected street food vendors in the five cities of the said region of Mindanao to the 5-part questionnaire was the source of data for the study. Results showed that majority of the street food vendors have "occasionally available" resources. They were "less aware" about and have positive attitude towards IRRs on food safety and sanitation. The extent of compliance with IRRs on food safety was "satisfactory" and on sanitation was "very satisfactory." Civil status, type of premise, type of food sold and capital were significantly related to availability of resources. Type of premise was highly significantly related to awareness about IRRs on sanitation. Attitude significantly enhances the relationship between availability of resources, awareness and compliance with IRRs on food safety and sanitation. Level of awareness and availability of resources was a significant predictor of the extent of compliance with IRRs on sanitation, and on food safety, respectively.

Keywords: Awareness and compliance, resources, food safety, sanitation

INTRODUCTION

Background and Rationale of the Study

The food tourism industry in the SOCCSKSARGEN region of Mindanao, Philippines, is seen to be a major player in income generation in the area. The food industry is diversified and street food vending has become popular as people see the convenience of eating meals in public places considering its low cost, convenience and accessibility (Privitera & Nesci, 2015).

A significant challenge is safety and sanitation of the food sold. The food safety act of 2013 (RA 10611) is meant to protect the consumer by providing standards for the food service providers to comply with (Jeperson L., 2014).

The street food vendors particularly, are expected to comply with implementing rules and regulations on food safety and sanitation (Hutter, 2008).

However, the prevailing cases of food related health issues seem to indicate the inadequacy of food business operators to comply with the regulations resulting in unsafe food products and eventually compromising the health of the consumers (US FDA, 2019).

Thus, determining the extent of compliance with the Implementing Rules and Regulations (IRRs) of RA 10611 was the main objective of the study with the influence of such factors as availability of resources, awareness, and attitude with compliance also considered.

The final output of this study was to develop an implication of the findings to the policy program that will be significant to the food establishment, to the association of the street food vendors in SOCCSKSARGEN region, to the health authority and to the other related agencies.

Objectives

Generally, this study was conducted to determine the level of resources, awareness, attitude, and extent of compliance with the implementing Rules and Regulations (IRRs) on food safety and sanitation among street food vendors in the food tourism industry in SOCCSKSARGEN Region, Philippines.

Specifically, this study aimed to:

1. Describe the respondents in terms of Personal characteristics, Non-personal characteristics and Economic characteristics;

2. Describe the level of the availability of resources in the food business operation;

3. Describe the level of awareness of the implementing rules and regulations on food safety and sanitation;

4. Describe the attitude towards the implementing rules and regulation on food safety and sanitation;

5. Describe the extent of compliance with the implementing rules and regulations on food safety and sanitation;

6. Determine whether the personal characteristics, non-personal characteristics and economic characteristics are significantly related to the availability of resources for food business operation;

7. Determine whether personal characteristics, non-personal characteristics, and economic characteristics are significantly related to the level of awareness of the IRR on food safety and sanitation;

8. Determine whether the level of availability of the resources is significantly related with the level of awareness about IRR on food safety and sanitation;

9. Determine whether the level of availability of the resources is significantly correlated with attitude towards IRR on food safety and sanitation;

10. Determine whether the level of the awareness about IRRs on food safety and sanitation is significantly related with the attitude towards IRR on food safety and sanitation;

11. Determine whether attitude towards IRRs on food safety and sanitation is significantly related with the extent of compliance with the IRRs on food safety and sanitation;

12. Determine whether the level of the availability of resources in the food business operation is significantly related with compliance with IRR on food safety and sanitation and controlling for attitude;

13. Determine whether level of awareness about IRRs on food safety and sanitation is significantly related to the extent of compliance with the IRRs on food safety and sanitation and controlling for attitude; and,

14. Determine the strongest predictor of the extent of compliance of the street food vendors with the IRRs on food safety and sanitation.

Theoretical Framework

There are two theories used to support the study.

1. One is the Theory of Planned Behavior/Theory of Reasoned Action (LaMorte, 2019), which describes the attitude of the person and determines by his/her intention to perform the given tasks. In this study the task

referred to is compliance to IRRs on food safety and sanitation.

2. The other theory is The Resource-Based Theory (RBV), (Holdford, 2018), which explains and predicts changes in individual awareness and attitude towards human social behaviors.

Scope and Limitation of the Study

The aspects looked into the personal, non-personal and economic characteristics of the respondents in the operations affecting the resources, awareness and attitude of the street food vendors in the food tourism industry in SOCCSKSARGEN, Region.

METHODOLOGY

Research Design: The research design used was predictive correlational design.

Research Instrument: A 5-part questionnaire duly validated with a reliability coefficient of 0.934 was used. Items were taken from RA 10611, PD856- Code of Sanitation and PF 522 – Sanitation Standards for Food Establishments in the Philippines.

Sampling: Stratified sampling was employed with cities of General Santos, Koronadal, Tacurong, Kidapawan, and Alabel Sarangani as strata. Of the 850 street food vendors of SOCCSKSARGEN region 265 was the computed sample size which was proportionately distributed to each stratum.

Data Collection Technique: The researcher requested permission to conduct the study from the Dean of CPU School of Graduate Studies and from the mayors of the five cities covered. The questionnaire was personally administered and accordingly retrieved. The data was encoded using the SPSS v. 25 from which analysis called for in the study was done and results generated.

Statistical Tools Used: Descriptive statistics like frequency counts, percentages and weighted mean were used. Predictive correlation analytical tools include Eta, Chi-square test, Cramer's V, Gamma coefficient; zero order correlation, partial correlation, and stepwise regression were also used in analysis.

RESULTS

1. Street food vendors were relatively young, majority were females, attained secondary education, married, with average family size, Roman Catholics and were engaged in street food vending for the past five years.

2. Majority sell street food, that is, combo foods and local delicacies within 3 km distance from their residence, in mobile premises with a capital of Php 5,000 or less from which they earn Php 1,000 or more daily. Majority do not have other sources of income but a few do farming, driving or operate a sari-sari store.

3. The results further show that there was no significant relationship

between the level of availability of resources and extent of compliance with IRRs on food safety and sanitation controlling for attitude. Partial correlation analysis disclosed a highly significant influence of attitude to both awareness about and compliance with IRRs on food safety and sanitation.

4. Regression analysis indicate that availability of resources and awareness are significant predictors of the compliance to IRRs on food safety and sanitation. However, while level of availability of resources was a stronger predictor of compliance on food safety, awareness was a stronger predictor of compliance on sanitation.

Table 1

Summary of Findings Considering the Four Major Variables.

Variable/Parameter/Indicator	Food Safety	Sanitation
1. Availability of resources	Occasionally available	
2. Awareness about IRRs on food safety and sanitation	Often aware of 13 sections of IRRs on food safety	Often aware of all five (5) major provisions of IRRs on sanitation
3. Attitude towards IRRs on food safety and sanitation	Positive	Positive
4. Extent of compliance with the IRRs on food safety and sanitation	Satisfactory	Very satisfactory

Table 2

Analysis of Relationship between Independent and Dependent Variables.

Dependent Variables	Independent Variables			
	Civil status	Type of premise	Type of food sold	Capital
Availability of Resources for food safety and sanitation	Significantly related	Significantly related	Significantly related	Significantly related
Awareness about Food safety	No significant relationship	No significant relationship	No significant relationship	No significant Relationship
Sanitation	No significant relationship	Significantly related	No significant relationship	No significant relationship

Table 3

Analysis of Relationship among Study Variables.

Variables	Availability of resources	Awareness about IRRs on Food Safety and Sanitation	Attitude towards IRRs on Food Safety and Sanitation	Compliance with IRRs on
Availability of Resources for food safety and sanitation		Positive weak, significant relationship		Not significant relationship
Awareness about IRRs on food safety and sanitation	Positive weak, significant		Positive strong and highly significant relationship	
Attitude towards IRRs on food safety and sanitation		Positive strong and highly significant relationship		Positive strong and highly significant relationship
Compliance with IRRs on food safety and sanitation	No significant relationship		Positive strong and highly significant relationship	

Conclusions

1. Availability of resources among street food vendors are occasional with only two most indispensable items available among them.

2. The street food vendors were often aware of the sanitation standards but were always aware of the food

safety requirements and the potential health effects and risks to the consumers if not observed.

3. The positive attitude among street food vendors towards IRR on food safety and sanitation made them understand the need to provide not only sanitary food to the consumers

but amenities to maintain hygiene and sanitation such as comfort rooms and handwashing facilities.

4. The very satisfactory extent of compliance with IRRs on food safety is manifested in their practice of maintaining high quality of products sold.

5. Only four factors influence availability of resources for food safety and sanitation, civil status, type of premise, type of food sold and capital.

6. Compliance with IRRs on food safety and sanitation is determined by awareness and attitude, with attitude having a moderating effect to both awareness and compliance.

7. Availability of resources and awareness are significant predictors of compliance with IRRs on food safety and sanitation. Availability of resources was a stronger predictor of compliance with IRRs on food safety than awareness. On the contrary, awareness was a stronger predictor of compliance with IRRs on sanitation compared with availability of resources.

Recommendations

1. The profile of the respondents indicate that majority of the street food vendors belong to the vulnerable group specifically women, and it is suggested that food safety and sanitation guidelines more favorable to this group be formulated

2. Capitalization as one component of the business which in this study is rather low and needs reinforcement from stakeholders in terms of microfinancing. This considering that street food vending is the only source of income by the majority of the respondents.

3. Resources needed to level up the food vending business were not available among the street food vendors due to financial limitations. Mechanism must be set up to make these resources accessible to the street food vendors.

4. Street food vendors operate in premises far from their residence. A mobile facility may be provided so as not to compromise the quality of food sold which may be contaminated in transit.

5. The provisions stated in the IRRs on food safety and on sanitation is quite difficult for the street food vendors to understand considering that most of them had only a high school level of education. A simply worded guideline of the IRRs on food safety and sanitation specifically for street food vendors will be more useful.

6. It is likewise recommended that in order to assure high levels of compliance of the street food vendors to IRRs on food safety and sanitation, the existing rules and regulations must be reviewed and the relevant

provisions to the street food vendors be simplified for them to understand and eventually follow.

7. The guidelines on food safety and sanitation should be reviewed

periodically to maintain its relevance to the needs of the food business industry.

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Supervisor's Leadership Style, Personnel Empowerment, Engagement, Work-Life Balance, and Job Satisfaction for Personnel Intention to Stay in the Center for Disease Control and Prevention in Henan Province, China

Xu Bin¹ and Mary O' T. Penetrante²

ABSTRACT

The study aimed to analyze the role of leadership on medical laboratory personnel's empowerment, engagement, work-life balance, job satisfaction, and intention to stay in the Center for Disease Control and Prevention in Henan Province, China. A casual-comparative with retrospective pre-posttest research design and a self-assessed questionnaire was used to gather primary data from 334 medical laboratory personnel at the Disease Control and Prevention Centers in seventeen (17) cities in Henan Province, China. The level of empowerment personnel engagement of medical laboratory is high, work-life balance is "not sure", job satisfaction is slightly dissatisfied/ satisfied. These differs in age, education, and years of service. The strongest predictor of intention to stay of medical laboratory personnel is the level of engagement which is strongly correlated with the perceived leadership of the supervisors.

Keywords: leadership style, job satisfaction, work-life balance, engagement, personnel's empowerment

INTRODUCTION

Background and Rationale of the Study

China has emerged as the world's second largest economy in terms of total GDP and growth rate surpassing Japan and the US in 2010 (Sharma, Tejinder, 2017). Some researchers and economists (King, Peter & Zhang, Wei, 2014) (Hout & Michael, 2014) (Sharma, Tejinder, 2017) attributed these economic developments to the leadership styles of political and business leaders, which they characterized as a fusion of Chinese, Japanese, and American leadership styles.

The Chinese government implemented radical changes particularly on promoting public health and wellness, accelerating the implementation of policy for the development of medical and health personnel. The policy hopes to address the high employee turnover resulting in serious shortage of primary medical and health personnel to support the needs of the growing and aging population, the need to improve their work efficiency, and the organizational structure to facilitate equality and equity in public health governance from the national level down to the village level.

Despite China's new medical reform policy that clearly proposes to strengthen the construction of public health service systems, promote the gradual equalization of basic public health services, and improve the prevention and control system for major diseases and emergency public health emergency mechanisms, there is a magnitude of threat on public health and the severe shortage of medical laboratory personnel at all levels is hampering this reform initiatives (Zeng, Guang, 2019) (Wang, Kongliang, 2019). With the recent challenges being faced by CDC and recognizing that the medical and health personnel are an important guarantee for promoting the reform and development of medical and health undertakings and for safeguarding people's health, it is therefore vital to establish empirical evidences on the role of leadership styles on employees' empowerment, engagement, work-life balance, job satisfaction, and intention to stay in the Center for Disease Control and Prevention, before and after the supervisors' training to better understand the behaviors of medical laboratory personnel and to inform policy and decision-making in public health centers in the country.

General Objective of the Study

The study aims to analyze the role of leadership style on medical laboratory personnel's empowerment, engagement, work-life balance, job satisfaction, and intention to stay in the Center for Disease Control and Prevention in Henan Province, China to inform policy and decision making in public health centers in the country.

Specific Objectives

The study sought to achieve the following:

1. Determine the level of empowerment, engagement, work-life balance, and job satisfaction before and after the supervisor's training of the medical laboratory personnel;

2. Determine the leadership style of supervisors before and after their training as perceived by the medical laboratory personnel;

3. Determine the extent of intention to stay of medical laboratory personnel in the center before and after the supervisor's training;

4. Determine whether significant differences exist in the leadership styles of medical laboratory supervisors before and after the training as assessed by the personnel.

5. Determine whether significant differences exist in the personnel level of empowerment, engagement, work-life balance, and job satisfaction before

and after the supervisors' training.

6. Determine whether there are significant changes in the medical laboratory personnel intention to stay before and after the supervisors' training.

7. Determine whether significant correlations exist between the supervisors' leadership styles and personnel level of empowerment, engagement, work-life balance, job satisfaction and intention to stay, before and after the supervisors' training.

8. Determine which among the independent variables can predict the personnel intention to stay in the CDC.

Hypotheses of the Study

Based on the assumed relationships of the study variables as shown above, the following are the hypotheses of this study:

H_{a3}: No significant difference exists in the medical laboratory personnel intention to stay at CDC before and after the supervisors' training.

H₀₄: No significant correlations exist between the supervisors' leadership style and the medical laboratory personnel level of empowerment, engagement, work-life balance, job satisfaction before and after the supervisors' training.

H₀₅: The medical laboratory personnel level of empowerment,

engagement, work-life balance, and job satisfaction are not significantly related to the extent of their intention to stay.

H₀₆: None of the independent variables can predict medical laboratory personnel intention to stay at CDC.

Theoretical Framework of the Study

The theory clarifies the logic why people have relationships with each other and specifies the suitable time for beginning and ending of the relationships. It also highlighted that personal relationships are along with its costs and rewards (Mustapha et al., 2010).

The theory supposes that good deeds should be paid back and that when people receive benefits from

others, they would later feel responsible and then repay through effort and loyalty (Mossholder et al., 2005). It is also to say that when employees feel that more benefits are provided by the organization, the more likely they feel responsible, and they intend to stay with the organization. This is because most relationships are made up of a certain amount of give-and-take, but this does not mean that they are always equal.

Conceptual Framework of the Study

From the theoretical perspective presented above, it is assumed in this study that there are three groups of variables that could explain the intention behavior of a personnel based on a set of possible alternative behaviors.

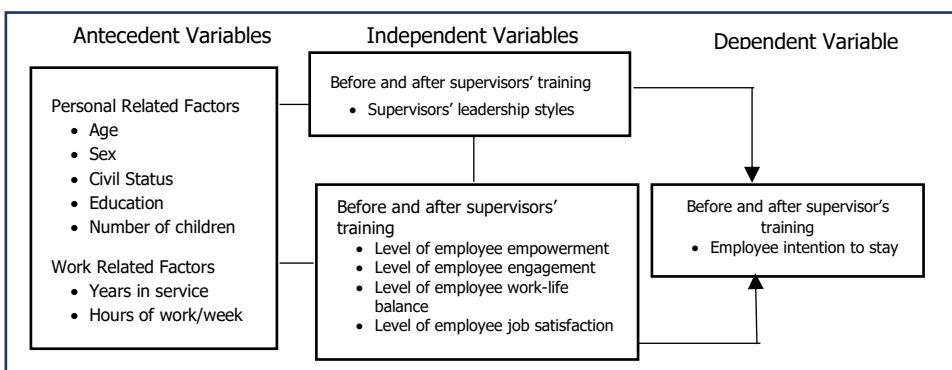


Figure 1. Conceptual Framework of the Study

Definition of Terms

Employee empowerment. In this study, it refers to the level of employee's power, authority, responsibility, resources, and freedom to make decisions and solve work related problems. It will be measured by determining the level of agreement or disagreement of the respondents in the given statements on employee empowerment using a 5-point Likert Scale where 1 = strongly disagree, 2 = disagree, 3 = slightly disagree/agree, 4 = agree, 5= strongly agree.(Choi et al., 2016).

Work-life Balance. In this study, it refers to the individual perception that work and non-work activities are compatible and promote growth in accordance with an individual's current life priorities. It will be measured by determining the respondents' level of agreement or disagreement on the statements on work-life balance using a 5-point Likert Scale where 1-strongly disagree, 2-disagree, 3-slightly disagree/agree, 4-agree, 5-strongly agree.

Employee engagement. It refers to an employee's emotional commitment to care about their work and their company and use discretionary effort to achieve the organizational goals(Kevin Kruse, 2012). This study will be measured by determining the level of agreement or

disagreement on the statements on work engagement particularly before and after the training of your supervisor using a 5-point Likert Scale where 1 = strongly disagree, 2 = disagree, 3 = slightly disagree/agree, 4 = agree, 5= strongly agree.

Employee job satisfaction. It refers to whether employees are happy, contented and fulfilling their desires and needs at work (Sageer et al., 2012). This study will be measured by determining the level of agreement or disagreement of the respondent in the statements on employee satisfaction using a 5-point Likert Scale where 1 = strongly disagree, 2 = disagree, 3 = slightly disagree/agree, 4 = agree, 5 = strongly agree.

Intention to stay. It refers to an employee's willingness to stay with an organization (Tett & Meyer, 1993). This study will be measured by determining the respondent's level of agreement or disagreement in the statements on intention to stay in the organization using a 5-point Likert Scale where 1 = strongly disagree, 2 = disagree, 3 = slightly disagree/agree, 4 = agree, 5 = strongly agree. These responses were analyzed and transformed into a range of scores where 1.0 – 2.33 means that the medical personnel extent of intention to stay is low, 2.34 – 3.66 means average and 3.67 – 5.0 means high.

Leadership style. Antonakis (Antonakis et al., 2003) defined leadership style as the nature of the influencing process and its resultant outcomes - that occurs between a leader and followers and how this influencing process is explained by the leader's dispositional characteristics and behaviors, follower perceptions and attributions of the leader, and the context in which the influencing process occurs and presented empirical evidence on the three leadership typologies - Transformational, Transactional, and Laissez-Faire. (Newstrom et al., 1993).

A 5-point Likert Scale was used to measure the study variables, where 1-strongly disagree, 2-moderately disagree, 3-slightly disagree/slightly agree, 4-moderately agree, and 5-strongly agree. For Leadership style it was measured using the following scale: 1-Not at all, 2-Once in a while, 3-Sometimes, 4-Fairly often, 5-Frequently, if not always.

The more likely leadership style adopted by the supervisor is determined using the total scores of the respondents where a range 1-35 mean Laissez Fair, 36-70 means transactional and 71-105 means transformational.

Significance of the Study

The results of this study will benefit the following groups of individuals:

Center for Disease Control and Prevention. They will be provided with empirical evidence on the role of leadership styles on employee's empowerment, engagement, work-life balance, job satisfaction, and intention to stay in the organization to inform their plans particularly in enhancing the performance of the center and to effectively manage employee retention.

Managers and Policy Makers. They will be provided with scientific evidence on the leadership style and personnel engagement, empowerment, job satisfaction, and work-life balance, and intention to stay in the organization to inform policy development, implementation and evaluation. They would be able to take appropriate actions to enhance human resource development and performance in the country.

Scope and Limitation

This study will determine the role of leadership style on the medical laboratory personnel level of empowerment, work engagement, work-life balance, job satisfaction and intention to stay in the Center for Disease Control and Prevention in Henan Province, China.

The target population will only include those fulltime medical

laboratory personnel in the Center of Disease Control and Prevention in seventeen cities in Henan Province, China since 2009, that is, before the implementation of the new human

resource development program by the government. Since this is a retrospective study, the data that will be gathered will depend on the recall of the respondents.

METHODOLOGY

Research Design

This study is a causal comparative utilizing retrospective research design. It used a self-assessed questionnaire to gather primary data from the respondents who are full-time medical laboratory personnel at the Disease Control and Prevention Centers in seventeen (17) cities in Henan Province, China. Secondary data was also collected such as the existing human resource management policies of the government and those that are specific to the center.

Population and Sample Size

The target population of this study consisted of full-time laboratory

personnel who have been working at the Center for Disease Control and Prevention in any of the seventeen cities in Henan Province, China since 2009 to be able to assess the leadership style of their respective supervisors before and after the implementation of the new policy on human resource development program. The total population of medical laboratory personnel during the conduct of the study was 447. To determine the sample size, the following formula was used (Nuankaew & Nuankaew, 2019).

$$n = \frac{N}{1 + Ne^2} = \frac{447}{1 + 447 * .03^2} = 319$$

Where:

e = is the desired level of precision (2.5% margin of error),

N - is the population

Sampling Technique

The sample respondents were identified using simple random sampling. To provide an extra list of respondents in case anyone from the 319 selected respondents decided not to participate or continue with the survey, a total of 65 additional respondents were generated as it was expected that a few personnel might not be willing to participate. All the 384 respondents who were given a survey questionnaire participated in the survey. The softcopy of the questionnaire was sent to the respondents using a digital platform and was collated for data processing.

Instruments

Standardized instruments were adopted in this study. Permission from the authors of these instruments were secured before using it. The instruments were translated to Chinese language and were validated by a Chinese language expert to ensure that its psychometric properties are within acceptable standards. (Please see definition of terms for measurement scales).

Data Gathering Procedure

A letter of permission to conduct the study in seventeen CDC in Henan Province, China will be secured from respective authorities. Informed

Consent will also be secured from each of the study participants to ensure that ethical standards in conducting research are considered. In addition, this document and all questionnaires will be submitted for plagiarism test and ethical review by the university Research Ethics Board.

The validated questionnaires will be distributed to the participants and they will be given enough time to answer the questionnaire. All submitted questionnaire will be reviewed for completeness, consistency, and validity.

Data Processing and Analysis

The data collected will be cleaned and then coded. For data analyses, Statistical Package for Social Science (SPSS) version 25 will be used. A quasi-experimental paired t-test or Wilcoxon signed-rank test will be used to determine differences in means of two-category variables, ANOVA or Kruskal-Wallis test for difference of three or more category-variable depending on the results of test of their normality and homogeneity of data. Pearson's correlations or Spearman Rho for test of correlations, and regression modeling to test the predictive ability of predictor variables on the outcome variable.

RESULTS AND DISCUSSIONS

Differences in the Predictor Variables before and after the Supervisor Training

As shown in Table 1, all the variables recorded significant changes in the mean scores after the supervisor’s training. The leadership style mean score increased by 9.281 points which means that the leadership style of supervisors as perceived by the

medical laboratory personnel has improved although both are still considered under transformational leadership. Empowerment, engagement, work-life balance, and satisfaction increased as well. This means that the level of empowerment, engagement, work-life balance, and job satisfaction were better after the supervisor’s training.

Table 1

Difference in the Study Variables before and After the Training (N=334).

<i>Indicators</i>	<i>Mean Before</i>	<i>SD</i>	<i>Mean After</i>	<i>SD</i>	<i>Paired Diff.</i>	<i>T-test</i>	<i>df</i>	<i>Sig</i>	<i>Decision</i>
Leadership Style	79.562	5.000	88.844	5.000	9.281	95.728	333	0.000*	Reject Ho ₂
Empowerment	3.636	0.323	4.023	0.331	0.387	43.300	333	0.000*	Reject Ho ₂
Engagement	3.757	0.315	4.249	0.265	0.492	38.462	333	0.000*	Reject Ho ₂
Work-Life Balance	3.396	0.225	3.615	0.154	0.218	25.007	333	0.000*	Reject Ho ₂
Satisfaction	3.231	0.096	3.294	0.082	0.062	18.902	333	0.000*	Reject Ho ₂

**Statistically significant at 95% level of confidence*

Extent of Intention to Stay in CDC of Medical Laboratory Personnel Before and After Training of Supervisors

The fifth objective of this study was to determine the extent of intention to stay of medical laboratory personnel in the Center for Disease Control and Prevention before and after the training of supervisors. The Intention to Stay Instrument developed by Graham (2012) of University of Toronto was used to measure the intent to stay of medical

laboratory personnel. Results of the analysis are shown in the following tables.

The data in Table 2 show that the majority of the medical laboratory personnel was “not sure” (mean = 3.088 – 3.189) their intention to stay in the center, before and after the supervisors training which means that they are thinking of staying or leaving the center. However, there is a slight increase in the overall mean score after the supervisors training (mean = 3.189) as compared to the overall

mean score of before the training. When the difference in mean scores of the groups before and after the supervisors training were determined, results show that there is a significant increase in the means score of extent of intention to stay after the supervisors training ($t=13.578$, $df=333$, $Sig. = 0.000$). The data show that majority of the personnel are not

sure of their intention to stay in the center, their intention to stay increased significantly after the supervisors training. These findings lead to the rejection of the null hypothesis (H_03) that no significant difference exists in the medical laboratory personnel intention to stay at CDC before and after the supervisors' training.

Table 2

Extent of Intention to Stay in CDC Before and After Training of Supervisor of Medical Laboratory Personnel by Age.

Level of Intention to stay	Before Training		After Training	
	f	%	f	%
High	53	15.9	53	15.9
Unsure	279	83.5	276	82.6
Low	2	0.6	5	1.5
Total	334	100.0	334	100.0
Mean	3.088		3.189	
Standard Deviation	0.411		0.463	
Difference in mean scores	Mean= 0.100, SD = 0.135, df= 333,		t=13.578, Sig.= 0.000	

**Statistically significant at 5% level (p-value<0.05)*

Legend: Low = 1.0 – 2.33; Not Sure = 2.34 – 3.67; High = 3.68 – 5.00

Correlations between Independent and Dependent Variables Before and After the Supervisors' Training

All the independent and dependent variables are significantly correlated with each other as shown by the Pearson's r test results and its corresponding p-values. The Zero-order correlations test results show

that after the supervisor's training, leadership style has significant moderate positive correlations with empowerment ($r=0.581$, $p\text{-value} = 0.000$) and engagement ($r=0.627$, $p\text{-value} = 0.000$); has significant negligible positive correlations with work-life balance ($r=0.123$, $p\text{-value} = 0.000$, $p\text{-value} = 0.000$), and significant high negative correlation with job

satisfaction ($r=-0.757$, $p\text{-value}=0.000$) and significant low positive correlation with intention to stay ($r=0.374$, $p\text{-value}=0.000$).

Before the supervisor's training, leadership style has significant low positive correlations with empowerment ($r=0.369$, $p\text{-value}=0.000$) and intention to stay ($r=0.336$, $p\text{-value}=0.000$), significant moderate correlations with work-life balance ($r=0.594$, $p\text{-value}=0.000$), significant moderate negative correlation with job satisfaction ($r=0.578$, $p\text{-value}=0.000$), and significant high positive correlations with engagement ($r=0.837$, $p\text{-value}=0.000$).

When the leadership style after the training was controlled, the results show an increased in the correlations between Empowerment A and Intention A ($r=0.901$ to $r=0.906$),

Engagement A and Intention A ($r=0.908$ to $r=0.933$), Work-life balance A and Intention A ($r=0.881$ to $r=0.907$), Satisfaction A and Intention A ($r=0.617$ to $r=0.551$). Based on these findings, there is enough evidence to reject the null hypothesis (H_0) that no significant correlations exist between the supervisors' leadership style and the medical laboratory personnel level of empowerment, engagement, work-life balance, job satisfaction before and after the supervisors' training.

The results show that the leadership style, in this case transformational, moderates positively the relationships between the predictor variables and intention to stay. It also shows that leadership style has helped enhance the intention to stay in the CDC of medical personnel.

Table 3

Correlations between Independent and Dependent Variables Before and After the Supervisors Training Controlling for Leadership Style.

<i>Zero Order (2-tailed)</i>						
<i>Indicators (N334)</i>	<i>Empowerment</i>	<i>Engagement</i>	<i>Work-Life Bal</i>	<i>Satisfaction</i>	<i>Intention</i>	<i>Decision</i>
	r (p-value)	r (p-value)	r (p-value)	r (p-value)	r (p-value)	
Empowerment A		0.948 (0.000)	0.786 (0.000)	-0.728 (0.000)	0.901 (0.000)	Reject Ho ₄
Empowerment B		0.451(0.000)	0.720 (0.000)	-0.524 (0.000)	0.837 (0.000)	Reject Ho ₅
Engagement A	0.948 (0.000)		0.774 (0.000)	-0.759 (0.000)	0.908 (0.000)	Reject Ho ₄
Engagement B	0.451 (0.000)		0.728 (0.000)	-0.530 (0.000)	0.418 (0.000)	Reject Ho ₅
Work-Life Balance A	0.786 (0.000)	0.774 (0.000)		-0.447 (0.000)	0.881(0.000)	Reject Ho ₄
Work-Life Balance B	0.720 (0.000)	0.728 (0.000)		-0.592 (0.000)	0.763 (0.000)	Reject Ho ₅
Satisfaction A	-0.728 (0.000)	-0.759 (0.000)	-0.447 (0.000)		-0.617 (0.000)	Reject Ho ₄
Satisfaction B	-0.524 (0.000)	-0.530 (0.000)	-0.592 (0.000)		-0.578 (0.000)	Reject Ho ₅
Intention to Stay A	0.901 (0.000)	0.908 (0.000)	0.881 (0.000)	-0.617 (0.000)		Reject Ho ₄
Intention to Stay B	0.837 (0.000)	0.418 (0.000)	0.763 (0.000)	-0.578 (0.000)		Reject Ho ₅
Leadership Style A	0.581 (0.000)	0.627 (0.000)	0.123 (0.000)	-0.757 (0.000)	0.374 (0.000)	Reject Ho ₄
Leadership Style B	0.369 (0.000)	0.837 (0.000)	0.594 (0.000)	-0.538 (0.000)	0.336 (0.000)	Reject Ho ₅

<i>Controlling for Leadership Style (2-tailed)</i>						
<i>Indicators (N334)</i>	<i>Empowerment</i>	<i>Engagement</i>	<i>Work-Life Bal</i>	<i>Satisfaction</i>	<i>Intention</i>	<i>Decision</i>
	r (p-value)	r (p-value)	r (p-value)	r (p-value)	r (p-value)	
Empowerment A		0.921 (0.000)	0.885 (0.000)	0.542 (0.000)	0.906 (0.000)	Reject Ho ₄
Empowerment B		0.281 (0.000)	0.670 (0.000)	-0.416 (0.000)	0.815 (0.000)	Reject Ho ₅
Engagement A	0.921 (0.000)		0.901 (0.000)	0.558 (0.000)	0.933 (0.000)	Reject Ho ₄
Engagement B	0.281 (0.000)		0.523 (0.000)	-0.172 (0.000)	0.266 (0.000)	Reject Ho ₅
Work-Life Balance A	0.885 (0.000)	0.901 (0.000)		0.546 (0.000)	0.907 (0.000)	Reject Ho ₄
Work-Life Balance B	0.670 (0.000)	0.523 (0.000)		-0.402 (0.000)	0.743 (0.000)	Reject Ho ₅
Satisfaction A	-0.542 (0.000)	0.558 (0.000)	-0.546 (0.000)		-0.551 (0.000)	Reject Ho ₄
Satisfaction B	-0.416 (0.000)	-0.172 (0.000)	-0.402 (0.000)		-0.501 (0.000)	Reject Ho ₅
Intention to Stay A	0.818 (0.000)	0.878 (0.000)	0.833 (0.000)	0.575 (0.000)		Reject Ho ₄
Intention to Stay B	0.815 (0.000)	0.266 (0.000)	0.743 (0.000)	0.501 (0.000)		Reject Ho ₅

p<0.05

Regression Analysis on the Independent and Dependent Variables after the Training

The final objective of this study is to determine which among the independent variables can predict the personnel intention to stay in the CDC. The regression analysis using the after the training of supervisor’s data was

performed and the results are shown in Table 36.

The data in Table 3 shows the regression test results after the supervisors training and Table 4 shows the regression test results before the training. As the most relevant data is the after the training, Table 4 shows that the regression model 1 comprising

the variables empowerment, engagement, work-life balance, and satisfaction recorded the highest regression coefficient ($R=0.953$, Regression = 47.360, $p\text{-value} = 0.000$) as compared to the other models (Model 2-4). The results show that the study variables (engagement, empowerment, work-life balance, and satisfaction) taken together have a 47.36% predictive ability on intention to stay given a transformational leadership style. Moreover, the beta coefficient of the variables included in model 1 shows that the level of engagement has the highest predictive ability ($\beta = 0.445$) followed by the level of work-life balance ($\beta = 0.404$), and level of empowerment ($\beta = 0.191$). However, the level of satisfaction is not a good predictor of intention to stay as reflected by its $\beta = 0.041$, $p\text{-value} = 0.143$. These findings show that there is enough evidence to reject the null hypothesis (H_06) which states that none of the independent variables can predict

medical laboratory personnel intention to stay at CDC.

The results further show that in every unit change in the level of engagement of medical personnel, there is a 0.445 unit change in their intention to stay in the center given the transformational leadership style of supervisors, while in in work-life balance, there is a corresponding 0.404 unit change in their intention to stay in the center, 0.191 unit change in every unit change in the level of empowerment, and 0.041 unit change in every unit change in the level of satisfaction. This means that the level of personnel work engagement, empowerment, work-life balance, and satisfaction when taken together can be used to estimate the employees' extent of intention to stay in the center. However, when taken independently, only the level of satisfaction is not a good basis for determining the personnel intention to stay.

Table 4

Regression Analysis on the Independent and Dependent Variables Controlling for Transformational Leadership Style (After Training).

<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Regression</i>	<i>Residual</i>	<i>F Change</i>	<i>Df1/2</i>	<i>Sig</i>	<i>Decision</i>
1	0.953	0.907	47.360	4.835	805.583	4/329	0.000*	Reject Ho ₆
2	0.908	0.825	43.057	9.139	1564.254	1/332	0.000*	Reject Ho ₆
3	0.951	0.904	47.171	5.025	1553.615	1/331	0.000*	Reject Ho ₆
4	0.952	0.907	47.329	4.867	1069.661	1/330	0.001*	Reject Ho ₆

<i>Model 1</i>	<i>β</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>
Empowerment	0.234	0.068	0.191	3.453	0.901	0.187	0.001*	Reject Ho ₆
Engagement	0.558	0.072	0.445	7.718	0.908	0.392	0.000*	Reject Ho ₆
Work-Life Bal	0.709	0.052	0.404	13.734	0.881	0.604	0.000*	Reject Ho ₆
Satisfaction	0.167	0.114	0.041	1.467	0.617	0.081	0.143	Accept Ho ₆

<i>Model 2</i>	<i>β</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>
Engagement	1.140	0.029	0.908	39.551	0.908	0.908	0.000*	Reject Ho ₆

<i>Model 3</i>	<i>β</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>
Engagement	0.709	0.034	0.565	20.977	0.908	0.755	0.000*	Reject Ho ₆
Work-Life Bal	0.777	0.047	0.443	16.461	0.881	0.671	0.000*	Reject Ho ₆

<i>Model 4</i>	<i>B</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>
Engagement	0.518	0.067	0.413	7.722	0.908	0.391	0.000*	Reject Ho ₆
Work-Life Bal	0.736	0.048	0.420	15.282	0.881	0.644	0.000*	Reject Ho ₆
Empowerment	0.220	0.067	0.179	3.271	0.901	0.177	0.001*	Reject Ho ₆

p-value <0.05

Model 1 Predictors: Work-Life Balance, Empowerment, Engagement

Model 2 Predictors: Engagement

Model 3 Predictors: Engagement, Work-Life Balance

Model 4 Predictors: Engagement, Work-Life Balance, Empowerment

Dependent Variable: Intention to Stay

Table 5

Regression Analysis on the Independent and Dependent Variables Controlling for Transformational Leadership Style (Before Training).

<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Regression</i>	<i>Residual</i>	<i>F Change</i>	<i>Df1/2</i>	<i>Sig</i>	<i>Decision</i>	
1	0.882	0.778	48.714	13.913	280.987	4/321	0.000*	Reject Ho ₁	
2	0.836	0.699	43.790	18.837	753.206	1/324	0.000*	Reject Ho ₁	
3	0.864	0.747	46.791	15.836	477.173	1/323	0.000*	Reject Ho ₁	
4	0.874	0.765	47.883	14.744	348.567	1/322	0.000*	Reject Ho ₁	
<i>Model 1</i>	<i>B</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>	
Empowerment	0.715	0.054	0.525	13.168	0.836	0.592	0.001*	Reject Ho ₆	
Engagement	-0.412	0.069	-0.238	5.982	0.377	0.317	0.000*	Reject Ho ₆	
Work-Life Bal	1.359	0.150	0.460	9.083	0.750	0.452	0.000*	Reject Ho ₆	
Satisfaction	0.808	0.184	0.149	4.380	0.564	0.237	0.143	Accept Ho ₆	
<i>Model 2</i>	<i>B</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>	
Empowerment	1.140	0.042	0.836	27.445	0.836	0.836	0.000*	Reject Ho ₆	
<i>Model 3</i>	<i>B</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>	
Empowerment	0.836	0.054	0.613	15.361	0.836	0.650	0.000*	Reject Ho ₆	
Work-Life Bal	0.924	0.118	0.312	7.823	0.750	0.399	0.000*	Reject Ho ₆	
<i>Model 4</i>	<i>B</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>	
Empowerment	0.777	0.054	0.570	14.399	0.836	0.626	0.000*	Reject Ho ₆	
Work-Life Bal	1.422	0.153	0.481	9.288	0.750	0.460	0.000*	Reject Ho ₆	
Engagement	-0.334	0.068	-0.193	-4.883	0.377	-0.263	0.001*	Reject Ho ₆	

p-value <0.05

Model 1 Predictors: Satisfaction, Work-Life Balance, Empowerment, Engagement

Model 2 Predictors: Engagement

Model 3 Predictors: Engagement, Work-Life Balance

Model 4 Predictors: Engagement, Work-Life Balance, Empowerment

Dependent Variable: Intention to Stay

Table 6
Model Fit Controlling for Transformational Leadership Style.

<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Regression</i>	<i>Residual</i>	<i>F Change</i>	<i>Df1/2</i>	<i>Sig</i>	<i>Decision</i>
1	0.953	0.907	47.360	4.835	805.583	4/329	0.000*	Reject Ho ₆
2	0.882	0.778	48.714	13.913	280.987	4/321	0.000*	Reject Ho ₆
Before Training								
<i>Model 1</i>	<i>B</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>
Empowerment	0.234	0.068	0.191	3.453	0.901	0.187	0.001*	Reject Ho ₆
Engagement	0.558	0.072	0.445	7.718	0.908	0.392	0.000*	Reject Ho ₆
Work-Life Bal	0.709	0.052	0.404	13.734	0.881	0.604	0.000*	Reject Ho ₆
Satisfaction	0.167	0.114	0.041	1.467	0.617	0.081	0.143	AcceptHo ₆
After the Training								
<i>Model 1</i>	<i>B</i>	<i>Std Error</i>	<i>Beta</i>	<i>t-test</i>	<i>Zero Order</i>	<i>Partial</i>	<i>Sig</i>	<i>Decision</i>
Empowerment	0.715	0.054	0.525	13.168	0.836	0.592	0.001*	Reject Ho ₆
Engagement	-0.412	0.069	-0.238	5.982	0.377	0.317	0.000*	Reject Ho ₆
Work-Life Bal	1.359	0.150	0.460	9.083	0.750	0.452	0.000*	Reject Ho ₆
Satisfaction	0.808	0.184	0.149	4.380	0.564	0.237	0.143	Accept Ho ₆

Conclusions

All the variables recorded significant changes in the mean scores after the supervisor’s training. Empowerment, engagement, work-life balance, and satisfaction increased as well. This means that the level of empowerment, engagement, work-life balance, and job satisfaction were better after the supervisor’s training. The leadership style was transformational before and enhanced significantly after the training which means that the leadership style of supervisors as perceived by the medical laboratory personnel has improved although both are still

considered under transformational leadership.

Recommendations

Considering the major findings and conclusions presented above, the following are recommended:

1. To enhance the medical personnel intention to stay in the center, their level of work engagement should be enhanced through a more engaging work environment and transformational type of leadership.
2. Programs towards enhancing work-life balance should be pursued especially directed to the younger groups, single and with master’s

degree as they are more likely to be “unsure” of their intention to stay in the organization and their level of engagement, empowerment, and work-life balance is lower compared to older, married and with college degree.

3. The perceived leadership style is transformational where supervisors are perceived to be concerned about the level of empowerment, engagement, and work-life balance of medical laboratory personnel. It is suggested that to make this leadership style work, the supervisors should not only look at the job performance of personnel but also consider their level of engagement, empowerment, and work-life balance.

4. If the training is intended to enhance the intention to stay of the medical laboratory personnel in the center, there should be training on how to enhance personnel engagement, empowerment, work-life balance, as these are the significant predictors of medical personnel

intention to stay, despite that about 48% of the intention to stay can be directly accounted by these variables.

5. The government should also look at its policy in enhancing the public health services in the center by assessing the quality of work-life balance of the personnel as this variable is by itself found strongly related to other variables such as employee engagement, empowerment, and job satisfaction.

6. It is also recommended to the future researchers that other variables such as organizational culture, commitment, professional advancement, economic, and available external opportunities be considered in the study as there are feedback from the medical personnel that the prevailing culture and available external job opportunities maybe a strong factor that may influence personnel intention to stay in the center.

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Development and Evaluation of Modules for Senior High School Physics Teachers

Edgardo P. Gerada

ABSTRACT

This is a developmental research study with the purpose to design, develop and evaluate instructional modules for Senior High School Physics teachers. ADDIE Model was used as the developmental design. This study included 34 Senior High School physics teachers from the 20 schools (DepEd Public Schools, Private Schools, Colleges and Universities and State Colleges and Universities) in the City and Province of Iloilo. A duly validate and reliability tested researcher-made questionnaire was utilized to gather data needed for the study. Assessments on the levels of readiness revealed that Senior High School physics teachers have a low level of readiness in Electricity and Magnetism, and Modern Physics. Findings also revealed that Senior High School physics teachers have a low extent of coverage of the learning competencies in Physics as required by the Department of Education. Results also showed that the Senior High School physics teachers were mostly master's degree graduates of other fields not of physics program, teaching physics for less than 5 years, and have not any Physics-related seminars. The modules were found to be excellent by both the Experts and Physics teachers in terms of the objectives, content, format and language, presentation, and usefulness. They showed high potential in terms of its usage and effective instructional materials in improving the quality of instruction and in improving students' performances in Physics.

Keywords: instructional modules, developmental design, modern physics

INTRODUCTION

Background of the Study

The sudden implementation of the K-12 curriculum teachers have experienced lack of support from the government especially in providing teaching materials needed for the Senior High School physics curriculum. Moreover, the sudden implementation has also forced some school's administrators to hire new graduates and teachers who were not graduates of physics programs, but of other fields such as Engineering, Chemistry, Biology and General Science to teach physics.

Physics teachers who are underqualified, cannot be expected to perform satisfactorily. As observed, the lack of understanding and knowledge on the concepts and principles in physics are believed to hinder physics teachers from discussing the topic. Teachers who do not understand the subject themselves cannot possibly develop deep conceptual understanding of physical principles in their students. Hence, they only teach the topics which they feel they are knowledgeable and prepared to teach. According to Sulaiman, et al., (2017), teachers who are not ready to perform their duties and yet teaching will result in students' lack of enthusiasm.

Teaching physics in senior high school requires necessary learning and teaching materials to make the learning process easy and enduring. Teaching materials are not only used to facilitate the independent learning process of the students but also to make it convenient for teacher to convey a message to students in an accurate, proper, clear and understandable manner; in making abstract knowledge concrete and in enabling students to comprehend complex ideas through simplification (Saglam, 2011). Moreover, the use of appropriate teaching materials, compliance of teaching requirements and teaching experiences of physics teachers can develop students' interest to learn physics and to feel that physics is not boring.

The development of instructional materials in the form of modules is one of the important educational innovations in instructional design. It is believed that the modules can be excellent supplementary materials not only for the students but also for the teachers in enhancing their competencies. Furthermore, these instructional materials can be of great help for effective instructions in order to enhance the quality of learning both for the students and teachers. These teaching materials can be a source of

information to validate ideas that can be used to discuss and explain the correct concepts and principles of physics.

Objectives of the Study

The main purpose of this research study was to assess the content knowledge of teachers in physics and to design, develop and evaluate instructional modules for Senior High School physics teachers.

Theoretical Framework

The present study adopted the instructional design theory which according to Smith (1998) is the study

on how to design the best instruction in order for learning to take place. The ADDIE model was used in the preparation of the module. This is a well-known model commonly used for creating instructional materials. This acronym stands for five stages of the material development; A for Analyze, D for Design, D for Develop, I for Implement, and E for Evaluate (Kurt, 2017).

Guided by this model, the researcher developed a module to minimize, if not eliminate, the difficulties of teachers particularly in teaching physics for Senior High School.

Fig. 1 shows the ADDIE Model used in this study.

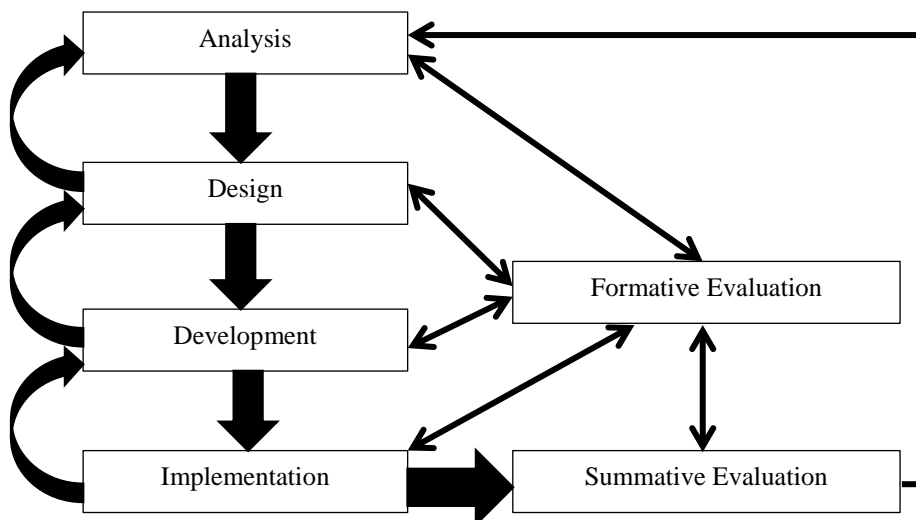


Figure 1. The ADDIE Model

Scope and Limitation of the Study

This study focuses on the design, development and evaluation of instructional modules for Senior High School physics teachers. As surveyed, there were 47 schools with 66 physics teachers in the City and Province of Iloilo which includes DepEd Public Schools, Private Schools and Colleges, and State Colleges and Universities offering Senior High School STEM Program. Of the 47 schools, only 20 (42.55%) schools agreed to participate with 34 out of 66 (51.5%) qualified physics teachers willingly participating in the survey in the City and Province of Iloilo.

ADDIE model was used in designing and developing a module in

physics for Senior High School teachers believing that the outcome can be a help for the teachers to cover all the learning competencies required by the Department of Education.

A researcher-made questionnaire was utilized in collecting all data needed for the assessment phase. The questionnaire made by the researcher was duly validated by a jury of validators and which also underwent reliability testing using the Kuder–Richardson Formula 20. The collected data from the questionnaires were analyzed as bases to design, develop and evaluate instructional modules for Senior High School physics teachers.

METHODOLOGY

This study was conducted in two stages: First, the assessment survey, and second, the preparation of the module using the ADDIE model.

The present study utilized the development research approach to establish an empirical basis for the creation of instructional products, which are self-instructional modules.

The Assessment Survey

The assessment considered the teachers' highest educational attainment, number of years teaching

physics, number of physics-related seminars attended, number of hours physics-related seminars attended, and teaching methods/approaches as indicators of preparedness and readiness.

The survey involved identification of the study area and target population, determination of the study sample, the preparation of data gathering instruments, data gathering and data analysis.

Preparation of Module using ADDIE Model

The preparation of the module for the Senior High School physics teachers in teaching physics included

the (a) analysis phase, (b) designing phase, (c) developing phase, (d) implementation phase, and (e) evaluation phase.

DATA ANALYSIS AND INTERPRETATION

Readiness of Physics Teachers in Terms of their Professional Competencies

Educational Attainment

The figures reveal that of the 34 senior high school physics teachers involved in the study, the majority (58.8%) were graduates of degrees in other fields and 41.2% were graduates of physics programs. Of those with physics background, seven (20.6%) had a Bachelor's degree major in Physics, and the same number had a master's degree in Physics (20.6%).

Number of Physics-related Seminars Attended

In terms of the number of physics-related subjects they had attended, less than half (47.1%) opted not to

respond to the inquiry and were classified as not having attended. Of the 52.9% who claimed attendance, 11.8% had attended only one physics-related seminar (20.6%) and the same number of respondents had attended two (20.6%) and 3 or more physics-related seminars (20.6%), respectively.

Number of Years' Experience in Teaching Physics

The table also shows that 50% of the respondents have been teaching Physics for 5 years or less, 7 or 20.6% of physics teachers had been teaching physics for 6 – 10 years while 29.4% have been teaching physics for more than 10 years.

Table 1

Professional Competencies of Respondents in terms of Highest Educational Attainment, Number Physics-Related Seminars attended, and Number of Years' Experience in Teaching Physics.

Professional Competencies	N	%
Highest Educational Attainment		
Bachelor's Degree (Major in Physics)	7	20.6
Bachelor's Degree (Other Fields)	8	23.5
Master's Degree Graduate (Major in Physics)	7	20.6
Master's Degree Graduate (Other Fields)	10	29.4
Doctoral Degree	2	5.9
Total	34	100.0
Number of Physics-Related Seminars Attended		
Never Attended	16	47.1
1	4	11.8
2	7	20.6
3 or More	7	20.6
Total	34	100.0
Number of Years Teaching Physics		
5 Years or Less	17	50.0
6 - 10 Years	7	20.6
11 – 15 Years	4	11.8
16 Years or More	6	17.6
Total	34	100.0

Professional Readiness of the Respondents

Table 2 shows the distribution of respondents by level of professional readiness based on the three categories. The figures show that 58.8% of physics teachers were moderately ready to teach physics, 29.4% were not ready while only 11.8% were very ready to teach the

subject. The findings indicate that most of the teachers included in the study still need to continue pursuing educational advancement in the area of physics, by either attending seminars, or upgrading their professional qualification and gaining more experience in teaching physics.

Table 2

Level of Readiness of Respondents in terms of their Professional Competencies.

Level of Readiness	N	%
Not Ready (0 - 3)	10	29.4
Moderately Ready (4 – 7)	20	58.8
Very Ready (8 – 10)	4	11.8
Total	34	100.0

Readiness of Respondents in terms of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics

To determine the content knowledge of respondents, the researcher tested how much the teachers knew about physics, particularly Electricity and Magnetism, Optics and Modern Physics. A 45-item questionnaire composed of 15 items about Electricity and Magnetism, 15 items about Optics, and 15 items about Modern Physics. The test items were based on the learning competencies required by the Department of Education. The questionnaire was submitted for validation by three experts with Master degree and Doctoral degree with specialization in physics and who have been teaching physics for more than 15 years.

Electricity and Magnetism

The figures in Table 3 show that 12 out of the 15 questions for Electricity and Magnetism was answered correctly by the respondents. The top 4 items were

answered correctly by more than 80% while the 3 lowest items were questions where more than 50% of the respondents failed to answer correctly.

The top 3 items which were answered correctly by the respondents requires only simple understanding about the concept and simple application using the principles of Electricity and Magnetism. On the other hand, the 3 lowest items where more than 50% of respondents failed to answer correctly require a deeper understanding of the concept and principle of electromagnetism and its application using the derived formulas. Most students or teachers may be confused about the effect of heat on the property of a metal, whether its resistance to the flow of current will be hindered or enhanced. Likewise, students or teachers may find it difficult to apply the concept of electromagnetism to a problem, maybe because they were not familiar with electromagnetism. Hence, they may feel confused about what appropriate formula or formulas will be used to answer the required values.

Table 3

Distribution of Respondents in terms of their Content Knowledge in Electricity and Magnetism.

Questions	Correct	
	f	%
1. The passage of charge of 1 Coulomb through a section of the conductor per second.	33	97.1
2. An electric heater draws a current of 20 A when connected to a 120-V power source. Its resistance is...	32	94.1
3. In drawing magnetic field lines, the stronger the field...	31	91.2
4. A quantity which is numerically equal to the resistance offered by a conductor of unit length and unit cross section to the passage of a current with the current flowing in a direction perpendicular to the cross section.	30	88.2
5. A force which a test charge experiences when placed in an electric field.	26	76.5
6. The equivalent resistance of a 10 Ω resistor and a 30 Ω resistor connected in parallel is...	23	67.6
7. An electrode where the conventional current leaves.	22	64.7
8. A +30 μC charge is attracted to a -90 μC charge with a force of 1.8 N. How far apart are the charges?	21	61.8
9. It is a solenoid which is bent to form a ring.	20	58.8
10. Two identical resistors in parallel have an equivalent resistance of 2 Ω . If the resistors were in series, their equivalent resistance would be...	20	58.8
11. A 200-m length of copper wire has a resistance of 2 Ω ($\rho = 1.72 \times 10^{-8}$). Its cross sectional area is...	18	52.9
12. All magnetic fields originate from...	17	50.0
13. A flat circular coil of 50 turns has a radius of 3 cm. What is the magnetic induction at the center if a current of 5 A is passed through it ($k = 12.5664 \times 10^{-7}$)?	10	29.4
14. The property of ferromagnetic materials to acquire magnetic properties when under the influence of a magnet.	4	11.8
15. If the temperature of a copper wire is raised, its resistance...	2	5.9

Optics

The data show that 13 out of 14 items in Optics were answered correctly by more than 50% of the respondents. This shows that more than 50% of respondents find it easy to understand and analyze concepts and principles of Optics. Due to the nature or characteristics of light, respondents are able to connect the principles of Optics to their daily activities that require its application.

The top 5 items were mostly answered by more than 80% of the respondents that require only the analysis on the characteristics of light as a wave. The last 2 items however, were items that require more analysis and application of the concept of mirror images that requires diagrams to be constructed. Teachers and students may find it difficult to understand and feel hard to answer.

Table 4

Distribution of Respondents in terms of their Level of Content Knowledge in Optics.

Questions	Optics	
	f	%
1. A pencil is placed in a glass of water. The pencil appears to be bent. This is an example of ...	32	94.1
2. The bending of light when it passes through two media of different densities...	30	88.2
3. These are lights that vibrate in one direction...	30	88.2
4. In a vacuum, the speed of an electromagnetic wave...	29	85.3
5. The ratio which compares the size of the image with the size of the object...	29	85.3
6. When white light disperses, which of the following colors has the shortest wavelength?	27	79.4
7. If image distance is negative, the image is...	26	76.5
8. The lens of the eye forms an image on the retina that is...	25	73.5
9. A concave mirror produces an erect image when the object distance is...	23	67.6
10. The point where parallel rays converge after reflection from a concave mirror, or the point from which they appear to diverge after reflection from a convex mirror...	23	67.6
11. The difference in the light emitted from a candle, an incandescent lightbulb, and the sun is basically from the difference in...	21	61.8
12. An object placed before a converging lens at a point which is less than the focal length produces an image which is always...	20	58.8
13. An object is 7.62 cm tall and is 50.8 cm from the double convex lens. A real image is formed 25.4 cm from the lens. What is the focal length of the lens?	17	50.0
14. An image formed which the outgoing rays really do pass through the image point...	16	47.1
15. How many hours are required before a radio signal from a space probe near the planet Pluto reaches Earth, 6.00×10^9 km away...	10	29.4

Modern Physics

Table 5 presents findings that 12 out of 15 items about Modern Physics were correctly answered by 50% of the respondents. The top 3 items were being answered correctly by more than 80% of the response considering that these are simple concepts about an atom and its characteristics. These

questions can be easily understood by applying the common idea about an atom and the characteristics of its sub-atomic particles. On the other hand, the lowest 3 items included in the questionnaire require inquiries where more than 50% of the respondents failed to answer. These questions require thorough analysis and deeper

understanding about the concept and behavior of particles. Teachers and students may find it difficult to deal

with this topic and mostly fail to give the correct answer.

Table 5
Distribution of Respondents in terms of their Content Knowledge in Modern Physics.

Questions	Modern Physics	
	f	Correct %
1. The nuclear reaction that takes place when a nucleus split into more stable and less massive nuclei following the release of energy is called nuclear..	31	91.2
2. The separation of white light into its components when it passes through the prism.	31	91.2
3. It refers to the sum of the number of protons and number of neutrons in the nucleus of an atom.	28	82.4
4. Which of the following is an electron emitted by a nucleus as it undergoes radioactive decay?	25	73.5
5. Electromagnetic photons which are identical in nature and properties as x-ray photons of the same energy but are emitted by a radioactive nucleus.	24	70.6
6. The ejection of beta particles from the nucleus results in...	23	67.6
7. Isotope A has a half-life of seconds, and isotope B has a half-life of millions of years. Which isotope is more radioactive?	21	61.8
8. The radiation which is emitted by radioactive elements and is identical to cathode rays.	21	61.8
9. An isotope of an atom with atomic number greater than 83 will probably emit...	19	55.9
10. Which of the following types of radiation will not penetrate clothing?	18	52.9
11. Large nuclei with an atomic number greater than 83 decay by...	18	52.9
12. When alpha particles strike screens of fluorescent materials they produce flashes of light called...	17	50.0
13. A spaceship flies past earth at a speed of .990c. A crew member on board the spaceship measures its length, obtaining the value 400m. What length do observers measure on earth?	12	35.3
14. Which of the following will most likely happen to an alpha particle after it is emitted?	8	23.5
15. Find the rest energy of an electron ($m = 9.109 \times 10^{-31}$ kg) in (a) joules and in (b) electron volts ($q = -e = -1.602 \times 10^{-19}$ C).	8	23.5

Based on the result of the test to determine the content knowledge of respondents for the areas of Electricity of Electricity and Magnetism, Optics and Modern Physics, more than 50% of the respondents mostly answered the items correctly. The data show that more items in Optics were being answered correctly by more than 80%

of the respondents than in Electricity and Magnetism and Modern Physics. This shows that more of the respondents find it easy to analyze and understand concepts and principles about Optics than in Electricity and Magnetism and Optics.

Level of Content Knowledge in Physics

As mentioned previously, correct answers of the test questions were checked and the total score for each area and the combined total were used to determine the level of knowledge of teachers using the following categories: Below 10 (Low level of knowledge), 10 – 12 (Average level of knowledge) and 13 – 15 (High level of knowledge). Moreover, the items which were not correctly answered by most of the respondents were identified and used to determine what topics in the physics teachers need improvement. The data were also used to determine the teachers' readiness to teach the subject.

As discussed earlier, more than 50% of the respondents answered correctly the test items to determine their content knowledge about Electricity and Magnetism, Optics and Modern Physics. Also in the discussion, more items in Optics were answered correctly by more than 80% of the respondents compared to the items included for Electricity and Magnetism and Modern Physics. This shows that most of the respondents find easy to understand the questions

for Optics and can make simple analysis to get the correct answer.

The figures reveal that 52.9% of the respondents have a low level of knowledge, 38.2% have an average level of knowledge and 8.8% have a high level of knowledge in Electricity and Magnetism. Likewise in the area of Optics, results show that 50% of the respondents have average level of knowledge, 26.5% have low level of knowledge and 23.5% have high level of knowledge about the topic. Also, the figures show that for the area of Modern Physics, 55.0% of the respondents have average level of knowledge, 35.3% have low level of knowledge, and 8.8% have high level of knowledge.

The findings show that based on the respondents' scores in physics, the majority of the respondents performed better in Optics (50.0%) and Modern Physics (55.0%) but low in Electricity and Magnetism (52.9%). The higher proportion of respondents with low level of knowledge in Electricity and Magnetism can be attributed to the lack of background information about the subject which they find difficult to understand the concept and principle about the topic. Hence, they failed to answer the questions correctly.

Table 6

Level of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics.

Level of Knowledge	Electricity and Magnetism		Optics		Modern Physics	
	f	%	f	%	f	%
Low (below 10)	18	52.9	9	26.5	12	35.3
Average (10 – 12)	13	38.2	17	50.0	19	55.0
High (13 – 15)	3	8.8	8	23.5	3	8.8
Total	34	100.0	34	100.0	34	100.0

Level of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics according to Highest Educational Attainment

Electricity and Magnetism

The findings reveal that teachers who were graduates of physics programs had higher levels of knowledge in Electricity and Magnetism than teachers who were graduates of other fields. This confirms that as a whole, teachers with physics backgrounds were more knowledgeable in Electricity and Magnetism than graduates of other fields as shown by the mean score of 10.86 compared to 9.50 and 9.10, respectively.

The high level of knowledge of teachers who were graduates of physics programs may be attributed to their learning acquired during their studies. In contrast, teachers who were graduates of other programs have a low level of knowledge in

Electricity and Magnetism and thus were not ready to teach the subject.

The findings of this study support the idea that “the lack of understanding and knowledge on the concepts and principles in Physics are believed to be some factors that also hinder Physics teachers not to discuss the topic.” According to Chung, et.al. (2002), teachers who are not professionally aligned felt that they are inadequately prepared to deal with the daily teaching tasks like planning instruction, teaching subject matter, using instructional strategies and differentiating instruction. Hence, they only teach the topic which they feel they are knowledgeable and prepared for.

Optics

The findings also show that a higher proportion of teachers who were graduates of physics programs have an average level of knowledge in Optics than teachers who were graduates of other fields. This also

conforms to the result that teachers with physics backgrounds were more knowledgeable in Optics than those of other fields.

Modern Physics

The figures in Table 7 show that teachers who were graduates of physics programs had a higher level of knowledge in Modern Physics than teachers who were graduates of other fields. The mean score of 10.00 and 10.86 compared to 8.63 and 9.0, respectively indicate that teachers who have physics background are more knowledgeable about Modern Physics than graduates of other fields.

The results of the study support to the findings of Boyd, Grossman, Lankford, Loeb & Wyckoff (2005) that student achievement is most enhanced when teachers are fully certified, and have completed a teacher education program while Harris & Sass (2006) found out that teacher qualifications and in-service training affected student achievement in Florida. The findings of Ingersoll (1999) also showed that secondary school science teachers teaching the subject without full certification caused significant concern about the science children may or may not be receiving.

Table 7
Distribution of Respondents in terms of their Level of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics according to Highest Educational Attainment.

Level of Content Knowledge	Highest Educational Attainment								Total	
	Bachelor's degree (Other Fields)		Master's and Doctoral degrees (Other Fields)		Bachelor's degree Major in Physics)		Master's degree (Major in Physics)			
	f	%	f	%	f	%	f	%	f	%
Electricity and Magnetism										
Low (Below 10)	5	62.5	8	66.7	3	42.9	2	28.6	18	52.9
Average (10 – 12)	3	37.5	3	25.0	4	57.1	3	42.9	13	38.2
High (13 – 15)	0	0	1	8.3	0	0	2	28.6	3	8.8
Total	8	100.0	12	100.0	7	100.0	7	100.0	34	100.0
Mean	9.50		9.10		9.23		10.86			
Optics										
Low (Below 10)	4	50.0	3	25.0	1	14.3	1	14.3	9	26.5
Average (10 – 12)	4	50.0	5	41.7	4	57.1	4	57.1	17	50.0
High (13 – 15)	0	0	4	33.3	2	28.6	2	28.6	8	23.5
Total	8	100.0	12	100.0	7	100.0	7	100.0	34	100.0
Mean	9.25		11.2		11.86		11.86			
Modern Physics										
Low (Below 10)	4	50.0	5	41.7	2	28.6	1	14.3	12	35.3
Average (10 – 12)	4	50.0	7	58.3	3	42.9	5	71.4	19	55.9
High (13 – 15)	0	0	0	0	2	28.6	1	14.3	3	8.8
Total	8	100.0	12	100.0	7	100.0	7	100.0	34	100.0
Mean	8.63		9.00		10.00		10.86			

Level of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics according to Number of Physics-Related Seminars Attended.

Electricity and Magnetism

Findings reveal, that teachers who attended 2 or more physics-related seminars had higher levels of knowledge in Electricity and Magnetism than teachers who had one attendance or never attended any physics-related seminars. This also shows that physics teachers who had more attendance in any physics-related seminars are more knowledgeable in Electricity and Magnetism than those who had never attended.

Optics

The figures also show that teachers who had more attendance in any physics-related seminars are more

knowledgeable about Optics than teachers who had less attendance in any physics seminars. Hence, these teachers are ready to teach the subject.

Modern Physics

The figures in Table 8 also show that teachers with more attendance in any physics-related seminars are more knowledgeable and have better understanding about the concept of Modern Physics than the teachers who had attended less than 3 or never attended any physics-related seminars. This was indicated by the mean score of 10.86 compared to 9, 50, 9, 25, and 8.57, respectively. The results also show that teachers who had attended 3 or more physics-related seminars are ready to teach Modern Physics.

Table 8

Distribution of Respondents in terms of Level of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics according to Number of Physics-Related Seminars Attended.

Level of Content Knowledge	Number of Physics-Related Seminars Attended									
	None		1 Seminar		2 Seminars		3 or More Seminars		Total	
	f	%	f	%	f	%	f	%	f	%
Electricity and Magnetism										
Low (Below 10)	9	56.3	5	45.5	2	66.7	2	50.0	18	52.9
Average (10 – 12)	6	37.5	5	45.5	0	0	2	50.0	13	38.2
High (13 – 15)	1	6.3	1	9.1	1	33.3	0	0	3	8.8
Total	16	100.0	11	100.0	3	100.0	4	100.0	34	100.0
Mean		9.19		9.58		9.57		9.71		
Optics										
Low (Below 10)	4	25.0	5	45.5	0	0	0	0	9	26.5
Average (10 – 12)	10	62.5	4	36.4	1	33.3	2	50.0	17	50.0
High (13 – 15)	2	12.5	2	18.2	2	66.7	2	50.0	8	23.5
Total	16	100.0	11	100.0	3	100.0	4	100.0	34	100.0
Mean		10.44		11.00		9.71		13.14		
Modern Physics										
Low (Below 10)	5	31.3	6	54.5	1	33.3	0	0	12	35.3
Average (10 – 12)	9	56.3	5	45.5	2	66.7	3	75.0	19	55.9
High (13 – 15)	2	12.5	0	0	0	0	1	25.0	3	8.8
Total	16	100.0	11	100.0	3	100.0	4	100.0	34	100.0
Mean		9.25		9.50		8.57		10.86		

Level of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics according to Number of Years' Experience in Teaching Physics

Electricity and Magnetism

The findings show that teachers who had been teaching physics for 16 years or more are more knowledgeable and have better understanding and analysis about the concepts, principles and laws of Electricity and Magnetism than teachers who had lesser experience in teaching physics. Teachers who are knowledgeable about the topic are ready to teach the subject.

The findings of this study conform to the findings of Bonney, et.al. (2015) proving that pupils perform better when they are taught by well experienced teachers, teachers with long teaching experience teach better than teachers with little or no experience, teachers' teaching experience is very vital in promoting higher academic performance. Owolabi (2007), Abraham and Morrison (2006) and Darling Hammond (2000) also agree that teachers' years of experience as a measure of quality is important in the achievement of students' academic performance.

Optics

The figures reveal that teachers who have been teaching physics for more than 5 years are more knowledgeable in Optics than teachers who taught physics for 5 years or less. This implies that teachers who had longer teaching experience in physics are ready to teach the subject.

Modern Physics

The findings show that teachers who had been teaching physics for more than 10 years are more knowledgeable in Modern Physics than teachers who had been teaching physics for less than 10 years. This also proves that teachers who had longer experience in teaching physics

are more exposed with the concept and principles of Modern Physics and acquired more knowledge about the subject. Hence they are prepared and ready to teach the subject.

The findings of this study also proved the claims of Rosenholtz (1986) that inexperienced teachers (those with less than 3 years of experience) are not more effective than more senior teachers. The study of Bonney, et.al. (2015) also proved that teachers with long teaching experience teach better than teachers with little or no experience and Diamante (1997) also found out that teachers with longer experience exhibit significantly better performance than those with shorter experience.

Table 9
Distribution of Respondents in terms of Level of Content Knowledge in Electricity and Magnetism, Optics and Modern Physics according to Number of Years' Experience in Years in Teaching Physics.

Level of Content Knowledge	Number of Years' Experience in Teaching Physics									
	5 Years and Below		6 – 10 Years		11 – 15 Years		16 Years or More		Total	
	f	%	f	%	f	%	f	%	f	%
Electricity and Magnetism										
Low (Below 10)	8	47.1	4	57.1	4	100.0	2	33.3	18	52.9
Average (10 – 12)	7	41.2	3	42.9	0	0	3	50.0	13	38.2
High (13 – 15)	2	11.8	0	0	0	0	1	16.7	3	8.8
Total	17	100.0	7	100.0	4	100.0	6	100.0	34	100.0
Mean		9.25		9.29		9.75		10.67		
Optics										
Low (Below 10)	7	41.2	0	0	0	0	2	33.3	9	26.5
Average (10 – 12)	7	41.2	4	57.1	3	75.0	3	50.0	17	50.0
High (13 – 15)	3	17.6	3	42.9	1	25.0	1	16.7	8	23.5
Total	17	100.0	7	100.0	4	100.0	6	100.0	34	100.0
Mean		10.24		11.86		12.00		11.00		
Modern Physics										
Low (Below 10)	7	41.2	2	28.6	1	25.0	2	33.3	12	35.3
Average (10 – 12)	8	47.1	5	71.4	3	75.0	3	50.0	19	55.9
High (13 – 15)	2	11.8	0	0	0	0	1	16.7	3	8.8
Total	17	100.0	7	100.0	4	100.0	6	100.0	34	100.0
Mean		9.00		9.71		10.00		10.17		

**Teaching Approaches/Methods/
 Strategies in Teaching Physics**

Based on the results, the most common teaching strategies or methods used by teachers in teaching physics were the combination of

Lecture/Discussion/
 Demonstration with Interactive
 Instruction (Cooperative Learning,
 Experimentation, Problem Solving,
 Hands-on activity).

Table 10
Respondents' Teaching Methods or Strategies in Teaching Physics.

Teaching Approaches, Methods or Strategies in Teaching Physics	N	%
1. Lecture/Discussion/Interactive Demonstration with Interactive Instruction(Cooperative Learning, Experimentation, Problem Solving, Hands-on activity)	11	32.4
2. Lecture/Discussion/Interactive Demonstration with Problem-based and Project-based Instruction	8	23.5
3. Lecture/Discussion/ Interactive Demonstration with Indirect Instruction (Problem Solving, Inquiry, Reporting)	7	20.6
4. Lecture/Discussion/Interactive Demonstration with Interactive Instruction (Cooperative Learning, Experimentation, Problem Solving, Hands-on activity), Indirect Instruction (Problem Solving, Inquiry, Reporting), Problem-based and Project-based Instruction	5	14.7
5. Lecture/Discussion with Problem-Based Instruction	2	5.9
6. Lecture/Discussion/Interactive Demonstration with Simulation	1	2.9
Total	34	100.0

Extent of Coverage of Learning Competencies Required by the Department of Education (DepEd)

Coverage on Electricity and Magnetism as Required by the DepEd for the Whole Term

The findings reveal that the teachers included in this study had

moderately covered to highly covered the learning competencies in Electricity and Magnetism as required by the DepEd for the whole term.

Table 14
Level of Extent of Coverage of Respondents on Learning Competencies in Electricity and Magnetism as required by the Department of Education for the Whole Term.

Level of Coverage	Electricity and Magnetism	
	f	%
Not at All (0)	1	2.9
Low Extent (1 – 25)	5	14.7
Moderate Extent (26 - 50)	14	41.2
High Extent (51 - 75)	14	41.2
Total	34	100.0

Coverage on Optics as Required by the DepEd for the Whole Term

The figures in Table 15 show that almost a quarter (23.5%) had not covered the required learning competencies required by the DepEd for the whole term. The proportion of teachers who had a low extent of covering fully the required topics may be attributed to their lack of preparation in teaching the subject and

with physics background. As shown in the findings, most of the respondents were graduates of other fields and have a low level of knowledge in physics. Teachers who opted not to take up the required learning competencies in Optics showed that they are not confident to discuss the topics and they are not ready to teach the subject.

Table 15
Level of Extent of Coverage of Learning Competencies in Optics as required by the Department of Education for the Whole Term.

Level of Coverage	Optics	
	f	%
Not at All (0)	8	23.5
Low Extent (1 – 8)	2	5.9
Moderate Extent (9 – 17)	11	32.4
High Extent (18 – 26)	13	38.2
Total	34	100.0

Coverage in Modern Physics Concepts as Required by the DepEd for the Whole Term

Results show that only 8.8 percent of teachers had fully covered the required topics in Modern Physics, and the same proportion of teachers who had moderately covered (14.7%) and who had a low extent of covering fully (14.7%) the required learning competencies. It is surprising to know that more than more than 50% (61.8%) of the teachers had not

covered the required learning competencies in Modern Physics for the whole term.

The high proportion of Senior High School Physics teachers who have not covered the required learning competencies in Modern Physics showed that teachers have a lack of understanding of the concept and principles of the subject and hence they failed to discuss it with their students. Moreover, the high proportion of teachers who failed to

cover the required learning competencies by the DepEd showed

that physics teachers are not ready to teach the subject.

Table 16

Level of Extent of Coverage of Respondents on Learning Competencies in Modern Physics as required by the Department of Education for the Whole Term.

Level of Coverage	Modern Physics	
	f	%
Not at All (0)	21	61.8
Low extent (1 -3)	5	14.7
Moderate Extent (4 – 6)	5	14.7
High Extent (7 – 9)	3	8.8
Total	34	100.0

Extent of Coverage of the Required Learning Competencies in terms of Professional Competencies

Coverage of Learning Competencies in Electricity and Magnetism, Optics and Modern Physics as required by the DepEd in terms of Highest Educational Attainment.

Electricity and Magnetism

Findings show that teachers who have Master’s degree in teaching physics have a higher extent of covering fully the learning competencies in Electricity and Magnetism required by the DepEd than the teachers who were bachelor’s degree graduates. This further shows that teachers who underwent advanced studies have better way of covering the required topics than

bachelor’s degree teachers. The findings of this study conform with the study conducted by Harris & Sass (2006) that teachers qualifications and educational background had effects in their performance.

Optics

The figures in Table 17 show that teachers with Master’s degree majors in physics were found with a high extent of covering the required learning competencies in Optics, hence, they are ready to teach the subject. In other way around, higher percentage of teachers who were graduates of other fields have not covered the required learning competencies in Optics for the whole term compared to graduates of physics program. These teachers may have the difficulties of understanding the concept and principles in physics that made them hesitant to cover the

required learning competencies and discuss it with their students. Further, the difficulties experienced by these teachers in analyzing and understanding the concept can be attributed by their lack of background information and experiences in dealing with the specific learning competencies. This finding also conforms with the result of the study of Harris & Sass (2006) that teachers' qualifications and educational background had effects in their performance. Ingersoll, 1999 in his findings states that secondary school science teachers without full certification in teaching the subjects caused significant concern about the science and mathematics instruction children may or may not be receiving.

Modern Physics

Results of the survey show that teachers with advanced studies specifically in physics were moderately

covered in the required learning competencies in Modern Physics compared to teachers with bachelor's degrees. The low coverage of teachers on the required topics in Modern Physics can be the result of their lack of knowledge about the subject which is attributed to their lack of professional competencies in terms of educational attainment, number of physics-related seminars attended, and length of experience in years in teaching physics. The decisions not to cover or having a low level of covering fully the learning competencies in physics as required by the DepEd showed that teachers were not ready to teach Modern Physics. This finding also proves the result of the study of Harris & Sass (2006) that teachers' qualifications and educational background had effects in their performance.

Table 17

Extent of Coverage of Learning Competencies in Electricity and Magnetism, Optics and Modern Physics as required by the DepEd in terms of Highest Educational Attainment.

Extent of Coverage of Learning Competencies	Highest Educational Attainment									
	Bachelor's degree (Other Fields)		Master's and Doctoral degrees (Other Fields)		Bachelor's degree Major in Physics)		Master's degree (Major in Physics)		Total	
	f	%	f	%	f	%	f	%	f	%
Electricity and Magnetism										
Low Extent	2	25.0	1	8.3	2	42.9	0	0	6	17.6
Moderate Extent	4	50.0	4	33.3	3	42.9	3	42.9	14	41.2
High Extent	2	25.0	7	58.3	1	14.3	4	57.1	14	41.2
Total	8	100.0	12	100.0	7	100.0	7	100.0	34	100.0
Optics										
Low Extent	5	62.5	2	16.6	3	42.9	0	0	10	28.5
Moderate Extent	0	0	5	41.7	4	57.1	2	28.6	11	32.4
High Extent	3	37.5	5	41.7	0	0	5	71.4	13	38.2
Total	8	100.0	12	100.0	7	100.0	7	100.0	34	100.0
Modern Physics										
Low Extent	7	87.5	8	66.7	5	100.0	4	75.1	26	76.5
Moderate Extent	0	0	2	16.7	0	0	3	42.9	5	14.7
High Extent	1	12.5	2	16.7	0	0	0	0	3	8.8
Total	8	100.0	12	100.0	7	100.0	7	100.0	34	100.0

Coverage of Learning Competencies in Electricity and Magnetism, Optics and Modern Physics as required by the DepEd in terms of Number of Physics-Related Seminars Attended Electricity and Magnetism

Figures show that teachers who attended 3 or more physics-related seminars had the higher extent to fully cover topics in Electricity and Magnetism compared to other teachers who attended 2 or less seminars in physics. The figures also show that teachers who attended 3 or more physics-related seminars have the better way to manage how the required learning competencies are discussed to their students than teachers who had attended either 2 or

1 or never attended any physics-related seminars. Further, the teachers who have less attendance in any physics-related seminars had a low extent of covering the required learning competencies for the whole term, hence they considered not ready to teach the subject.

Optics

Findings reveal that teachers who attended physics-related seminars have a higher extent of covering fully the required learning competencies in Optics than teachers who never attended any seminars in physics. This shows that teachers who attended physics-related seminars have learned some techniques and strategies on

how the required learning competencies be covered and discussed to students for the whole term compared to teachers who had not attended any physics seminars at all. Their attendance in any physics-related seminars can be opportunities to adopt some new techniques in teaching physics and develop confidence to discuss the topics to the students.

Modern Physics

Table 18 shows that higher proportion of teachers who have not attended any physics seminars (93.8%) have low extent any covering fully the required learning competencies in Modern Physics compared to teachers who have

attended 3 or more physics-related seminars (75.0%), 1 physics-related seminar (63.5%), and 2 physics-related seminars (63.5%), respectively.

The higher percentage of teachers who did not cover the required learning competencies in Modern Physics may be due to their lack of knowledge about the subject which can be attributed to their lack of professional competencies. As noted, most of the teachers included in the study were graduates of other fields and have low levels of knowledge in physics. The low coverage of teachers on topics in Modern Physics also shows that teachers were not ready to teach the subject.

Table 18

Extent of Coverage of Learning Competencies in Electricity and Magnetism, Optics and Modern Physics as required by the DepEd in terms of Number of Physics-Related Seminars Attended.

Extent of Coverage of Learning Competencies	Number of Physics-Related Seminars Attended								Total	
	Never Attended		1 Seminar		2 Seminars		3 or More Seminars		f	%
	f	%	f	%	f	%	f	%		
Electricity and Magnetism										
Low Extent	5	31.0	1	9.1	0	0	0	0	6	17.6
Moderate Extent	7	43.8	4	36.4	2	66.7	1	25.0	14	41.2
High Extent	4	25.0	6	54.5	1	33.3	3	75.0	14	41.2
Total	16	100.0	11	100.0	3	100.0	4	100.0	34	100.0
Optics										
Low Extent	7	43.8	3	27.2	0	0	0	0	10	29.4
Moderate Extent	6	37.5	2	18.2	1	33.3	2	50.0	11	32.4
High Extent	3	18.8	6	54.5	2	66.7	2	50.0	13	38.2
Total	16	100.0	11	100.0	3	100.0	4	100.0	34	100.0
Modern Physics										
Low Extent	15	93.8	7	63.5	1	33.3	3	75.0	21	76.5
Moderate Extent	0	0	3	27.3	2	66.7	0	0	5	14.7
High Extent	1	6.3	1	9.1	0	0	1	25.0	3	8.8
Total	16	100.0	11	100.0	3	100.0	4	100.0	34	100.0

Coverage of Learning Competencies in Electricity and Magnetism, Optics and Modern Physics as Required by the DepEd in terms of Length of Experience in Years in Teaching Physics

Electricity and Magnetism

Higher proportion of teachers who had been teaching physics for 5 years or less (29.4 %) and teachers teaching physics for 6 – 10 years (14.3%) have low extent of covering fully the required learning competencies in Electricity and Magnetism for the whole term compared to the proportion of teachers who had been teaching physics for 11 years or more (0%).

Results further show that the high extent of fully covering the required learning competencies in Electricity and Magnetism by the teachers can be attributed by their teaching experiences and learnings gained from the time they have taught physics. The results of this study conform to the findings of Diamante (1997) that teachers with longer experience exhibit significantly better performance than those with shorter experience.

Optics

The findings reveal that there is a higher proportion (60%) of teachers who had been teaching physics for more than 10 years have fully covered

the required learning competencies in Optics than the teachers who had been teaching physics for 6 -1 0 years (42.9%) and 5 years or less (23.5%). The figures also show that 42.9% of teachers who had been teaching physics for 6 - 10 years and 40.2% of teachers who had been teaching for 5 years or less had low extent of covering fully the required learning competencies in Optics for the whole term than the teachers who had been teaching physics for more than 10 years (0%).

Based on the findings, the high extent of teachers to fully cover the required learning competencies in Optics can be attributed by their high level of knowledge in the subject and the learnings they gained through their teaching experiences. Their teaching experiences and learnings gained can give them confidence in discussing the required learning competencies to the students. The results of this study also conform to the published statement of Herrera (1999) that there is strength of performance among experienced teachers with 5 – 10 years of length of service.

Modern Physics

The findings reveal that 20% of teachers who had been teaching physics for more than 10 years have high extent of covering fully the required learning competencies in

Modern Physics compared to teachers who had been teaching physics for 5 years or less (5.9%) and teachers who had been teaching Modern Physics for 6 – 10 years (0%). In contrast, very high proportions of teachers teaching physics for 6 – 10 years (85.7%) and 5 years or less (82.3%) have low extent of covering fully the learning competencies in Modern Physics required by the DepEd than the proportion of teachers who had been teaching physics for 11 years or more (60.0%).

The high proportion of respondents who have not covered fully the required learning competencies can be attributed by their lack of knowledge about the subject and the strategies on how the

topics are to be presented to the students. The lack of professional competencies and difficulties to identify methods to present the subject to the students can be some factors that hinder physics teachers from discussing the required learning competencies. The results of this study also conform to the findings of Diamante (1997) that teachers with longer experience exhibit significantly better performance than those with shorter experience. Herrera (1999) also published that there is strength of performance among experienced teachers with 5 – 10 years of length of service; while Lopez (1999) found out that more experienced teachers were rated higher than those with shorter teaching experience.

Table 19
Extent of Coverage of Learning Competencies in Electricity and Magnetism, Optics and Modern Physics as Required by the DepEd in terms of Length of Experience in Years in Teaching Physics.

Extent of Coverage of Learning Competencies	Length of Experience in Years in Teaching Physics							
	5 Years and Below		6 – 10 Years		11 Years or More		Total	
	f	%	f	%	f	%	f	%
Electricity and Magnetism								
Low Extent	5	29.4	1	14.3	0	0	6	17.6
Moderate Extent	7	41.2	4	57.1	3	30.0	14	41.2
High Extent	5	29.4	2	28.6	7	70.0	14	41.2
Total	17	100.0	7	100.0	10	100.0	34	100.0
Optics								
Low Extent	7	40.2	3	42.9	0	0	10	29.4
Moderate Extent	6	35.3	1	14.3	4	40.0	11	32.4
High Extent	4	23.5	3	42.9	6	60.0	13	38.2
Total	17	100.0	7	100.0	10	100.0	34	100.0
Modern Physics								
Low Extent	14	82.3	6	85.7	6	60.0	26	76.5
Moderate Extent	2	11.8	1	14.3	2	20.0	5	14.7
High Extent	1	5.9	0	0	2	20.0	3	8.8
Total	17	100.0	7	100.0	10	100.0	34	100.0

Rationale in Designing and Developing a Module for Senior High School Physics Teachers

This module was developed based on the result of the assessment conducted on the readiness on Senior High School Physics teachers in terms of their level of knowledge in Physics covering the areas in Electricity and Magnetism, Optics and Modern Physics when classified according to their highest educational attainment, number of years in teaching Physics, number of Physics-related seminars attended, number of hours and name of Physics-related seminars attended. Assessments were also conducted to determine their readiness based on their interest in teaching the subject, their teaching approaches or strategies, and their extent of coverage on the learning competencies in Physics as required by the Department of Education.

Assessment on the Readiness of Senior High School Physics Teachers in Teaching Physics

Based on the result of the assessment conducted on the readiness of Senior High School physics teachers in teaching physics, most of the teachers were not graduates of physics program but of other fields, teaching physics for 5 years and below, and majority have not attended physics-related seminars.

In addition, when readiness of Senior High School physics teachers included in the study in terms of their content knowledge in physics were assessed, findings showed that Senior High School physics teachers have low level of knowledge in Electricity and Magnetism, and Modern physics but found to have high level knowledge in Optics. Specifically, teachers have low percentage of having the correct answers for the examination given focusing on Electromagnetism.

When the level of extent of coverage on the learning competencies in physics as required by the Department of Education in the areas (a) Electricity and Magnetism, (b) Optics, and (c) Modern Physics were determined, results also showed that higher proportion of Senior High School Physics teachers were not able to cover fully the learning competencies required in physics.

Generally, when the readiness of Senior High School physics teachers in teaching Physics in terms of their professional competencies were determined, results showed that higher proportion of physics teachers were not graduates of physics program, have less experience in teaching physics, have low level of knowledge in physics in the areas of Electricity and Magnetism, and Modern Physics, and have not covered fully the learning competencies in physics

required by the Department of Education. This shows that Senior High School physics teachers were more not ready to teach Physics.

From the result of this assessment, the researcher decided to design, develop and evaluate a module in physics as an instructional material for Senior High School physics teachers to serve as additional references for their knowledge and served as guide for these teachers on how to impart the concept, principles and theories of physics to their students in a simple and effective way.

Designing Instructional Module for Senior High School Physics Teachers

After conducting an assessment on areas where physics teachers were found weak, specifically in level of content knowledge in physics, a module was designed to fit the needs of the teachers. The discussion below showed the designing of a module for Senior High School physics teachers.

The readiness of Senior High School physics teachers in terms of content knowledge on topics in physics specifically on the areas Electricity and Magnetism, Optics and Modern Physics were determined according to their highest educational attainment, number of physics-related seminars attended, number of years in teaching physics, and teaching

approaches/methods used in teaching Physics. This was conducted to assess what area or areas do Senior High School physics teachers observed weak and more likely not ready to teach physics. The gathered information was used to design a module that fits the need of Senior High School physics teachers and improved their competencies in teaching the subject.

Based on the findings of the assessment, there was a need to design and develop a module that required. The following are the design of the module:

(a) Overview of the Module.

This gives Senior High School physics teachers a bird's eye view of the module, and instruction on how to use the module. The overview of the module can also motivate them to study each lesson in each module.

(b) Objectives of the Module:

These are specific topic/s included in the module for Senior High School physics teachers to be guided. These may be the specific competencies that the teachers should impart to students in acquiring knowledge for each lesson.

(c) Background Information for Teachers.

Background information about the topic, specific lessons for discussions, figures or diagrams for the teachers to relate applications and uses of every term

and specific examples to apply concepts and principles in everyday lives that are aligned with the learning objectives of the module were included. This will serve as references and additional information of Senior High School physics teachers for any inquiries being done during the lectures and discussions. Diagrams were also included for the teachers to picture out how things happened and how it will be conducted. Each sub-topic in the background information was labeled for Senior High School Physics teachers to be guided.

(d) Demonstration Activity. This may be a simple activity to be conducted by Senior High School physics teachers before the class prepares the students and motivate them to participate in the lecture and discussion. Materials needed in the demonstration were also included for advance preparation.

(e) Strategies for Evaluation. Simple problem solving and guide questions were included for Senior High School physics teachers to review concepts and procedures learned in the discussions. This will also guide teachers to assess whether the learned during the discussions and whether the lessons discussed have been imparted successfully to students.

(f) Lesson development (Concept Map). These are

structured in a manner that will guide Senior High School physics teachers in facilitating the student's understanding of the lesson. It was also believed that this concept map will help Senior High School Physics teachers facilitate teaching procedures and will guide them to identify their teaching strategies in teaching the subject.

(g) Questions and Sample Problems. This included guided questions and problem solving as evaluative measures to guide teachers in testing student's learning about the specific topic included in the module.

(h) Answer Keys for Questions and Problem Solving. Answer keys for all questions and problem solving included in the practice tasks will be presented for the teachers to check answers from the questions given in the practice tasks.

(i) References. These were sources of information to be used by Senior High School Physics teachers in checking some terms and questions for assignments.

Developing Instructional Modules for Senior High School Physics Teachers

After conducting an assessment on the weakness of Senior High School physics teachers in teaching, the Physics module was designed to fit the needs of the teachers.

As discussed earlier, the module was being designed which included, (a) Overview of the Module, (b) Specific objectives, (c) Background Information for Teachers, (d) Demonstration Activity, (e) Strategies for Evaluation, (f) Lesson development (Concept Map), (g) Questions and Sample Problems, (h) Answer Keys for Questions and Problem Solving, and (i) References. The output of the developed modules based on the assessment conducted and the design was presented in the Appendix.

Implementation of the Module to Senior High School Students

The developed module was tested on its effectiveness and efficiency by implementing it to the students in one of the DepEd Public schools in the Province of Iloilo. Pretest-posttest was conducted to two sections of the Senior High School STEM program students. One section was assigned as the controlled group and the other section was assigned as the experimental group. The controlled group used the traditional lecture-discussion method in teaching Electromagnetism and the experimental group used the

developed module in teaching Electromagnetism.

Difference in the Performance of Students before the Use of Module and Traditional Lecture-Discussion Method in Teaching Electromagnetism

The results of the test for the difference in the performance of students before the use of Module and the use of traditional lecture-discussion were presented in Table 20. Findings showed that the mean performance of the students in the controlled group before the use of traditional lecture-discussion method in teaching Electromagnetism was 14.29 and the mean performance of students in the experimental group before the use of Module in teaching Electromagnetism was 13.25. Based on the findings, the difference in means of 1.04 was not significant at .05 level of significance as shown by the t-value of 1.04 and p-value of .286. This implies that the performance of students in the controlled group does not vary with the performance of students in the experimental group before the treatment.

Table 20

Difference in the Performance of Students Who Belong to the Control Group and Experimental Group before the Use of Module and Traditional Lecture-Discussion Method in Teaching Electromagnetism.

Before the Treatment	Performance of Students					
	N	Mean	sd	Mean Difference	t-value	p-value
Controlled Group	28	14.29	3.0616	1.04	1.130	.286
Experimental Group	28	13.25	3.4386			

Difference in the Performance of Students Who Belong to the Control Group before and After the Use of Traditional Lecture-Discussion in Teaching Electromagnetism

As discussed previously, students who belong to the controlled group in this study were students who were taught the lecture-discussion method in teaching Electromagnetism.

Table 21 shows the result of the test on the difference in the performance of students who belong to the controlled group. The data revealed that, the mean performance of students who belonged to the

controlled group before the use of traditional lecture-discussion method in teaching Electromagnetism was 14.29 while the performance of the students who belonged to the controlled group after the use lecture-discussion method in teaching Electromagnetism was 16.46. Based on the findings, the difference of 2.17 was significant at .05 level as shown by the t-value of 4.193 and the p-value of .000. This implies that the performance of students after the use of lecture-discussion method in teaching Electromagnetism varies with their performance before the use of lecture-discussion method in teaching Electromagnetism.

Table 21

Difference in the Performance of Students Who Belong to the Control Group before and After the Use of Traditional Lecture-Discussion in Teaching Electromagnetism.

Control Group	Performance of Students					
	N	Mean	sd	Mean Difference	t-value	p-value
Before the Treatment	28	14.29	3.0167	2.17	4.193*	.000
After the Treatment	28	16.46	2.2191			

**Significant at .05*

Difference in the Performance of Students Who Belong to the Experimental Group before and After the Use of Modules in Teaching Electromagnetism.

Table 22 shows the difference in the performance of students who belong to the experimental group before and after the use of Module in teaching Electromagnetism. Findings revealed that the mean performance of students who belonged to the experimental group before the use Modules in teaching Electromagnetism

was 13.25 and their mean performance after the use of Module in teaching electromagnetism was 19.75. Based on the results, the difference in mean of 6.50 was significant at .05 level as shown by the t-value of 8.099 and p-value of .000. This implies that the performance of students in Electromagnetism who belonged to the experimental group before the use of Module varies with their performance in Electromagnetism after using the module.

Table 22

Difference in the Performance of Students Who Belong to the Experimental Group before and After the Use of Module in Teaching Electromagnetism.

Experimental Group	Performance of Students					
	N	Mean	sd	Mean Difference	t-value	p-value
Before the Treatment	28	13.25	3.4386	6.50	8.099*	.000
After the Treatment	28	19.75	4.1778			

**Significant at .05*

Difference in the Performance of Students after the Use of Traditional Lecture-Discussion Method and Use of Module in Teaching Electromagnetism

Table 23 shows the difference in the performance of students who belong to the controlled group after the use of traditional lecture discussion method and who belong to the experimental group using Module in teaching Electromagnetism. Findings revealed that the mean performance of

students who belonged to the controlled group was 16.46 while the mean performance of students using Module in teaching electromagnetism was 19.75. Based on the results, the difference in mean of 3.29 is significant at .05 level as shown by the t-value of 3.841 and p-value of .002. This implies that the performance of students in Electromagnetism who belonged to the experimental group using Module vary significantly with the performance of students in the controlled group after

the use of traditional lecture-discussion method in teaching Electromagnetism. This implies that students who were using the module performed better

than those students who were being taught using traditional lecture-discussion methods on the topic Electromagnetism.

Table 23

Difference in the Performance of Students Who Belong to the Experimental Group before and After the Use of Module in Teaching Electromagnetism.

Experimental Group	Performance of Students					
	N	Mean	sd	Mean Difference	t-value	p-value
Before the Treatment	28	16.46	2.2191			
After the Treatment	28	19.75	4.1778	3.29	3.841*	.002

**Significant at .05*

Difference in the Change in Mean Performance of Students after the Use of Module and Using Traditional Lecture-Discussion Method in Teaching Electromagnetism.

The results of the test for the difference in the change in mean performance of students after the use of Module and the use of traditional lecture-discussion in teaching Electromagnetism was presented in Table 24. Results showed that change in mean performance of students who belonged to the controlled group after the use of traditional Lecture-Discussion method in teaching

Electromagnetism was 2.17 and the change in mean performance of students belonged to the experimental group after the use of Module in teaching Electromagnetism was 6.50. The difference in mean change performance of students was found significant at .05 level as shown by the t-value of 3.896 and p-value of .001. The result of the study implies that the performance of students in the experimental group using Module varies with the performance of students in the controlled group using the traditional Lecture-Discussion method in teaching Electromagnetism.

Table 24

Difference in the Change in Mean Performance of Students after the Use of Module and Traditional Lecture-Discussion Method in Teaching Electromagnetism.

After the Treatment	Performance of Students				
	N	Mean Difference	sd	t-value	p-value
Control Group	28	2.17	2.7495	3.896*	.001
Experimental Group	28	6.50	4.2470		

**Significant at .05*

Teachers' Evaluation (Respondents) Result of the Instructional Modules in Physics

In summary, based on the evaluation results by the Senior High School physics teachers evaluators, the newly developed module was rated excellently in terms of the objectives of the modules (M = 4.70) content of the Modules (M = 4.50) format and language of the modules (M = 4.45)

presentation of the module (M = 4.28) and the usefulness of the module (M = 4.55).

The overall average rating of the Senior High School teachers on the newly prepared module in Physics was 4.50, and using the scale below it is described as excellent.

Table 25

Teachers-Respondents' Evaluation on Modules for Senior High School Physics Teachers.

Aspect of Instructional Module	Evaluation Responses of the Teachers		
	Mean	sd	Description
Objectives of the Modules	4.70	.485	<i>Excellent</i>
Content of the Modules	4.50	.552	<i>Excellent</i>
Format/layout and language of the Modules	4.45	.563	<i>Excellent</i>
Presentation of the Modules	4.28	.493	<i>Excellent</i>
Usefulness of the Modules	4.55	.528	<i>Excellent</i>
Overall Mean	4.50	.524	<i>Excellent</i>

Scale: Poor (1.00 – 1.80), Fair (1.81 – 2.60), Good (2.61 – 3.40), Very Good (3.41 – 4.20) Excellent (4.21 – 5.00)

Experts' Evaluation Results of the Instructional Modules in Physics

Based on the mean evaluation results by the experts, the newly developed module was excellent in terms of the objectives of the modules (M = 4.84), content of the modules (M = 4.25), format and language of the

modules (M = 4.43), presentation of the module (M = 4.40), and the usefulness of the module (M = 4.60). The overall average rating of the experts on the prepared module in Electricity and Magnetism was 4.51, and using the scale below it was described as excellent.

Table 26

Experts' Evaluation Results on Modules for Senior High School Teachers.

Aspect of Instructional Module	Evaluation Responses of the Teachers		
	Mean	sd	Description
Objectives of the Modules	4.84	4.75	<i>Excellent</i>
Content of the Modules	4.25	.627	<i>Excellent</i>
Format/layout and language of the Modules	4.43	.604	<i>Excellent</i>
Presentation of the Modules	4.40	.671	<i>Excellent</i>
Usefulness of the Modules	4.60	.568	<i>Excellent</i>
Overall Mean	4.51	.589	<i>Excellent</i>

Scale: Poor (1.00 – 1.80), Fair (1.81 – 2.60), Good (2.61 – 3.40), Very Good (3.41 – 4.20) Excellent (4.21 – 5.00)

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Senior High School Physics teachers in the City and Province of Iloilo were dominated by graduates with Master's degrees in other fields, teaching physics for 5 years or less and have not attended any physics-related seminars.

2. Physics teachers were not very ready to teach physics. Most of the teachers included in the study still

need to continue pursuing educational advancement in the area of physics, by either attending seminars, or upgrading their professional qualification and gaining more experience in teaching physics.

3. Physics teachers have low level of knowledge in Electricity and Magnetism and gained an average level of knowledge in Optics and Modern Physics.

4. There was a high proportion of teachers with high level of knowledge in Electricity and Magnetism, Optics and Modern Physics who were graduates of physics programs rather than teachers who graduated from other fields.

5. The proportion of teachers who attended 2 or more physics-related seminars with a high level of knowledge in Electricity and Magnetism, Optics and Modern Physics was higher than the proportion of teachers who attended at least 1 seminar in physics and those who never attended any physics-related seminars.

6. There is a higher proportion of teachers who had been teaching physics for 16 years or more with a higher level of knowledge in Electricity and Magnetism and Modern Physics than teachers who had been teaching physics for less than 15 years.

7. Teachers preferred to use lecture/discussion with interactive demonstration (cooperative learning, experimentation, problem solving, hands-on activity) in teaching Physics.

8. Physics teachers had moderately to highly extent of covering fully the required learning competencies in Electricity and Magnetism and Optics but low extent in covering fully the learning competencies in Modern Physics.

9. Teachers with Master's degree have higher extent of covering fully the learning competencies in Electricity and Magnetism and Optics but low in Modern Physics than teachers with bachelor's degree. Teachers who were graduates of bachelor degree have low extent of covering the learning competencies in Electricity and Magnetism, Optics and Modern Physics.

10. Teachers who had attended 3 or more physics-related seminars have higher extent of covering fully the learning competencies in Electricity and Magnetism, Optics and Modern Physics than teachers who had attended less number of seminars and never attended any seminars in physics.

11. The proportion of physics teachers who had been teaching physics for more than 10 years have a higher extent of covering the required learning competencies in Electricity and Magnetism, Optics and Modern Physics than teachers with less number of years teaching experience.

12. There is a need to design, develop and evaluate module in physics for Senior High School physics teachers.

13. The mean performance of students in the controlled group does not vary with the mean performance of students in the experimental group before the treatment.

14. The mean performance of students before the use of lecture-discussion method in teaching Electromagnetism varies with their mean performance after the use of lecture-discussion method in teaching Electromagnetism.

15. The mean performance of students before the use of Module varies with their performance after the use of Module in teaching Electromagnetism.

16. The mean performance of students who belong to the control group after the use of lecture-discussion method varies with the mean performance of students belonging to the experimental group after the use of Module in teaching Electromagnetism.

17. The change in mean performance of students who belonged to the controlled group after the use of traditional lecture-discussion method varies with the mean performance of students belonging to the experimental group after the use of Module in teaching Electromagnetism.

18. The developed modules were rated by Experts and Physics teachers excellent in terms of the objectives of the module, content of the module, format and language of the module, presentation of the module, and usefulness of the module.

19. The developed modules showed potential as an effective

instructional material in improving the quality of instruction in improving students' performances in Physics. The developed modules also showed potential in terms of its usage as evaluated by the experts and Physics teachers who were identified as the end users.

Recommendations

1. The Department of Education and School Administrators must be strict in implementing guidelines and requirements in hiring Physics teachers. If there was a shortage of Physics teachers, Schools' Administrators should create programs to align non-Physics graduates to teach Physics through Faculty Development programs or other forms of scholarships. It is also recommended that Department of Education officers and School's Administrators must be supportive of sending Physics teachers to any Physics-related seminars for them to learn and adopt the new methods and effective techniques in teaching Physics. Attending seminars and conventions may also be an avenue for Physics teachers to abreast with modern technology as an effective way of teaching Physics.

2. Physics teachers must be more diligent in improving their knowledge in Physics and continue improving their academic status to acquire more

knowledge, improving skills in analysis and understanding of concepts and principles in Physics by attending classes through graduate programs.

3. The low level of covering fully lessons in Physics based on the required DepEd Physics learning competencies in the areas of Electricity and Magnetism, Optics and Modern Physics may be attributed by the background information of the respondents included in the study. Based on the findings, a higher proportion of the Senior High School Physics teachers graduated with the degree major in other fields, teaching Physics for less than 5 years, and never attended any Physics-related seminars. Their lack of professional competencies may be attribute to their lack of background knowledge, understanding about the principles and concepts involved and the process on how the topics will be presented that made physics teachers decide not to discuss it with their students. It is therefore recommended that the Department of Education should conduct an enhancement activity to train and develop the competencies and ability of teachers who experienced difficulties in teaching the subject. It is further recommended that school's administrators must be supportive in enhancing the abilities and competencies of their physics teachers.

4. Teachers were found to have a low level of covering fully the lessons in Physics based on DepEd required learning competencies. This may be due to additional loads and assignments given to Senior High School Physics teachers such as advisers, coaches, events' facilitators that forced them skip classes and missed scheduled for the lectures as revealed by the respondents. It is recommended that school's administrators must be fair in giving assignments or additional loads to teachers not to sacrifice the need of the students to learn. It is further recommended that teachers must also know how to manage their time not to sacrifice scheduled classes in lieu of other activities inside and outside the school.

5. From the findings revealed, most Senior High School physics teachers lack of professional competencies and have a low level of knowledge in Electricity and Magnetism, Optics and Modern Physics. It is recommended therefore that an instructional material in the form of a module must be designed, developed and evaluated as a source of information and guide for teachers in introducing concepts and principles of physics to their students in a simple but effective way. The developed module can also be a material to enhance the extent of covering for all

the learning competencies required by the Department of Education during the term due to some additional loads and assignments assigned to them.

6. The developed module was rated excellent and demonstrates for its potential as an effective instructional material in improving students' performances. It is recommended that this developed module will be used by Senior High School physics teachers as their guide and reference of information to discuss topics in physics and as instructional

material to improve their quality of teaching. It is also recommended that this module will be used by Senior High School physics teachers as instructional material to improve the performance of Grade 12 students in Physics.

7. It is further recommended that this study will be replicated using different topics in Physics and evaluated among teachers and students to further support the findings of this study.

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Rural-Urban Interactions and Interdependence: Policy Implications for the Enhancement of Linkages between Iloilo City and the Province of Guimaras

Evan Anthony V. Arias¹ and Carmen N. Hernandez²

ABSTRACT

This study was conducted to analyze the rural-urban interactions and interdependence between Iloilo City and the Province of Guimaras with the aim of identifying policy implications for the enhancement of linkages. Mixed methods approach was employed involving both quantitative and qualitative analysis based on secondary and primary data gathered through service statistics, key informant interviews, focus group discussions and direct field observations. The study found out that there is interdependence between the two areas which has been in existence for over a century based on historical records. The nature and characteristics of linkages are consistent with theories on rural-urban interactions in terms of the flow of goods and sectoral activities. There were mechanisms established in the past for the establishment of a metropolitan arrangement which served as facilitating factors but were not sustained primarily due to changes in local leadership and priorities. There were also barriers that limited its development arising from lack of an enabling policy at the national level to sustain the alliance. Policy gaps at the national and local levels likewise hindered the development of rural-urban linkages primarily on transportation and infrastructure. Despite the challenges, there are prospects that can be pursued towards the development of tourism and livelihood opportunities anchored on the attributes and assets of both areas which can be maximized through improvements in the value chain. There is also a prospect for the revival of the metropolitan arrangement which can pave the way for the integrated development of the Metro Iloilo-Guimaras (MIG) region.

Keywords: metropolitan arrangement, local government alliances, regional planning, transport, public policy

INTRODUCTION

Most development theories and practice focus on the distinction between rural and urban areas as a dichotomy that requires different and separate interventions. This approach overlooks the fact that what takes place in rural areas will affect the urban areas to which they are interacting. Similarly, changes in urban areas will ultimately affect the rural areas surrounding it. As Tacoli (1998) observed, although a distinction between “rural” and “urban” is probably inescapable for descriptive purposes, it often implies a dichotomy which encompasses both sectoral and spatial dimensions. The reality however, is much more complex and the lack of understanding on the interconnectedness and interdependence of activities and functions between the two areas results in policies that are not responsive to the challenges faced in promoting growth and sustainability and thus, limits the social and economic benefits that can potentially be maximized.

The urban-rural interactions between Iloilo City and the Province of Guimaras exemplify the relationship between a highly urbanized city and a rural island-province. It primarily involves the flow of goods and services

between a predominantly rural area and an urban area that is incidentally also the regional center. The interaction is highly dependent on sea transport which is the primary mode of travel between the two areas.

The city as the urban service provider offers amenities and specialized services in the areas of health, education and finance, provides employment and is also the source of processed products and consumer goods. The tourism industry of Guimaras is highly dependent on the transportation facilities of the city, particularly the Iloilo International Airport as the gateway for domestic and foreign tourists. Iloilo on the other hand is positioning itself as a convention destination and benefits from the tourism destinations of Guimaras by having these as attractions in the packaging of tours under the Meetings, Incentives, Conventions and Exhibitions (MICE).

The increasing intensity of the rural-urban interactions presents both opportunities and challenges that need adequate understanding of the factors affecting change. Socio-economic improvements in both areas resulted in the challenge of effectively managing the linkages as evidently manifested by the inadequacy of transport facilities

and services to serve the increasing volume of passengers passing through the seaports. This was aggravated by a Joint Venture Agreement (JVA) entered into by the city government with a private entity which involved the imposition of terminal fees and other charges to commuters which was opposed by Guimaras commuters as it did not undergo a consultative process.

A mechanism for cooperation was initiated through the creation of the Metro Iloilo-Guimaras Economic Development Council (MIGEDC) by virtue of Executive Order No. 559 issued by then President Gloria Macapagal Arroyo on August 28, 2006. The MIGEDC development plan laid down the desired conditions that the cooperation aimed to achieve through a metropolitan arrangement involving other local governments adjacent to the city of Iloilo in the areas of tourism, investment promotion and infrastructure support.

However, while there is substantial data that exist at both government and private institutions, these were not fully analyzed for the purpose of understanding and describing the interactions between rural and urban areas as inputs to informed decisions and policy formulation. The issues encountered in the sea transport as a result of an initiative of Iloilo City are possible manifestations of this gap.

Considering the information gaps that exist, there is an evident need to undertake a study to have an in-depth analysis of the interactions and interdependence between Iloilo City and the province of Guimaras.

The traditional practice of dichotomizing rural and urban areas is evidently happening in the study area resulting in gaps in terms of the desired conditions stipulated in the plans and programs of local governments. The dichotomous approach fails to recognize that rural-urban linkages exist in a space continuum as argued by Ndabeni (2015) and as such, the inter-relatedness of the two areas are not considered in planning and policy formulation.

The importance of effectively determining the site-specific context of rural-urban interactions as stressed by Tacoli (undated) needs to be appreciated by development planners and policy-makers both at the local and regional levels. For this to happen however, adequate knowledge on the nature and extent of the linkages need to be analyzed and the policy implications identified. The responsiveness of interventions by both government and civil society hinges on a sound decision-making tool that can be provided by the study.

The case of Iloilo City and Guimaras presents an opportunity for

a study that can contribute to the body of knowledge in the area of rural-urban interactions and interdependence and provide valuable insights from a developmental perspective. It can potentially influence the re-thinking of traditional approaches to consider the rural-urban continuum in an integrated approach which will benefit local governments and national agencies. It is also a significant source of information for organizations that promote social and economic development.

Objectives of the Study

The general research objective is to analyze the rural-urban interactions and interdependence in terms of social and economic aspects between Iloilo City and the Province of Guimaras with the primary purpose of identifying policy implications and providing recommendations for the improvement of the linkages.

Specific Objectives

1. To describe the nature and extent of interdependence in terms of social and economic aspects between Iloilo City and the Province of Guimaras.
2. To identify the facilitating factors and barriers influencing the development of rural-urban linkages.

3. To identify the problems, issues and gaps that constrain urban-rural linkages.

4. To identify aspects of national and local policies that affect rural-urban interactions.

5. To determine the operationalization of these policies.

6. To know the perspectives and views of the stakeholders in terms of the linkages between the two areas.

7. To identify the prospects in improving rural-urban linkages between Iloilo City and Guimaras and its potentials in contributing to regional and national development.

8. To determine policy implications and provide recommendations for the development of rural-urban linkages as a result of enhanced understanding of the interactions and interdependence.

Theoretical Framework

This study utilized the theoretical rural-urban interaction model crafted by Cesar B. Umali, Jr. in his master's thesis at the School of Urban and Regional Planning, U.P. Diliman in 1987. The model describes the relationship between rural and urban areas wherein there exists a symbiosis for exchange of goods and services. The study examined how this theoretically healthy and symbiotic relationship applied to Iloilo City and the Province of Guimaras (Figure 1).

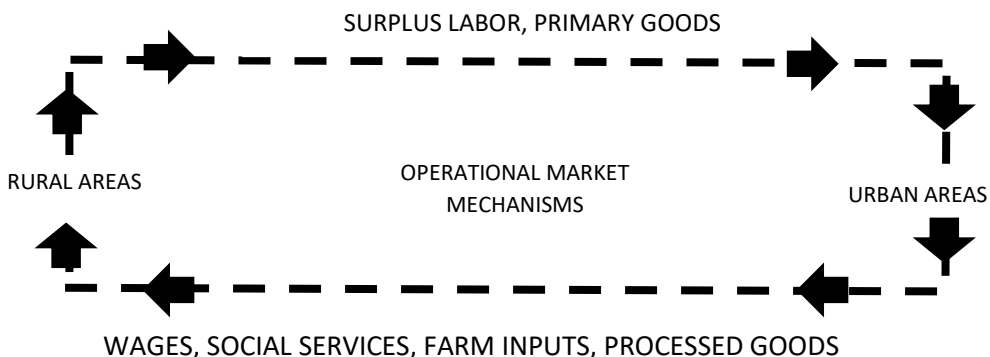


Figure 1. Rural-urban interaction model (Source: Cesar Umali, 1987)

Conceptual Framework

The conceptual framework shown in Figure 2 was based on the theoretical model of Umali (1987).

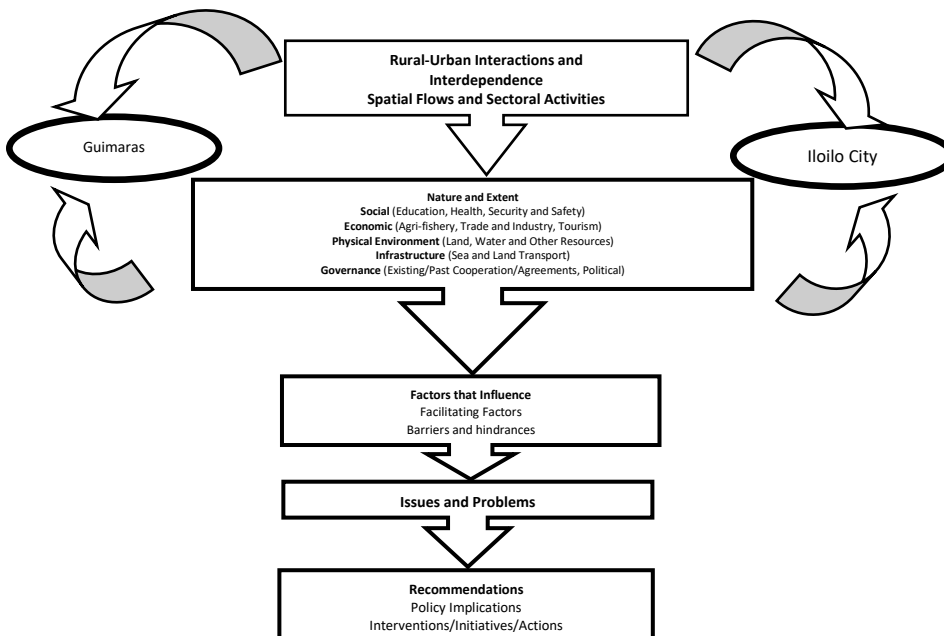


Figure 2. Conceptual Framework for Rural-Urban interactions between Guimaras and Iloilo City

METHODOLOGY

This study utilized the Mixed Methods Approach which involved a combination of qualitative and quantitative tools. This method was used because of the nature of the study which requires the validation and confirmation of quantitative results derived from secondary data with primary data describing qualitative experiences.

Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) were the primary tools used for qualitative data while secondary data from service statistics and past surveys were the quantitative data utilized. These were supplemented with actual field observations to enrich the understanding of existing conditions and validate both quantitative and qualitative data.

RESULTS AND DISCUSSIONS

Historically, the interactions between Iloilo City and Guimaras were documented by journals and books as early as the 18th century. Guimaras Island was identified as a potential source of potable water for the city (Philippine Journal of Science, 1915) and serves as a recreational area and conducive retreat for Iloilo residents (Dauncey, 1906). Travel between the two areas is through sea transport using the traditional sailboat called the Parao.

Approximately 18,000 passengers pass through the 4 seaports on a daily basis with workers comprising the highest percentage at 38% followed by students at 23%. Considering that two groups constitute 61% indicate that the dominant rural-urban interactions are related to employment and education. It is notable that senior citizens account for a significant 4% and as revealed in the KII is primarily due to the dependence of Guimaras' elderly population on health services in Iloilo (Figure 3).

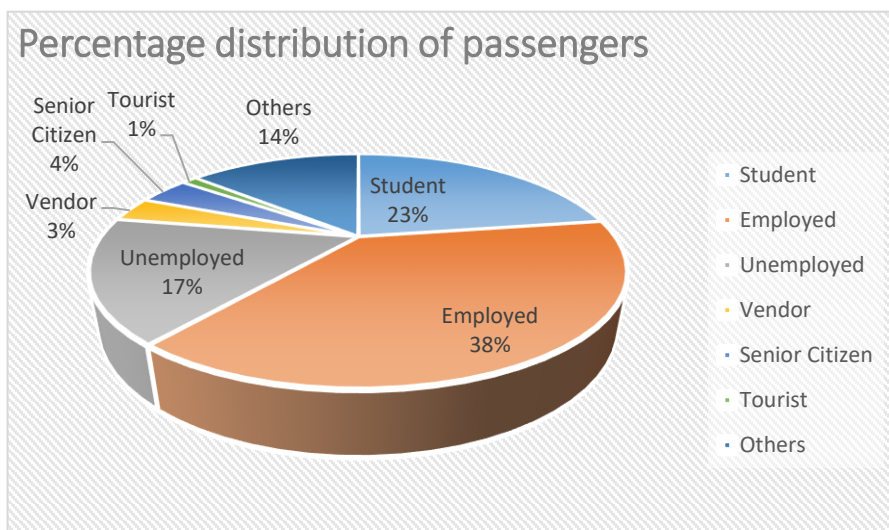


Figure 3: Percentage Distribution of Passengers per Classification

Guimaras supplies agricultural and fishery products to Iloilo City and one significant product is native chicken wherein approximately 99.5% of the production being shipped to Iloilo City and only 0.5% sold in Guimaras. Data showed that native chickens are regularly supplied to Iloilo restaurants and hotels with a weekly average of 7,600 heads per week during regular months and increases to 8,500 heads per week during peak months. It was also found out that 40% of the chickens shipped are supplied to popular restaurants in the city. Fishery products are regularly shipped to Iloilo primarily to the fishing port which serves as the ready market for milkfish. An estimated volume of 20 tons are shipped quarterly by three

major producers in Guimaras. The information on prevailing prices are through informal channels by traders as there is no established formal structure for information on trading, selling or buying. High quality fish and crustaceans are also regularly supplied mostly to restaurants in the city.

Data on cargoes transported showed results consistent with the Rural-Urban Interaction Model that a symbiotic relationship exists on the exchange of goods and services (Umali 1987). The inbound cargoes consist primarily of consumer goods and farm inputs such as fertilizer and feeds which are regularly transported to Guimaras. Construction materials are also regularly shipped.

The previous political leaders of both areas recognized the need for a cooperation to achieve common objectives and became the champions that paved the way for the creation of the MIGEDC. However, while the council was able to chart the development direction, the implementation was hampered when the city's change in leadership resulted in different priorities. The lack of consultative and participatory process was evident resulting in decisions that are contrary to the objectives of the alliance. This was exemplified in the JVA with its disadvantageous provisions. This resulted in dissatisfaction on the part of Guimaras officials who felt that they are not treated as partners on equal footing.

At the onset, an external stimulus through a foreign-funded project propelled the MIGEDC to move forward but after said stimulus ceased the alliance entered into a state of inactivity and initiatives were not sustained.

There are existing laws or policies with potentials of facilitating or hindering the development of rural-urban interactions. These primarily affect agriculture and fishery productivity (AFMA or R.A. 8435), mandates of the Philippine Ports Authority that do not cover small boats and the resolution of Iloilo City that paved the way for the JVA with a private entity.

CONCLUSIONS AND RECOMMENDATIONS

There is Interdependence between Iloilo City and Guimaras and the two areas need each other. Despite the issues and challenges, prospects abound and if proper interventions are implemented, social and economic benefits arising from tourism, agriculture and fisheries can be achieved.

The MIGEDC was potentially a good mechanism that started well but was not sustained owing to leadership

factors. The JVA of the city government with the private entity was a manifestation of non-observance of the alliance's principle of inclusive growth.

Policy gaps at the national level constrain development of rural sea transport which is a major factor in the interaction.

The MIGEDC is worth saving and it is recommended that it should be revived. However, an external and independent evaluation should first be

undertaken to determine what went wrong. It should be anchored on clearer policies with consultative and participatory processes as essential principles to be adhered to. It would be worthwhile to consider other models of alliances that worked and good practices adopted.

Consequently, the JVA should be reviewed and appropriate actions taken to rectify the shortcomings.

Improvement of the sea transport system should be vigorously pursued with private sector participation.

National and local government policies should be reviewed with an urban-rural lens taking into consideration that it is not dichotomous but exists in a continuum and hence, interventions should be responsive and appropriate.

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Factors Influencing the Decision not to Retire among the Retiring Personnel of Iloilo Provincial Government

Shara May P. Centina¹ and Gynnyn G. Gumban²

ABSTRACT

This study was conducted primarily to determine the factors influencing the decision not to retire among the retiring personnel of Iloilo Provincial Government and to find out the relationship between the factors occupational, economic and psychological and their decision not to retire. The study utilized the one-shot, researcher-made questionnaire. The enumeration method was utilized by purposely determining the 75 retiring personnel with age ranging above 60 but below 65 years old as respondents. The level of statistical significance was set at 0.05. Results showed that when the retiring personnel was categorized in terms of gender, civil status, office, length of service and monthly salary, majority of the retiring personnel were females, were mostly married, have been serving the office for 36 to 40 years, had a monthly salary ranging 20,000 and below and mostly from the General Services Office (GSO). The occupational factor was found to have a strong extent of influence in the decision of the retiring personnel not to retire before the age of 65, while economic and psychological factors were found to have a moderate extent of influence. The result showed that a little less than half (41.3%) of the retiring personnel were firm in their decision not to retire before the age of 65 even though their concerns were already satisfied. A significant result with a low correlation was noted between the psychological factor and decision not to retire among the retiring personnel. This finding was supported by the results of Cramer's V. The result was interpreted using Garrett's Interpretation of Coefficient of Correlation. It was recommended that retiring personnel should be encouraged to attend programs, training and seminars to prepare them for the soon transition. The organization should revisit existing programs conducted focusing on psychological factors and well-being of the retirees to develop post-retirement plans.

Keywords: Retiring personnel, psychological factors, employees, economic

INTRODUCTION

Background and Rationale of the Study

"Somewhere along the line of development, we discover what we really are, and then we make our real decision for which we are responsible. Make that decision primarily for yourself because you can never really live anyone else's life" (Arsham, 2010).

According to Wang and Shi (2014), when workers decide to retire, they make a motivated choice based on the information they have about their own characteristics and their work and non-work environment. Based on the 2015 study of East Asia Retirement, the majority of Filipino workers today are very anxious about exhausting their savings, being in poor health, and having no one to care for them or being a burden on children when they retire. The retirement survey showed that among the ten (10) countries in Asia, the Philippines is second to Vietnam in terms of being anxious on retirement prospects. The Republic Act 8291 otherwise known as "The GSIS Act of 1997" states that government employees are qualified to file for retirement upon reaching the compulsory age requirement of 60, and may choose to continue working until they reach the mandatory retirement age of 65. The data from

the Human Resource Management and Development Office (HRMDO) of Iloilo Provincial Government (IPG) showed that there are 82 identified numbers of retireable employees who have reached the age of 60 but still opted to continue working. Based on the records, only 8% have filed their intent to retire in the year 2020, which simply means that 92% of the total retiring personnel of IPG are not retiring.

Although previous research has identified a variety of factors about the early exit from the workplace, still, little is known about the factors that impact working beyond retirement age. The certain circumstances brought by the trending issue of retirement have caught attention on the part of the researcher. Further, the data from the Human Resource Management and Development Office of Iloilo Provincial Government which showed a significant number of retiring personnel who are still working has created the question that despite the advantages that have been stated, why are there some employees who are not motivated to make that decision to retire? What prevents these employees from filling for retirement? According to Kooji et al., (2008), a better understanding of this motivation is thus needed in order to identify the

key issues underlying retirement decisions of employees to continue or stop working. It will look into the reasons why some retirable employees still choose to continue working.

Now, it is a question of whether the decision not to retire will benefit both the individual and the organization. Moreover, it asks whether the decision of staying in the organization will contribute to its productivity and will enhance the well-being of the employees. Thus, studying this problem will help address the gap accurately by explicating the pathways that lead to retirement decision and by gaining a more complete understanding of the different factors influencing the decision not to retire and choose to prolong employment among the retiring personnel of Iloilo Provincial Government as we try to understand clearly how these certain employees were able to make critical decisions about their retirement.

Objectives of the Study

This study generally aimed to determine the factors influencing the decision not to retire among the retiring personnel of Iloilo Provincial Government.

Moreover, it specifically aimed to:

1. describe the characteristics of respondents in terms of gender, civil

status, office, length of service, and monthly salary;

2. describe the influencing factors on the decision not to retire of retiring personnel in terms of occupational, economic, and psychological aspects;

3. determine the decision of retiring personnel whether to retire or not to retire;

4. determine the reasons on the decision not to retire among the retiring personnel of Iloilo Provincial Government; and,

5. determine whether there is a significant relationship between factors influencing the decision of retiring personnel in terms of occupational, economic, and psychological, and their decision not to retire.

Null Hypothesis

This study hypothesized that:

1. there is no significant relationship between factors in terms of occupational, economic, and psychological and the decision not to retire among the retiring personnel of Iloilo Provincial Government.

Theoretical Framework

To supplement the explanations about the phenomenon being studied, the researcher has identified the Life Course Perspective Theory that has gained popularity in the context of decision-making and can support the objective of the study to determine the

factors influencing the decision not to retire among the retiring personnel of Iloilo Provincial Government. The life course principle of agency within structure (Settersten, 2003) postulates that older adults make choices and take actions within the opportunities and restrictions of their broader social worlds, being influenced by various life domains and personal histories. For many years, the Life Course Perspective Theory (Elder & Johnson, 2003) is an important theory often used in connection with this conceptualization of retirement. The life course perspective considers retirement as an event in the course of life span of an individual and is influenced by his/her personal history, demographic features, health, financial status, skills and abilities (Kim & Moen, 2002) as well as the ways people used to accomplish the transition of retirement.

This conceptualization views retirement as incorporating both the retirement transition (i.e., from employment to retirement) and post retirement trajectory (i.e., individual development in post-retirement life). According to this view, first, it is not the decision to retire, but the characteristics of the retirement transition process embedded in this decision that are of most importance (Solinge & Henkens, 2008).

This approach also assumes that the retirees may continue working because they are satisfied with and attached to their career jobs (Shultz, 2003), and committed to their organizations (Adams & Beehr, 1998). Financial status also consistently predicts retirement decisions as well (Gruber & Wise, 1999; Quinn et al., 1990). In life course perspective, they weigh these factors and evaluate the overall utility of retirement before they reach the decision about whether to retire. In relation, this theory has considered different factors that can affect an individual's decision-making. The decision not to retire among the retiring personnel of Iloilo Provincial Government may be based on the different factors cited that they consider to influence them most.

Thus, the researchers have tried to clarify these issues by supplementing the Life Course Perspective Theory of Decision-Making to structure the diversity and nature of these factors identified underlying the decision not to retire.

Conceptual Framework

The theory presented is applicable in this study as it is assumed that the socio-demographic factors of respondents in terms of gender, civil status, office, length of service, and monthly salary and the factors occupational, economic, and

psychological are influencing the decision not to retire among the retiring personnel of Iloilo Provincial Government.

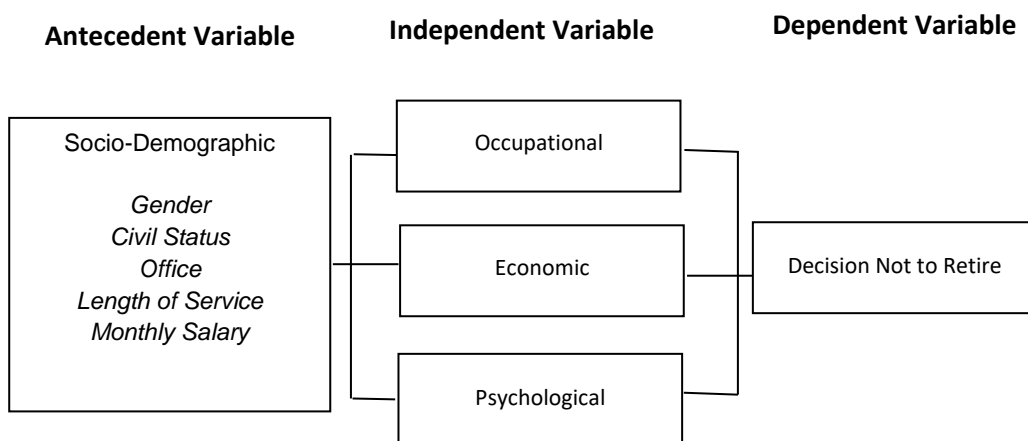


Figure 1. The Schematic diagram shows the relationship of the variables.

In this study, the conceptual framework covers the antecedent variable socio-demographic profile of respondents in terms of gender, civil status, office, length of service, and monthly salary, the independent variables which are the occupational, economic and psychological factors, while the dependent variable of this study is the decision not to retire among the retiring personnel of Iloilo Provincial Government.

Significance of the Study

The results of this study will provide the **Civil Service Commission (CSC)** with information

that will supplement the significance of the current law passed on lowering the compulsory retirement ages from 60 to 56 years old.

The **retiring personnel** will open their minds on the importance of retirement preparation and planning as early as they can in order for them to retire with lesser anxiety.

The results of this study will benefit the **Iloilo Provincial Government** as this will become their basis in considering the importance of guiding their employees in creating retirement plans.

Scope and Limitations of the Study

The respondents included the retiring office-based personnel of Iloilo Provincial Government with ages ranging above 60 but below 65 years old who are still working in the provincial government. The study was

limited only to the regular office-based personnel of Iloilo Provincial Government and field office staff. Casual, job-hires and coterminous employees were not included. Moreover, the study was conducted on October 15, 2019.

METHODOLOGY

Purpose of the Study and Research Design

The study used the descriptive-correlational method of research design. The design was utilized to assess if there is a relationship between the factors which are occupational, economic, and psychological, and the decision not to retire among the retiring personnel of Iloilo Provincial Government.

Study Samples

A total of eighty two (82) employees were listed in the Human Resource Management and Development Office as those belonging to retiring personnel, however, there were only seventy-five (75) of them who generously returned the questionnaire. Thus, they were considered as the official respondents of this study.

Instrument and Data Gathering

A survey questionnaire was formulated and pre-tested prior to the final administration to targeted survey participants. A 4-Point Likert scale was used to measure the factors influencing the decision not to retire among the retiring personnel of IPG. The questionnaires were personally administered by the researcher so she could answer questions and clarify things regarding the survey conducted among the respondents.

Validity and Reliability Testing

The questionnaire has undergone content validity by experts with specialization on public administration, research, and test development, where their recommendations were adapted to improve the instrument.

The instruments were pre-tested to 20 non-target participants from the Department of Public Works and Highways (DPWH) Regional Office 6. These respondents were not part of the target respondents. The data gathered from pre-testing were encoded in a computer software and an internal consistency test was conducted using Cronbach's Alpha test. The results of the tests show Cronbach's Alpha of .733 for the 24-items researcher-made questionnaire for the factors occupational, economic and psychological. The Cronbach's Alpha value of .733 is greater than the .70 value that is acceptable (.733 > .70), hence, the instrument is valid.

Ethical Considerations

In the conduct of the study, the researcher observed the ethical considerations where an approved letter from the Graduate Programs of Central Philippine University was secured and directed to the Iloilo Provincial Government. The Provincial Administrator approved the conduct of the study, and had the letter copy furnished to the Human Resource Management and Development Office. Those who have consented were given the questionnaire. The respondents were assured of the confidentiality to be accorded on their answered questionnaire.

Scoring and Interpretation

To measure the extent of influence of the factors in the decision not to retire among the retiring personnel of Iloilo Provincial Government, a 24-item questionnaire was used with a 4-scale response, as follows: (a) 1-Strongly Disagree; (b) 2-Disagree; (c) 3-Agree; and (d) 4-Strongly Disagree.

To interpret the scores, the following scale of means and its corresponding description was employed:

Scale	Description
3.26-4	Very Strong
2.51-3.25	Strong
1.76-2.5	Moderate
1-1.75	Weak

A Cramer's V test was used as a primary statistical tool to determine the whether or not there is a significant relationship between the factors occupational, economic and psychological, and the decision not to retire among the retiring personnel of IPG and to determine the strength of influence of the factors in the decision not to retire among the retiring personnel. The level of statistical significance was set to 0.05.

Data Processing and Analysis

After the data gathering, field editing was done to ensure the completeness of the data obtained. It was followed by office editing, coding and tabulation. The data was processed through the Statistical Package for Social Sciences (SPSS) version 20.0.

The descriptive statistics and inferential statistics which included

frequencies, percentages, and means presented the description of the subjects regarding the data on socio-demographic characteristics of the respondents. A Cramer's V test was employed to determine the relationship among the variables and extent of influence in their decision not to retire.

FINDINGS, CONCLUSION AND RECOMMENDATION

Major Findings

The following were the findings of the study:

1. Majority of the respondents were females (69.3%), most of them were married (73.3%), had served the Iloilo Provincial Government for almost 36 to 40 years (24%), have been receiving a monthly salary ranging 20,000 and below (49.3%), and mostly designated to the General Services Office (GSO) (13.3%).

2. The study revealed that occupational factors have a strong influence on more than half of the respondents (62.7%); very strong influence on more than one fourth of the respondents (26.7%), while it has a moderate influence to only (9.3%) of the respondents. Also, economic factors have a moderate influence to

less than a half of the respondents (40%); strong influence to less than one fourth of the respondents (33.3%), while it has a very strong influence to only (8.0%) of the respondents. Moreover, psychological factors have a moderate influence on more than half of the respondents (56.0%), while a strong influence on a little more than one-fourth (25.3%) of the respondents. This showed that majority of the respondents with a mean of 3.11 showed that among the three factors considered, the occupational factor has a strong extent of influence in the decision not to retire before the age of 65 among the retiring personnel of Iloilo Provincial Government, while economic factor and psychological factor with a mean of 2.42 and 2.28 respectively have a

moderate extent of influence in their decision not to retire.

3. The result showed that out of the 75 retiring personnel who have been given an option to decide whether to retire or not before the age of 65, 31 (41.3%) of them were firm with their decision not to retire regardless if their concerns were satisfied.

4. The reasons indicated by less than half of the (41.3%) retiring personnel who have decided not to retire before the age of 65 are mostly related to the psychological factor considered like they are more productive at work (38.7%), they have nothing to do at home (25.85%), they are happier with their office mates (3.2%), and they are not ready for a new lifestyle (3.2%).

5. There is no significant relationship between the occupational factor and decision not to retire among the retiring personnel of Iloilo Provincial Government.

6. There is no significant relationship between the economic factor and the decision not to retire among the retiring personnel of the Iloilo Provincial Government.

7. There is a significant relationship between the psychological factor and decision not to retire among the retiring personnel of Iloilo Provincial Government. However, there is only a low or minimal

correlation on the psychological factor and decision not to retire among the retiring personnel of Iloilo Provincial Government.

8. The health status, physical condition to work, higher retirement benefits and salary increase are indicated by the retiring personnel as other factors that are not tested in this study which are also influencing their decision not to retire before the age of 65.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. Retiring personnel are not retiring because they have a good working environment, good working relationships, are enjoying their work, and are satisfied.

2. Regardless of the advantages of retiring early there are personnel who were firm with their decision not to retire before the age of 65 and that they intend to continue working until they reach the mandatory retirement age.

3. Occupational and economic factors have no bearing in the decision not to retire among the retiring personnel of Iloilo Provincial Government while psychological factors have a significant relationship on the decision not to retire among the retiring personnel of Iloilo Provincial Government.

Recommendations

Based on the findings and conclusions of the study, it was recommended that retiring personnel should be encouraged to attend programs, training and seminars to prepare them for transition soon. The

organization should revisit existing programs conducted focusing on psychological factors and well-being of the retirees to develop post-retirement plans.

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Factors Associated with the Compliance to Ecological Solid Waste Management Act 2000 (RA 9003) of Inland Resort Establishments in the Province of Iloilo: Inputs to Policy Enhancement

Tadema B. Formarejo¹, Carmen N. Hernandez² and Lorna T. Grande²

ABSTRACT

Solid waste management (SWM) is a crucial problem that needs to be addressed. In support, this correlational study determined factors associated with compliance to RA 9003 among 118 respondents from 23 inland resorts in the province of Iloilo taken by total enumeration. Cross tabulation, means, frequency counts, and percentages determined the demographics, level of awareness, extent of public participation, level of available resources, extent of enforcement, and extent of compliance to RA 9003 of inland resorts. Significant association was determined using Gamma coefficient while partial correlation determined the correlations between awareness, public participation, available resources, and enforcement and compliance. Majority of inland resorts were micro enterprises with 1 to 9 staff, less than 10 rooms, and two recreational facilities that had been open for less than 5 years and were not DOT accredited. Inland resorts were highly aware of RA 9003, with a high extent of participation, with a high level of available resources, and a high extent of enforcement and compliance to RA 9003. It is concluded that Public participation is strongly correlated with awareness, resources and enforcement while awareness is moderately correlated with resources and enforcement. However, enforcement is moderately correlated with resources and awareness but strongly correlated with participation and resources. Moreover, compliance is significantly correlated with enforcement and available resources but not with awareness and participation, and awareness, participation, resources, and enforcement are not predictors of compliance to RA 9003.

Keywords: ecological solid waste management, micro enterprises, natural resources, waste segregation

INTRODUCTION

Background of the Study

Solid waste is one of the most pressing issues resulting from human activity. Fernandez (2018) emphasized that improper solid waste disposal ultimately destroys the environment and natural resources. SWM is a crucial issue that needs to be addressed including pollution, natural resource degradation, and ozone layer destruction that posed serious threat to public health (Bagolong, 2016). If we want to save the Earth, we need to act immediately before it's too late. RA 9003 was enacted to address environmental concerns to ensure proper waste segregation, collection, transport, treatment, and disposal through SWM. Waste control involves storing, collecting, transporting, processing, and disposing of solid waste according to relevant laws, public health, economics, and other factors as mandated to LGUs for the implementation and enforcement of RA 9003 within their respective jurisdictions (Geguinto, 2017).

However, SWM malpractices still exist like open dumpsites, despite

existing policies due to lack of awareness, public participation, and policy enforcement Galarpe & Heyasa (2017). Garbage is still burned openly in backyards, risking human health and damaging the ozone layer particularly.

Inland resorts consume resources in their regular operations that negatively affect the environment when wastes generated are not managed properly. Recently, inland resorts are challenged with compliance issues on environmental laws. Hence, identifying factors that influence compliance and allows better understanding of what drives compliance to RA 9003, leading to improved environmental policies that support sustainability and human well-being (Dao, 2008).

On this assumption, this study was conducted on factors associated with compliance to SWM law to provide inputs for the enhancement of policy implementation in the Iloilo province's tourism industries.

REVIEW OF RELATED LITERATURE AND STUDIES

The Ecological Solid Waste Management Act of 2000 (RA 9003)

Management Act of 2000 (RA 9003) addresses the solid waste problem of the country which was signed into law on January 25, 2001. The Act set up the necessary institutional mechanisms and incentives for a comprehensive SWM program, appropriates funding, declares certain actions prohibited, and imposes penalties.

Congresswoman Loren Legarda emphasized that RA 9003 is a good law, but its effective implementation rests on everyone's efforts, primarily the LGUs and barangays with the authority to implement and enforce the law should take the lead in ensuring strict compliance to the mandatory requirements of this law.

Related Studies

Sustainability of any SWM plans' implementation depends mainly on the commitment of the local institutions and households to change their behavior especially on SWM (Rola, 2019). Hasan (2011) supports Dasa's statement that the key to a successful SWM program includes public awareness and participation supplementary to appropriate

legislation, strong technical support and adequate funding. Amasuomo (2015) confirms that participation relies on the level of awareness and understanding about the law. Similarly, *Punongbayan* (2014) reported that participation is the key in a successful waste management program. It is a critical component in the success of the effective implementation of SWM practices. Likewise, available resources in terms of personnel and funding and strict enforcement are essential to RA 9003s implementation (Dataman, 2012). Asase (2009), confirms that enacting strong law both from national and local levels to guide waste management decisions and strategies is very important.

Significance of the Study

The results of this study are beneficial to the LGUs, DOT, DENR, and Iloilo Provincial Government by providing data derived from the findings about factors associated with compliance to RA 9003 for the enhancement of policy implementation. Resorts, guests, community, employees, youth and future researchers are provided with relevant data from the findings that could help in raising awareness about RA 9003.

Objectives of the Study

This study determined the factors associated with the Compliance to Ecological Solid Waste Management Act of 2000 (RA 9003) of Inland Resort Establishments in the Province of Iloilo as an Input to Policy Enhancement.

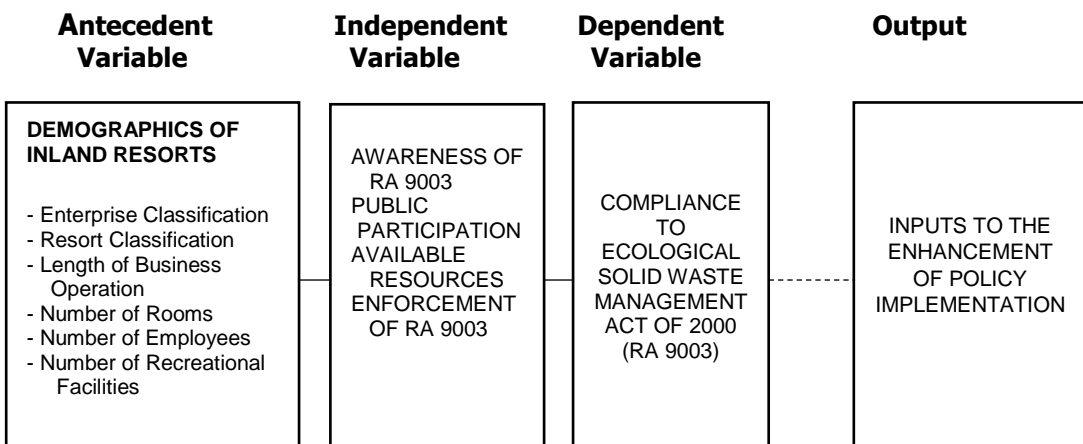
Specifically, it determined factors associated with compliance to RA 9003 of the inland resort establishments in the Province of Iloilo; it determined also the profile, level of awareness, extent of public participation, level of available resources, extent of enforcement, and extent of compliance; and significant association in terms of enterprise classification, length of business operation, number of rooms, number of employees, and number of recreational facilities. Finally, it determined significant correlations between awareness, public participation, available

resources, enforcement and compliance. Reasons for compliance are also determined and inputs for policy enhancement were determined in this study.

Theoretical Framework

Green Politics Theory (Vincent, 2018) defines the state of ecological and biological survival that integrates politics to human activity that has a significant impact on nature. Rational Choice Theory (Kesselman, et al., 2013) looks into how people make decisions and act which supports the Green Politics Theory particularly on SWM with the main goal of environmental protection. The Theory of Planned Behavior also explains how positive behavioral intentions lead to real actions.

Conceptual Framework



Hypotheses of the Study

It was hypothesized that no significant association exists between awareness, public participation, available resources, enforcement and profile of inland resorts; between awareness, public participation, available resources, enforcement and compliance; and no significant correlation exists between awareness, public participation, available resources, enforcement and compliance when grouped by enterprise classification.

Scope and Limitations of the Study

This study focused on factors associated with compliance of inland resort establishments in the Province of Iloilo to RA 9003. Data was collected

using a survey method among 34 inland resorts in the Province of Iloilo. The study was conducted from February to March 2020. However, the outbreak of COVID 19 pandemic resulted to uncollected surveys dealing only with available data collected which were tallied and submitted for statistical analysis using cross tabulation, means, frequency counts and percentages to determine the profile, level of awareness, extent of public participation, level of available resources, extent of enforcement, and extent of compliance. Association was determined using Gamma coefficient while correlation was determined using Partial correlation test. Linear regression test determined the predictors of compliance at .05 alpha.

METHODOLOGY

Research Design

This correlational research determined factors associated with compliance to RA 9003 of the inland resorts in the province of Iloilo using survey methods. Total enumeration technique was used in gathering data for this study.

Respondents of the Study

118 respondents from 23 inland resorts composed of managers/owners

and employees were the respondents of this study.

Validity and Reliability of Instrument

Survey forms were validated and pilot tested in Antique with .881 reliability coefficient. The manuscript was submitted for ethical review in January 2020.

Data Gathering Procedure

Surveys were distributed, collected, summarized and tallied for statistical treatment. Results were analyzed and interpreted for the discussion and presentation of the findings.

Data Processing Technique

Data were summarized and subjected for statistical analysis. Demographics, level of awareness, extent of public participation, level of

available resources, extent of enforcement and extent of compliance with RA 9003 were determined using means, frequency counts, percentages, and cross tabulation. Gamma coefficient determined the significant association among variables. Partial correlation tests determined significant correlation between compliance and awareness, public participation, available resources and enforcement.

RESULTS AND DISCUSSION

Majority of inland resorts were micro enterprises with 1 to 9 staff, less than 10 rooms, and two recreational facilities that had been open for less than 5 years and were not DOT accredited. Findings revealed a high level of awareness, public participation, available resources, enforcement and compliance to RA 9003. Based on the findings, it is concluded that compliance to RA 9003 is significantly associated with available resources and enforcement but not with awareness and participation. Strong correlation exists between participation and awareness, available resources, and enforcement while awareness is moderately correlated with resources and enforcement. However, moderate

correlation exists between enforcement and available resources and awareness but a strong correlation exists between enforcement and participation and available resources. In conclusion, awareness, public participation, available resources, and enforcement are not predictors of compliance

Conclusions

Inland resorts' high level of awareness to RA 9003 is highly connected with the very high extent of public participation resulting in compliance to RA 9003. High level of resources provided to comply with the law is strongly linked with the extent of enforcement of RA 9003 that absolutely influenced their compliance

to SWM law. Available resources and enforcement are linked to compliance, yet not predictors of compliance to SWM laws.

High compliance to RA 9003 is credited on resorts ability to sustain the SWM programs, strong public support among employees, guests and customers, strict implementation of no open-burning, open dumping, throwing, littering and burying of biodegradable and non-biodegradable materials in flood-prone areas and the trainings provided for sustainable SWM programs.

Recommendations

The effectiveness of a SWM program primarily depends on the

collaborative efforts of people from many sectors of the community sharing common knowledge of properly managing waste and complying by the law. The researchers recognized the need for a more intensified awareness campaign on SWM as necessary to promote environmental stewardship amongst community members since public awareness on SWM is a critical component of any SWM program that enables proper understanding of waste management issues. Increased awareness of people leads to better participation in SWM activities leading to better perception and attitudes towards environmental issues that stimulates full compliance to SWM law.

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Knowledge, Experience, Expectation and Satisfaction of Operations Staff on Audit Services of a Microfinance NGO in Iloilo

Allen Dave C. Fuego¹ and Rowena M. Libo-on²

ABSTRACT

This research was conducted to determine the level of knowledge, the quality of experience, the extent of expectations and the level of satisfaction of operations staff on audit services of a Microfinance NGO in Iloilo. This study sought to confirm claims of lack of knowledge and unmet expectations of operations staff results to the dissatisfaction rating received by the internal audit department. In some studies, information satisfaction or knowledge about a product or service is an item contributing to disconfirmation or eventual dissatisfaction of a customer and is usually correlated to expectation formation as another satisfaction item in what all call Expectation-Disconfirmation (EDT) model. Through a survey and analysis of data gathered, this study revealed that knowledge has nothing to do with ones' level of satisfaction as it did not show any significant relationship. On the other hand, experience and expectation have proven to be the major satisfaction items for consideration with significant relationship to ones' level of satisfaction as what several studies have also shown.

Keywords: internal audit services, experience, expectation, satisfaction

INTRODUCTION

Rationale of the Study

The Institute of Internal Auditors North America (2019) recognizes that among many professions, internal audit profession does not enjoy an inherently universal understanding of its role and value. In Nigeria, Ihendinihu and Robert (2014) in their study believed that considerable evidence of a gap exists between the expectations of users of financial statements and the audit profession as to the definitive scope and usefulness of an audit function. This gap is largely suspected to be associated with ignorance and misconception of the public, and results in widespread misunderstanding and unreasonable expectations being imposed on the duties of auditors.

The Corporate Internal Audit of *Taytay Sa Kauswagan, Inc.* (TSKI) (A Microfinance NGO), functions as an independent department that assists the Board of Trustees and the organizations' management in the discharge of their oversight, management and operating responsibilities through independent audits designed to evaluate and promote the system of internal controls. This function is translated through the three (3) audit services such as the conduct of regular audit as

an assurance activity and the conduct of special audit and disposal verification as consulting activities. All these were aimed to bolster its services in a way that it conforms to the standards set by ISO 9001: 2015 for internal customers' satisfaction.

The department received a dissatisfaction rating on the 1st and 2nd quarter of 2018 from the operations staff which resulted to a non-conformance and thus required a corrective action under the ISO standards to prevent the recurrence of the dissatisfaction. In their root-cause analysis (TSKI, 2018), it was noted that the underlying reasons of the dissatisfaction include the lack of knowledge of audit function or services, the audits' role and the unmet expectations of the operation's staff. The unmet expectations result in dissatisfaction ratings and eventual regular non-conformance to the ISO standards. Recurring non-conformance (NC) as a result of customer dissatisfaction would have implications to the organizations' ISO certification.

Thus, this study was conducted to address the recurring dissatisfaction of internal audit customers or the operations staff by exploring satisfaction items such as staffs'

knowledge, experience and expectation on internal audit services of the subject organization.

Objectives

Generally, this study aimed to determine the level of knowledge, quality of experience, extent of expectations and level of satisfaction of operations staff on audit services of a Microfinance NGO in Iloilo.

Specifically, it aimed to:

1. Determine the level of knowledge of operations staff on audit concept, audit services and audit function.

2. Determine the quality of experience, extent of expectations and the level of satisfaction of operations staff on audit services in terms of audit role, responsibilities and independence.

3. Determine if there are significant differences on the level of knowledge, the quality of experience and the extent of expectations on audit services.

4. Determine if there are significant relationships between the level of knowledge, the quality of experience and the extent of expectations and to the level of satisfaction of operations staff on audit services.

Theoretical Framework

This study was anchored to the expectation theory (also commonly known as Expectancy-Disconfirmation Theory) which holds that satisfaction/dissatisfaction results from a customer's comparison of perceived performance (of a product or service) with predetermined standards of performance. According to the view, the predetermined standards are the customer's predictive expectations and the perceived performance is the customers' experience of a product or service.

Moreover, in a review of the Expectation-Disconfirmation Theory (EDT) Model, Spreng, MacKenzie & Olshavsky (1996) reexamined the determinants of consumer satisfaction and they indicated that information satisfaction if one of the customer's satisfaction items. According to this EDT model, satisfying the customers is not limited only to their expectation of products or services. Rather than these factors, satisfying the customers from perceived information is the first step that can attract the customer's trust over offered products and services by business.

Accordingly, the rational expectations theory of John F. Muth, posits that individuals base their decisions on three primary factors: their human rationality, the information available to them, and

their past experiences. One of the assumptions held by the theory is that individuals create expectations based on all available information which makes up their knowledge (Tardi, 2019).

Over-all, in this study, the concept of one's knowledge relates to expectation and satisfaction and as much as one's expectations and experience relates to one's level of satisfaction.

Conceptual Framework

In the framework of this study, under the independent variables, include one's level of knowledge covering audit concepts, services and functions will impact one's level of satisfaction; one's extent of expectation and level of experience in terms of audits' role, responsibilities and independence will impact ones' level of satisfaction of audit services. These independent variables, as several theories and studies have shown, were important factors in measuring one's level of satisfaction.

The dependent variable in this study is the respondents' level of satisfaction which would be the result of the combination of one's level of knowledge, extent of expectation and quality of experience of audit services. Further, the study looked to determine as to whether antecedent variables such the personal factors could cause

significant differences on respondents' level of knowledge, quality of experience, extent of expectations and level of satisfaction.

Summary of Major Findings

1. The level of knowledge of operations staff is considered to be "low" to "moderate". They have a "low" level of knowledge in terms of audit functions specifically with regards to the function of the audit in assisting the Board and the senior management in the discharge of their oversight and operating responsibilities and they have "moderate" knowledge in terms of audit concept and audit services. However, staff have a specifically "very high" level of knowledge about how internal auditing provides assurance on the organization's governance, risk management, and control processes, and about internal auditors providing assessment on the organization's compliance with applicable laws, regulations, and contracts.

2. The quality of experience of operations staff on audit services is generally "fair" for all three aspects of audit role, responsibilities and independence. However, they have "poor" experience" with auditors helping to prevent the fraud in the operations and for auditors not taking over the collection and posting of payments when operations staff are

busy. On the other hand, they have “good” experience on the perceived responsibilities of auditors to ensure that all financial records are accurate and up-to-date, to establish and maintain the internal control system of the branch and to directly report to branch managers and be accountable to them.

3. The operations staff generally have “moderate” expectations on audit role, responsibilities and independence. They only have “high” expectations that the audit will prevent fraud from happening; that it is audits’ primary responsibility to ensure that all financial records are accurate and up-to-date; to establish and maintain the internal control system of the branch and to detect fraudulent transactions even outside of the audit activity. Further, they “highly” expect auditors to report directly to branch managers and are directly accountable to them. They have “low” expectations for auditors to collect payments and post payments in the system if the operations staff are busy.

4. Generally, the operations staff were “satisfied” with the audit services and were “highly” satisfied with audits’ role and only “satisfied” with audits’ responsibilities and independence. Specifically, staffs are “highly satisfied” with conduct of audit to help the organization achieve its strategic, operational, financial, and compliance

objectives, assisting the branch management in monitoring operations in the field through its audit activities, being an agent of improving organizations’ effectiveness and efficiency and in evaluating and improving the effectiveness of organizations’ governance. They are only least “satisfied” that the audit is reporting directly to the board and senior management.

5. Results also showed that overall, there are “no significant” differences on the level of satisfaction across the different personal factors and the same results were noted when analyzed in terms of different aspects such as audit role, audit responsibilities and independence.

6. Finally, results showed that there is “no significant” relationship between the variable of knowledge and satisfaction. For the relationship between the operations staffs’ quality of experience and their level of satisfaction, results showed that there is a “significant” relationship between the two. Lastly, the extent of expectations of operations staff and their level of satisfaction showed that there is a “significant” relationship between the two.

Conclusions

1. The no. of times they have been audited is relative to their age and length of service to the

organization, whereas the longer they have been in the organization, the more instances they have been included in or experienced the audit.

2. It is important for the internal audit department to come up with efforts or programs to improve the operations staffs' level knowledge and understanding of the different internal audit functions.

3. The staffs' quality of experience is generally based on their misconceptions about the role, responsibilities and independence of internal audit.

4. The expectations of operations staff as to their understanding of internal audit are misguided and therefore should be addressed as it plays a very important role in their satisfaction over audit services.

5. Operations staff are generally "satisfied" with the audit services and are highly satisfied with the way the audit assists the branch management in monitoring operations through its audit activities, in evaluating and improving the effectiveness of organizations' governance and being an agent on improving organizations effectiveness and efficiency.

6. One's perception of experience changes as one ages, as one being appointed to a different job position and as one experiences multiple audits.

7. Younger employees have higher expectations than older ones; supervisors and managers have lower expectations than those rank-in-file staffs; the longer one has been in the organization, the lower ones' expectations; and the more times one has been audited, the lower his/her expectations.

8. Personal factors such as gender, age, civil status, educational attainment, job position, length of service and no. of times have been audited have no significant impact to one's satisfaction.

9. There is no significant relationship between the operations staff level of knowledge and their level of satisfaction on audit services. Further, knowledge can still be an item for consideration in measuring satisfaction for other services but not with audit services.

10. There is a significant relationship between the operations staff quality of experience and extent of expectations to their level of satisfaction on audit services.

Recommendations

Based on the findings and conclusions, the following are the recommendations:

1. The senior management and the Board should ensure that the organizational independence of internal audit is confirmed, maintained

and communicated to the stakeholders of the organization so that there will be a one and clear understanding of the roles, responsibilities and independence of the internal audit function.

2. The senior management should provide avenue for the internal audit department to showcase and discuss its services in a forum such as Basic Orientation Training for newly hired employees and in the training or seminars of newly promoted supervisors and line managers.

3. Further, since there is dissatisfaction noted it is also recommended that they should also ensure that the internal audit has its Quality Assurance and Improvement Program (QAIP) in place to ensure that it functions in conformance with the International Standards in Professional Practice of Internal Auditing which would eventually reap fruits of satisfaction from its stakeholders.

4. It is recommended that the Chief Audit Executive (CAE) or Internal Audit Manager should consider the results of this study by creating an Internal Audit Awareness Program that would promote and create awareness among the employees of the organization most especially to field coordinators, in terms of audit services, about the internal audit profession, roles, responsibilities and independence.

5. It is also recommended for the head of the audit department to at least annually confirm the independence of its office and the internal audit function with the Board and the senior management.

6. It is recommended that there should be a review of the functions of the internal audit department and the responsibilities of the internal auditors to ensure that there would be no impairment on their objectivity and independence as they conduct regular and special audit engagements.

7. Internal audit associates should also conform to the standards on internal auditing in all their engagement activities. And in their personal capacity through their audit activities, they should try to educate their auditees about the internal audit profession, internal audit roles, function and responsibilities. By these, they are helping shape a culture where internal audit is regarded as a partner for improvement and encourage realistic expectations.

8. Future researchers may consider and use other personal factors apart from those used in this study to explore if what else could impact the knowledge, experience, expectations and satisfaction of employees on audit services of a Microfinance NGO.

9. Further, they may also consider not relating knowledge with

satisfaction especially when measuring satisfaction over audit services.

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Green Supply Chain Initiatives and Sustainable Performance: A Case Study of Darlings' Milktea Shop in Iloilo

Jengkey H. Ventura¹ and Gynnyn G. Gumban²

ABSTRACT

This paper determines the green supply chain initiatives being implemented by Darlings' Milk Tea Shop and its influence on the sustainable performance of its business. Data were collected, transcribed, coded, and categorized to capture emerging themes. The research findings showed that eco-design and reverse logistic were the two highlighted GSCM initiatives that are being implemented by the business while there are still many factors in green purchasing that need to be considered. The findings of the study, however, are not universally applicable across different sectors. Hence, future research in multiple case study analysis and in different industrial contexts is recommended to provide generalization of the findings.

Keywords: green supply chain management, green supply chain initiatives, sustainable performance

INTRODUCTION

Over the past decades, environmental problems have attracted enormous attention and public concern. Many companies are seeking more innovative methods on promoting eco-friendly environments by integrating green practices in their business functions. Green Supply Chain Management is considered as an environmental innovation. Chin et al. (2015) mentioned that companies that implement GSCM practices benefitted from cost savings, better public image and decreased environmental liability. Many authors from other countries have addressed the importance of Green Supply Chain in achieving sustainable development (Green et al., 2012; Sarkis et al., 2011). However in the Philippines, there are only few existing literature on Green Supply Chain Management and the number of studies examining the effects of green supply chain initiatives or practices on the three dimensions of sustainability i.e. economic, social and environmental is very limited. Moreover, there are only a few businesses in the Philippines who are practicing GSCM due to lack of concern and awareness to the environment (Geng et al., 2017). This is the gap that

the researcher wants to address given that there are many local businesses in the province of Iloilo.

Objectives of the Study

The general objective of this study is to determine the current green supply chain initiatives being implemented by Darlings' Milk Tea Shop and its influence on the sustainable performance of its business.

Theoretical Framework

This study was anchored on the 2030 Agenda for Sustainable Development which states that the business sector is an essential partner in achieving the Sustainable Development Goals (SDGs). The SDGs serve as guidelines for businesses to assess and manage social, economic, and environmental risk, while contributing to bettering their reputation, image and their strategic position in the world's market (Khan, 2018). Moreover, green supply chain practices are a constitutive part of sustainability (Sezen et al., 2019).

METHODOLOGY

Research Design

The qualitative research design was used in this study. It involves the studied use and collection of empirical materials such as case study, personal experience, interview, observational, historical, interactional and visual texts that describe routine and problematic moments and meanings in individuals' lives (Denzin & Lincoln, 2005). According to Stake (1955), case study is a strategy of inquiry in which the researcher explores in-depth a program, event, activity, process or one or more individuals.

Research Participants

The participants in the study were the two (2) owners of Darlings' Milk Tea Shop. Interviewing the owners allows the researcher to identify, as well as, solicit knowledge from those who Patton (2002) calls, "key informants". Key informants are people who are knowledgeable about the inquiry setting and articulate about their knowledge, and whose insights can be helpful in assisting an observer in understanding events that have happened and reasons why those events happened. Moreover, in order to achieve a rich descriptive for the case (Esterberg, 2002; Merriam, 2002), it was very important that the

researcher selected the owners of Darling's Milk Tea Shop to acquire data that are most relevant to the study.

Data Gathering Procedure

Interview was deemed the most appropriate means for data capture. The in-person interview was conducted with the owners of Darlings' Milktea shop. The interviewer used open-ended questions for a period of 20-30 minutes. A recording device was used with participant consent during the actual interview. Stern and Porr (2011) identified a need to record interviews to ensure all information provided by the participant has been heard. Recording interviews is an effective method of capturing interview data (Yin, 2014). During the interview the researchers took notes while they listened to the participants to track key points and highlight ideas of particular interest or importance. Additionally, coding was done on the notes taken during the interview (Scott, 2011). The audio-recording was transcribed into written form for data analysis.

Ethical Considerations

The researchers sought permission from the owners of Darlings' Milk Tea Shop. The

participants were informed as to the type of the research, the objective and the significance of the study, as well as the structure of the interview. Furthermore, the said participants were adequately briefed as to their right to dismiss their participation anytime they wanted. Respect for their privacy and privilege not to divulge any critical information about their business operations was respected throughout the interview and were assured that information revealed are to be kept with strictest confidentiality and will be used for academic purposes only.

Data Processing Procedure

The method of analyzing data

requires the researcher to look for patterns in the data (Stake, 1995; Yin, 2014) as well as similarities and differences. The verbal responses of the participants were transcribed, coded, and categorized to capture emerging themes associated with green supply chain initiatives and sustainable performance. Factors pertinent to Green Supply Chain Management initiatives identified by Eltayeb and Zailani (2009), as well as, the performance measures of Cankaya and Sezen (2018) guided the participants in the development of the research questionnaire.

RESULTS

The themes included: 1) eco-design; 2) green purchasing; and 3) reverse logistics. Sustainable performance was developed based on the following themes: 1) environmental performance; 2) social performance; and 3) economic performance.

Eco-design

The participants explained that *"Bamboo cups are reusable. It's all-natural and we have ways on how to maintain these bamboo cups so that*

we could reuse it for drinks". Darlings' Milk Tea Shop produces products and materials that have recyclable contents and are free from hazardous substances. Based on controlled testing and sampling by the China Industry Testing Center, bamboo produced an astonishing result which reduces 99% bacteria over a 24-hour period that makes bamboo cups possess antibacterial properties. Hence, it does not need any toxic chemical treatments. According to Elivia James, harvesting bamboo does

not require pesticides and chemicals. Thus, its cultivation is really natural. The statement of the interviewee about the bamboo cup was validated by the researcher through direct observations of the cup itself. The physical aspect can be described as all-natural because it does not contain any color and the natural smell of a bamboo has been retained in the cup. Hemel and Brezett (1997) argued that some materials and additives are better avoided because they are toxic or may cause toxic emissions during production, use or when dumped. The findings was further confirmed by the owner when she stated that *"If you wanted it to last, dapat ibulad siya sa init, i-expose sa sunlight, i-dry gid siya to prolong its useful life. Iya life is two to three weeks kung everyday siya gamiton but if limited lang ma-last gid siya more than a month."* Based on the previous statement of the participant, it can be concluded that the business uses the traditional drying method for reducing the moisture content of bamboo cups through direct sunlight.

The interviewees explained that at the beginning of the production process, the bamboo cups were all hand-made *"Before gamay palang ang orders namon, hand-made lang siya or mano-mano. But now kay damu na kami orders, we are now using a planer or sander machine that uses electricity para dasig ang production. The*

discarded parts of the bamboo are used as "alkansya". We are making it as freebies and the others are used as decorations. For example, sa bagacay bamboo ang mga extra parts gina ubra namun into vase. We make sure nga wala may mauyang nga kawayan." Handcrafted products or works done by hand consume less energy than a mass production assembly line, which makes it more environmentally sustainable (Edmonds, 2008). Despite the increase in production rate, the owners justified that they still used natural sunlight in drying their bamboo cups to conserve energy. According to Wakulele et al. (2016), reduction of material used is one of the main issues addressed by eco-design for the energy using products, and it is one of the priorities for products not using energy. It was also pointed out by Hemel (1995), that products should be designed so that they use the least harmful source of energy as well as encourage the use of clean and renewable energy sources. The system of product's end-of-life cycle ensures that reusing the products and its components or materials can reduce the environmental impact of a product by reinvesting the materials and energy involved in its manufacture while preventing hazardous emissions (Hemel & Brezet, 1997).

The responses of the participants implied that Darlings' Milktea shop has

to some extent implemented some eco-design practices such as the use of non-hazardous and recyclable materials. This confirmed that Darlings' Milktea shop is conscious of the environment hence keen on the type of raw materials they use for their cups.

Green Purchasing

Green purchasing refers to the affirmative selection and acquisition of products and services that most effectively minimize negative environmental products over their life cycle of manufacturing, transportation, use and recycling or disposal (NIH, 2011). The measurements for green purchasing were identified by Hammer (2006) as follows: product content requirements, product content restrictions, product content labeling or disclosure, supplier questionnaires, supplier EMSs, supplier certification, and supplier compliance auditing.

In the case of Darlings' Milktea shop, coordination and collaboration with the supplier is not a problem because as stated by the participant *"Most of our supplies are our family members."* However, they do not provide green specifications yet to their suppliers and they do not have an Environmental Management System (EMS) nor they are requiring their suppliers to have a certified EMS. However, the participants clarified that they still make sure that the products

they purchased from suppliers should contain green attributes and must not have environmentally undesirable items, *"Pero, Yes! Gina-evaluate gid namun ang amon mga suppliers nga dapat ang gina produce nila nga products kay wala sang hazard sa environment, less waste and wala pollution."*

Reverse Logistic

The participants explained that they always encouraged their customers to drink their milk tea from bamboo cups since it is eco-friendly and recyclable. They also recommend to their customers that if they decide not to reuse the cups they can transform it into beautiful bamboo items which they can use at home, *"The cups are for take-out and for dine-in. If the customers opted not to reuse it for drinks, it can still be used in other things such as organizers and plant pots ... we always encourage our customers to drink their milk tea from bamboo cups."* According to Kopicki (1998), reverse logistic is a broad term referring to the logistic management and disposing of hazardous or non-hazardous waste from packaging and products.

Moreover, the business owners collect back the used bamboo cups from customers for reuse and for recycling. Reddy (2011) mentioned that recovery is actually one of the

activities involved in the whole reversed logistic process. At Darlings' Milktea Shop, the quality of bamboo cups are assessed and then a decision is made on the type of recovery. If the quality is still good, the cups that underwent proper cleaning and sun drying can be reused by other customers. If not, another type of recovery is involved such as converting it into decorations or pots.

Influence of Green Supply Chain Initiatives on the Environmental Performance of Darlings' Milk Tea Shop

Green Supply Chain Management initiatives or practices cover every effort to reduce the adverse effects of a company's products or service on the environment. The participant stated that there are a lot of improvements in the environmental situation of their business, "*Yes...there is reduction in waste and pollution*". This statement was justified with the use of their all-natural, reusable and biodegradable bamboo cups as vessels for their beverages. In the study of Eltayeb et al. (2011), he affirmed that GSCM initiatives positively impact the improvement of environmental performance by reducing the consumption of solid wastes and hazardous substances, reducing the incidence of environmental incidents and improving community health.

The participants mentioned that they have received positive feedback from the consumers about their unique packaging. The participant stated "*Actually, we heard a lot of comments that using bamboo cups is one way and a step forward to a zero plastic usage. Although slowly, but at least we are trying a step forward to build a better and a sustainable future.*" It may be stated that the improvement in the environmental performance of Darlings' milktea shop stem substantially from their green supply chain initiatives. Their practices in terms of eco-design and reverse logistic are the variables that greatly affect their environmental performance.

Influence of Green Supply Chain Initiatives on the Social Performance of Darlings' Milk Tea Shop

The participants mentioned that the integration of green supply chain initiatives to their business has improved their relationship with their customers, potential customers and the society as a whole. The participant stated that, "*There is an improvement in customer satisfaction. We have received a lot of feedbacks that it is a unique way of preserving and helping our nature.*" Increased customer satisfaction was evaluated by the researcher through interviews with

consumers who have tried Darlings' milk tea. The researcher validated the response of the participants through the number of social media engagements in the different social media platforms of Darlings' Milktea Shop, as well as, through the photographs of repeat and new buyers posted on their official Facebook page. Zhou (2019) appraised that customer satisfaction can be conceptualized based on consumers' total purchase and consumption experience with a company's goods or services overtime. It is considered the benefit afforded to a company by a customer who perceives that his expectations have been met. Given some evidence of positive association between the environmental practices of Darlings' milktea shop and the satisfaction they receive from customers, it can be interpreted that improved customer satisfaction is associated with the GSCM initiatives of the business.

The participants further stated that, *"There's also an improvement in our brand image because Darlings' Milk Tea is unique and known for its eco-friendly packaging – that is our bamboo cup which makes us different from other milk tea shops. We are confident that we have also built up awareness among the community. More naga shift na sa something native, gusto nila i-try ang native. It's a new trend to go back to our nature*

and to become eco-friendly. Most of the people nowadays are mga plant tito and plant tita na, [because] that's the trend...and we go with it." The GSCM initiatives of Darlings' milktea shop present its image as a responsible company, and it is also a basis on which customers identify with companies. Generally, people tend to support businesses that support their identities. This was confirmed by Cankaya and Sezen (2018) when they said that businesses that adopt and implement an environmentally sensitive production approach will be able to develop better relationships with societies.

"Yes. There's an improvement in the health and safety of employees. For our franchise and all our staff, we have conducted several trainings held at District 21 Hotel. So, every details about Darlings' Milk Tea was disclosed during the training. We discussed to them the health protocols, the proper way of handling the customers and the proper way of taking care of their bamboo cups. For social projects, we are planning to adopt a community and we are looking forward to make it happen."

According to the owners, there was also an improvement in training and occupational health and safety of their employees. However, the business does not have investments yet on social projects but they were

planning to adopt a local community in the future. Cankaya and Sezen (2018) explained that raising awareness on corporate social responsibility requires equal consideration of social issues in managing a supply chain. By doing the aforementioned activities, Darlings' milktea shop will not only improve its positive image in the eyes of customers but also in the eyes of its personnel and the society. The findings imply that successful environmental practices strengthen firms' relationships with all stakeholders.

Influence of Green Supply Chain Initiatives on the Economic Performance of Darlings' Milk Tea Shop

According to the participants, *"Bamboo milk tea is very affordable compared to drinking your milk tea in plastic cups. Bamboo milk tea is only 80 pesos, while if you compare it to other milk tea shops ... it's too pricey. So, we believe that bamboo milk tea is affordable... with a good price."* They further added that, *"Mas barato ang bamboo cups because you can reuse it compare to plastic cups nga one use lang."* Based on the researcher's inquiry, the price of milk tea in a plastic cup in the City of Iloilo ranges from

P90.00 to P180.00, depending on the flavors and sizes. Additionally, the average price of single-used plastic cups range from P50.00 to P10.00 per bundle (1 bundle comprising of 10 cups). Hence, milk tea in a bamboo of Darlings' Milktea shop is considered more affordable. According to Cankaya and Sezen (2018), one of the processes that may be carried out for environmentally sensitive packaging is to use reusable packages. Although these packages are initially more expensive than disposable packages, they will reduce procurement and waste costs, as they are used multiple times. They also stated that, *"There's a great increase in our earnings or profit when we discover this bamboo milk tea. Ang sales namun everyday naga-taas man kay damu ang naga-wanted to try and experience...damu ang gusto mag-try something new."* The participant mentioned that there was improvement in their earnings since they discovered this milk tea in a bamboo cup. They also experienced sales growth since there were a significant number of customers who wanted to try their products because of its innovativeness.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Generally, eco-design and reverse logistic were the two highlighted (2) green supply chain initiatives that are being implemented by Darlings' Milk Tea Shop. Furthermore, there are still many factors in green purchasing that the business needs to work on, especially in providing green specifications to their suppliers and the development of an Environmental Management System (EMS). Many

performance measures have been mentioned by the owners to have a relevant impact and benefits to their business.

Recommendations

The researchers recommend the adoption of some specific facets of Green Supply Chain Initiatives for sustainable performance.

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Anxiety to COVID-19 Vaccination among Personnel in a Tertiary Government Hospital in Iloilo City

Marcos D. Bito-onon¹ and Alfonso C. Catolin²

ABSTRACT

This study aimed to assess the level of anxiety to Covid-19 vaccination and level of functionality among personnel in a tertiary government hospital in Iloilo City. The pen and paper questionnaire surveyed 574 personnel from April 5-8, 2021. The absence of anxiety was observed in the older population, male respondents, those who are married, belonging to Contract of Service employment status, and High School graduates. Those who belong to the Finance and Resource generation division, with previous history of Covid-19 infection and with a history of Covid-19 infection in the immediate family reported a higher percentage of No Anxiety response.

Keywords: Coronavirus disease, pandemic, immunization, symptoms, anxiety

INTRODUCTION

Coronavirus disease or COVID-19 is a highly contagious viral infection that causes mild to severe respiratory symptoms with fever, cough, and shortness of breath. Primarily, it is spread via person-to-person contact through respiratory droplets that become airborne when an infected person coughs, sneezes, or speaks.

The spread of the novel coronavirus worldwide posed enormous challenges to public health, economy and physical health. The threat of being infected or being part of the mortality statistics is high and results in severe and widespread fears especially in the vulnerable sector of the population – the elderly and those with pre-existing health conditions.

In the midst of this COVID-19 pandemic, drug manufacturers around the world are in a race to develop and deploy safe and effective vaccines. Through research, several safe and effective vaccines that prevent people from getting seriously ill or dying from COVID-19 are currently available. With more longitudinal studies needed to validate its efficacy and effectiveness, countries have approved the immediate use of these vaccines via emergency use authorizations (EUA). Workers in frontline health services

were first in the priority list that needed to be inoculated to reduce mortality in the most vulnerable sector and preserve the health system capacity of the country. They are categorized as Priority A.1. Further categorization in the priority list are Covid-19 referral hospitals and public and private hospitals and infirmaries catering to care of Covid-19 patients (DOH, 2021).

Anxiety to the vaccine has been anecdotally reported as the Covid-19 vaccinations have been introduced with speed to combat the pandemic. Anxiety is only one manifestation in the spectrum of reactions during the vaccination roll out. This symptom that usually happens during the pre-vaccination period has been noted but not discussed often. Anxiety as a single manifestation belongs to a syndrome newly-termed as “immunization anxiety-related reaction.” These are a range of symptoms and signs that may arise around immunization that are related to “anxiety” and not to the vaccine product, a defect in the quality of the vaccine or an error of the immunization program. These include vaso-vagal reactions, hyperventilation-mediated reactions and stress-related psychiatric reactions or disorder (WHO, 2019).

MATERIALS AND METHOD

Design and sampling

The study was a pen and paper survey conducted among personnel who were scheduled to receive the second dose of Covid-19 vaccination at a tertiary government hospital in Iloilo City on April 5-8, 2021. Six hundred (600) questionnaires were handed out and 582 (97%) turned in their responses. Sample size was not predetermined since the schedule was on a first-come, first-served basis and personnel were not segregated according to division.

Data collection tools

Data were collected using two research instruments. The first questionnaire collected the demographic profile of the subjects (age, gender, highest educational attainment, division, employment status, history of COVID-19 infection, and history of Covid-19 infection in the immediate family). The second instrument was the Covid-19 Vaccination Anxiety Form which used Spritzer's General Anxiety Disorder-7 Questionnaire that measured the level of anxiety of respondents. It contains 2 areas – the questions on symptoms over the last 2 weeks, and a functional difficulty question. The first item tackles symptomatology and includes 7 questions. The second item asks the difficulty in carrying out functions. The questions on item 1 of the Covid-19

Vaccination Anxiety Survey are anchored on a four-point Likert scale: 4 – Nearly every day; 3 – More than half the days; 2 – Several days; and 1 – Not at all. Item number 2 can be answered on a four-point Likert scale: 4 – Extremely difficult; 3 –Very difficult; 2 – Somewhat difficult; and 1 – Not difficult at all. A letter explaining the purpose of the study was attached to the questionnaires. Because of COVID-19 restrictions and protocols, the respondents were instructed to deposit their filled-up questionnaires in a box provided at the monitoring area before they are discharged home. A validated translation of the form in the dialect was also attached.

Data analysis method

Five hundred seventy-four (574) of the 582 received responses were valid to be included in the study. The data were analyzed using the IBM SPSS Statistics program for windows version 27 and examined to determine whether the assumptions of statistical analyses were met. The statistical method used to analyze demographic data and answer the research question was purely descriptive statistics – count, minimum, maximum, range, mean, frequency, percent.

RESULTS

The survey responses consisted of 582 among the 688 personnel during the 4-day second dose Covid-19 vaccination roll out. Some questionnaires were not returned during the survey and some others were invalidated for incomplete data. A total of 574 responses were then considered and analyzed.

Of the respondents, 188 (32.8%) belong to the 21-30 years old age group and closely followed by those belonging to 31-40 (32.1%) and 41-50 years old (20.2%) with a mean age of 36.7 and standard deviation of 10.65. More than half of the respondents were females (62.9%) and single (51.9%). A slight majority of respondents were college graduates (51.2%) and most were Full Time

employees of the government institution. Personnel of the Health Operations division comprised 51.7% of the respondents. Majority or 94.3% did not have a history of Covid-19 infection before the immunization and 93.0% did not have any member of the immediate family infected with Covid-19 at the date of immunization (Table 1).

More than half of the respondents in the study (63.4%) scored their anxiety level at 0 (None or absence of anxiety); thirty-nine or 6.8% scored their anxiety level at 1, followed by anxiety level of 3 (6.4%) and anxiety level of 2 (5.9%). Only 10 (1.7%) respondents scored their anxiety level above 9. An anxiety level of 0-9 means None- Mild Anxiety (Table 2).

Table 1

Frequency of distribution of personnel according to demographic variables.

Category	Frequency (f)	Percentage (%)	Mean	SD
Entire Group	574	100	36.7	10.65
Age (years)				
21-30	188	32.8		
31-40	184	32.1		
41-50	116	20.2		
51-60	77	13.4		
Above 60	1	0.2		
NS	8	1.4		
Sex				
Male	212	36.9		
Female	361	62.9		
NS	3	0.2		
Civil Status				
Single	298	51.9		
Married	267	46.5		
Separated	3	0.5		
Widow	3	0.5		
NS	3	0.5		
Education				
High School Graduate	14	2.4		
College Level	33	5.7		
College Graduate	294	51.2		
Post-Graduate	45	7.8		
MD	182	31.7		
NS	6	1.0		
Employment				
Temporary	4	0.7		
Job Order	57	9.9		
Contract of Service	106	18.5		
Permanent Part-Time	83	14.5		
Full-Time	225	39.2		
NS	99	17.2		
Division				
Administrative	85	14.8		
Finance	18	3.1		
Health Operations	297	51.7		
Nursing Service	174	30.3		
History of Covid-19 Infection				
Yes	31	5.4		
No	543	94.3		
NS	2	0.3		
History of Covid-19 Infection in Family				
Yes	39	6.8		
No	523	91.1		
NS	12	2.1		

Table 2
Anxiety level of Health Personnel (n = 574).

Anxiety Level of Respondents (n=574)		
Score	Frequency (f)	Percentage (%)
0	364	63.4
1	39	6.8
2	34	5.9
3	37	6.4
4	28	4.9
5	14	2.4
6	7	1.2
7	27	4.7
8	8	1.4
9	6	1.0
10	3	0.5
11	2	0.3
12	1	0.2
13	2	0.3
14	1	0.2
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	1	0.2
TOTAL	574	2.4

The results of Table 3, show that more than half of the respondents (64.8%) signified that the degree of their anxiety related to Covid-19 vaccination was Not Difficult at all.

Moreover, a sizable number of respondents (21.8%) did not answer the degree of difficulty that they felt related to anxiety.

Table 3
Level of Difficulty to Function related to Anxiety

	Level of Difficulty of the Problem	
	Frequency (f)	Percentage (%)
No answer	125	21.8
Not difficult at all	372	64.8
Somewhat difficult	73	12.7
Very difficult	3	.5
Extremely difficult	1	.2
TOTAL	574	100.0

Discussion

The purpose of this study was to determine the level of anxiety to Covid-19 vaccination among personnel in a tertiary government hospital. More than half of the respondents in the study (63%) scored their anxiety level at 0 (None or absence of anxiety). Thirty-nine or 6.8% rated their anxiety level at 1, followed by anxiety level of 3 (6.4%) and anxiety level of 2 (5.9%), while 10 (1.7%) respondents scored their anxiety level above 9. The mean anxiety level when all responses were tabulated is 1.52 (Mild Anxiety) and a standard deviation of 2.710. An anxiety score of 0-9 means None-Mild Anxiety. A score of 10-14 means Moderate Anxiety and a score of 15-21 means Severe Anxiety. At the level of medical care however, the frequency occurring beyond the accepted normal level should be sought out and intervention should be extended. This correlates with the general notion that Generalized Anxiety Disorder can

negatively impact a patient's quality of life and disrupt important activities of daily living. Successful outcomes may require a combination of treatment modalities tailored to the individual patient (Locke, Kirst, et al., 2015).

Majority of the personnel did not have the feeling of nervousness, anxiety or described themselves at edge (77.2%); did not have a sense of Not Being Able to Stop or Control Worrying (82.8%); Worrying too much about different things (75.6%); Trouble Relaxing (84 %); Being so Restless that it was hard to keep still (91.5%); Becoming easily annoyed or Irritable (82. 4%) and Feeling afraid, as if something awful might happen (77%).

More than half of the respondents (64.8%) signified that the degree of their anxiety related to Covid-19 vaccination was Not Difficult at All. The higher percentage of No Presence of Anxiety was observed in higher age groups. The higher the age group of

the personnel, the higher is the percentage of the Absence of Anxiety. The highest Absence of Anxiety was observed with the 61 and above age group (100%), followed by 51-60 (70.1%) and 41-50 age group (69.8%). An only respondent with severe anxiety was found in the 21-30 age group. These findings were consistent with those of community-based epidemiologic surveys, and the that of Flint, Peasley-Miklus, et.al., (2010) that anxiety disorders are less prevalent in older than younger adults theorized as reluctance on the part of older people to acknowledge emotional and psychological symptoms.

Male respondents showed a higher incidence of No Anxiety (73.1%) than females (57.6%). There is a higher frequency of females who scored above the anxiety level of 9 that indicated Moderate to Severe Anxiety. This validates the findings of Christiansen (2014), that females are repeatedly found to be more likely than males to suffer from anxiety in general and to be diagnosed with most anxiety disorders and that of Hallers-Haalbom and Maas, et.al's (2020) observation that women are at much higher risk to develop an(y) anxiety disorder. Women seem to experience more severe and long-lasting symptoms than men.

Personnel at the Finance and resource generation division has a

higher percentage of No Anxiety as compared to other divisions in the hospital, followed by Nursing Service and Administrative division. This slightly relates to the conclusion made by Khana, et.al. (2020) that pointed out that nurses have higher odds of developing anxiety than other health workers. The Health Operations division has the lowest percentage of No Anxiety response. Respondents who have not been infected with the Covid-19 virus have the higher frequency of Some Degree of Anxiety but also incidentally, the group has the slightly higher percentage of No Anxiety responses at 63.4%.

When education is correlated with the level of anxiety, the majority of the personnel who belong to the High School Graduate group has the highest percentage of No Anxiety level (85.7%), followed by college level personnel (75.8%) and College graduates (69.4%). Incidentally, the Physicians' or MD group has the highest frequency of scores above 9 (Moderate-Severe Anxiety). When employment and anxiety levels were cross-tabulated, the Contract of Service personnel have the lowest anxiety level (No Anxiety = 78.9%) followed by Permanent Part-Time (No anxiety = 67.9%) and with Temporary employment (No Anxiety = 64%). Interestingly, the Temporary employment group has the highest

incidence of anxiety level scores greater than 9 (Moderate – Severe Anxiety). In the correlation of hospital division with the level of anxiety, the Finance division has the lowest anxiety level (No Anxiety = 83.3%) followed by Nursing (74.7%), Administration (73.8%) and Medical group (52.5%). The Medical group also has the highest frequency of personnel anxiety level scores of more than 9 (Moderate-Severe Anxiety). Those who had not been infected with Covid-19 virus has the higher frequency of anxiety scores above 9. Likewise, those who did not have a family member infected with Covid-19, has the higher frequency of anxiety level scores of more than 9.

Majority of the respondents (64.8%) rate the effect of anxiety to functioning as Not Difficult at all with those above 60 years of age (100%), then 51-60 (74%) and 31-40 age group (66.8%), respectively. A rating of Somewhat Difficult was highest with the 21-30 age group (19%). Male respondents, those who were separated (66.7%), High School graduates (78.6%), and Job Order employment status (100%), those in the Administrative division (67.9%), with history of Covid-19 infection (77.4%), and those who did not answer whether any family member was infected with Covid-19 (75%) rated higher the level of functioning as Not Difficult at All.

The study was conducted during the roll out for the second dose of vaccination. The results would have been different if the study was conducted on the first inoculation.

Conclusion

Healthcare workers are among the most at risk segment of society in this Covid-19 pandemic, yet the most essential in managing infected patients in the community. Vaccination at this point of the pandemic is crucial not only to the healthcare worker but also to reach the level of herd immunity that epidemiologists and scientists are aiming for. Covid-19 related fears and anxiety plus the hesitancy towards the vaccine are crucial in the acceptance of the inoculation.

In general, as the subjects in the study become older, the higher the percentage of No Anxiety response, male respondents, those who are married, belonging to Contract of Service employment status, and High School graduate have a higher percentage of No Anxiety level response. Likewise, those who belong to the Finance and Resource generation division, with previous history of Covid-19 infection and with a history of Covid-19 infection in the immediate family reported a higher percentage of No Anxiety.

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Level of Performance of the *Lupon* Members under the Barangay Justice System as Perceived by the Constituents of the Selected Barangays in Municipality of Badiangan, Iloilo, Philippines

JD Chris Y. Dofeliz¹ and Renia F. De la Peña²

ABSTRACT

This quantitative-descriptive-correlational research sought to determine the level of performance of *Lupon* Members under the Barangay Justice System as perceived by the constituents of selected barangays in the Municipality of Badiangan, Iloilo, in terms of Knowledge, Systematic Procedures, Decision Making and Interpersonal Skills. A total of 128 constituents participated in the study. They were complainants and respondents of complaints filed in the barangays. The study found out that the respondents' perceived level of performance of their *Lupon* Members was "Outstanding" in all categories, which means that they were efficient and effective in performing their duties and roles. It also found out that there was no significant difference in the respondents' perception of the level of performance among *Lupon* members when categorized according to sex, age, civil status, educational attainment and occupation. The findings confirm the effective implementation of the Barangay Justice System which helps in reducing backlog cases in actual courts.

Keywords: level of performance, justice system, government policies, development planning, systematic procedures

INTRODUCTION

The barangay serves as the primary planning and implementing unit of government policies and activities in the community. It serves as a forum where disputes may be amicably settled through the implementation of the Katarungang Pambarangay Law or the Barangay Justice System. (Sec. 384 of LGU Code of 1991).

Records from the Municipal Local Government Operation Office (MLGOO) of Badiangan, Iloilo from January to December 2016 showed that the top three (3) barangays that have the highest unresolved cases and were referred to the courts are the Poblacion, Mapili Grande and Mainguit, these cases include physical injury, theft, robbery, alarm and scandal, and land dispute.

The Municipality of Badiangan, Iloilo is the partner community of CPU Outreach Center. The development planning and SWOT analysis conducted by the students of Master in Public Administration in 2017 revealed that there was a high number of unresolved cases and blotter reports coming from the Municipal Police Office, and, most of the blotter reports they made are referred back to the barangay level for amicable settlement. The Local Government

Code of 1991 urged the local officials to strongly administer their adjudication functions so as to unclog cases in courts.

There has been no study conducted, however, to determine the perceived performance of the *Lupon* Tagapamayapa members in the municipality of Badiangan in the implementation of the Barangay Justice System.

Objectives of the Study

This study sought to determine the perceived level of performance of the *Lupon* members under the Barangay Justice System in the Municipality of Badiangan, Iloilo.

Specifically, the study aimed to:

1. describe the profile of the respondents as to age, sex, civil status, educational attainment and occupation;
2. determine the perceived level of performance of the *Lupon* members by the respondents in terms of knowledge, systematic procedures, decision making and interpersonal skills;
3. determine if there is a significant difference in the perceived level of performance of the *Lupon* members by the respondents when classified according to age, sex, civil

status, educational attainment and occupation; and

4. determine the policy implications of the study.

Hypothesis

There is no significant difference in the perceived level of performance of Lupon members under the Barangay Justice System when respondents are classified according to age, sex, civil status, educational attainment and occupation.

Theoretical Framework

This study is based on Fritz Heider's (2010), Theory of Attribution. For him, an event is brought out by the interplay of distinct forces, those of the person (personal factors) which may refer to the differences inherent to the respondent's socio – demographic

profile, such as age, sex, civil status, educational attainment and occupation and those external (environmental) to him. In this study, it would mean the conditions that may affect the individual in assessing the performance of the *Lupon* members (Provido 2002, cited in De la Pena, 2006).

This study is also anchored on the Theory of Conflict and Resolution by George Simmel, (2014). For him, conflict may end with a victory of one party over another, or conflict can be resolved through compromise and through conciliation. However, not all conflicts may end as discussed. The said theory is relevant in this study as it tends to determine the perceived performance of *Lupon* members in conflict resolution management.

Conceptual Framework of the Study

INDEPENDENT VARIABLES

Socio – Demographic Factors of the Respondents

- Age
- Sex
- Civil Status
- Educational Attainment
- Occupation

DEPENDENT VARIABLES

Perceived Level of Performance

- a. Knowledge on Barangay Justice System
- b. Systematic Procedures,
- c. Decision Making
- d. Interpersonal Skills

Figure 1. The schematic diagram above shows the relationship of the variables.

Significance of the Study

The findings of this study will benefit the following:

To the Municipality of Badiangan, the Barangay Council and *Lupon Tagapamayapa* members will be informed of their assessed performance, and the results will hopefully point out the strengths and the weaknesses of local governance in the area of barangay justice administration.

To the Department of Interior and Local Government (DILG) Region 6 and the Local Government Academy. The result of this study will provide the office feedback on how the *Lupon* members perform their functions. It will also aid the office in designing programs to improve the capabilities and performance at the local level.

Scope and Limitation of the Study

The results of this study is limited only to the data gathered from the 128 respondents of the three (3) barangays: Poblacion, Mapili Grande and Mainguit, in the Municipality of Badiangan, Iloilo. These barangays have the highest number of unresolved cases, during the month of January-December 2016.

Related Literature/Studies

Aquino 2008, gender is indeed a determinant of perception, females will

hesitate to bring their cases to a predominantly male tribunal especially if the respondent is a male.

Caldo (2015), the respondents were uncertain of the competence of their *Lupon* members, especially of their Punong Barangay. The study justifies the need for assessing competency measures of Barangay Council in San Jose, Sto. Tomas, Batangas.

Chen and Hsieh (2015), knowledge is a key factor in delivering the service needed by the constituents of the locality. Rojo (2002), age is a determinant in terms of perceived performance. Also, people's financial and material capacity influence their experience in justice.

Reyes (1995) argued that sex is a determinant of perception in the factors of operational and administrative problems or constraints encountered in the implementation of the Katarungang Pambarangay which means that the perception of women is different from men especially when it comes to settling disputes.

Roefs and Atkinson (2001), people who were more educated have favorable perceptions of local government employees than people who were less educated or who reported a negative experience.

Spence (2010) emphasizes that it is essential that a public body has

procedural requirements in order for them to arrive with a just decision.

METHODOLOGY

Research Design

The study is a quantitative – descriptive - correlational research design which utilized a one-shot structured survey design.

Ethical Consideration

The participants were assured of privacy and confidentiality of the data gathered. The contents of the ethical consent form were explained to them and the purpose of the study was

discussed. The right to withdraw anytime was accorded to the participants.

Target Population and Sampling Procedures

Table 1 shows the distribution of respondents of the study who are complainants and respondents of filed cases from the three barangays. Total enumeration was resorted.

Table 1
Distribution of Respondents of The Study.

Barangay	Total Population	Total Complainants (Jan-Dec 2016)	Total Respondents (Jan-Dec 2016)	Over-all Total
1.) Poblacion	1,933	38	38	-
2.) Mapili Grande	966	21	21	-
3.) Mainguit	717	5	5	-
Total of Respondents	-	64	64	128

Instrumentation

This study used a researcher-made questionnaire, which is divided into two parts. Part I, gathers information regarding the respondents' names (optional), age, sex, civil status, educational attainment, and occupation. Part II, Questionnaire

proper, contained twenty (20) items to determine the perceived level of performance of the Lupon members. The questionnaire was divided into 4 categories as follows: 5 items on Knowledge about Barangay Justice System, 5 items on Systematic Procedures, 5 items on Decision

Making and 5 items on Interpersonal Skills.

The weight and responses of the instrument were determined using the five-point scale with the following responses:

Weight	Response
5	Strongly Agree
4	Agree
3	Undecided
2	Disagree
1	Strongly Disagree

and when they are grouped according to their independent variables, they were rated by their mean as follows:

Scale	Description
4.21-5.00	Outstanding
3.41-4.20	Very Satisfactory
2.61-3.40	Satisfactory
1.81-2.60	Unsatisfactory
1.00-1.80	Very Satisfactory

RESULTS AND DISCUSSION

Table 2 shows the profile of the respondents, in terms of the following;

Age. Three-fourths (75.percent) of the respondents were categorized as "old" or coming from the range of forty years old and above while the remaining 24.2 percent of the respondents were categorized as "young" or belonging to the age group of thirty-nine and below. Furthermore,

Reliability and Validity

The questionnaire was validated by the three experts. It was pilot-tested in Barangy San Isidro, Jaro, Iloilo City. A test-retest method was used to check the reliability of the questionnaire.

Data Collection

The questionnaire was administered personally by the researcher. The 128 respondents upon the help of the punong barangays were gathered in one venue to facilitate the data gathering.

Data Analysis

For descriptive analysis, means and percentages, standard deviation were used. Z-test for inferential analysis.

the table also showed that the mean age for the whole group was 48 years old.

Sex. The data showed that more than half (52.7 percent) of the respondents were females and the remaining (47.3 percent) respondents were male.

Civil Status. It also showed that an overwhelming (87.5 percent)

number of respondents are married and the remaining (12.5 percent) were single.

Educational Attainment. The data showed that more than half (64.8 percent) of the respondents were non-degree holders. On the other hand, a little less than one-third (35.2 percent)

of the respondents were degree holders.

Occupation. In terms of occupation, a high percentage (70.3 percent) of the respondents were unemployed and only (29.7 percent) of the respondents were employed.

Table 2

Distribution of Respondents According to Age, Sex, Civil Status, Educational Attainment and Occupation.

Category	f	%
Entire Group	128	100.0
Age		
Young	31	24.2
Old	97	75.8
Sex		
Male	181	47.3
Female	202	52.7
Marital Status		
Single	16	12.5
Married	112	87.5
Educational Attainment		
Degree Holder	45	35.2
Non-degree Holder	83	64.8
Occupation		
Employed	38	29.7
Unemployed	90	70.3

Table 3A, shows the perceived level of performance of the Lupon members in terms of knowledge, with an Outstanding rating ($\bar{x} = 4.87$). It means that the Lupon members were knowledgeable on what to do in conflict management that made them efficient.

The result of this study agrees with the findings of Chen and Hsieh (2015), which revealed knowledge is a key factor in delivering the service needed by the constituents of the locality.

Table 3A

Level of Performance of the Lupon Members in terms of Knowledge as Perceived by the Constituents.

A. Knowledge/ Kinaalam on Barangay Justice System	Mean	Description
1. The Lupon Chairman (Punong Barangay) is sending summons to parties within the prescribed period of 1 to 3 days upon receipt of the complaint for mediation. <i>(Ang Barangay Kapitan ang naga padala dayun sang sulat sa tag reklamo kag sa gin reklamo sa sulod sang isa asta sa tatlo ka adlaw halin sa adlaw sang na baton ang reklamo para sa pag ariglohanay)</i>	4.88	<i>Outstanding</i>
2. The case filed before the Lupon Chairman (Punong Barangay) was settled within the prescribed period of 15 days from the day of first meeting. <i>(Ang kaso nga gin reklamo sa Barangay Kapitan ine na ariglo sa sulod sang 15 ka adlaw lamang halin sa una nga adlaw sang pag ariglohanay)</i>	4.89	<i>Outstanding</i>
3. Failure of settlement between the parties involved in the given prescribed period of 15 days the Lupon Chairman (Punong Barangay) endorse the case to the Lupon members subject for creation and choosing of Pangkat ng Tagapagkasundo. <i>(Kung wala sang may natabo nga pagariglohanay sa tagreklamo kag sa gin reklamo sa sulod sang 15 ka adlaw ang Barangay Kapitan gina endorso ang kaso sa Lupon members para sa pag ubra kag pag pili sang Pangkat ng Tagapagkasundo)</i>	4.89	<i>Outstanding</i>
4. In our barangay, the Lupon Chairman (Punong Barangay) allows the complainant and respondent to choose their Pangkat ng Tagapagkasundo from the list of appointed Lupon members. <i>(Sa amun barangay, ang Barangay Kapitan gapasugot nga ang tagreklamo kag ang gin reklamo ang mapili sang ila Pangkat ng Tagapagkasundo halin sa lista sang mga napilian nga miyembro sang Lupon)</i>	4.86	<i>Outstanding</i>
5. In our barangay, incase of failure of settlement before the Pangkat ng Tagapagkasundo within the prescribed period of 45 days, the Pangkat will automatically issue a Certificate to File Action. <i>(Sa amun barangay, kung wala sang may ma tabo nga pag ariglohanay sa Pangkat ng Tagapagkasundo sa sulod sang 45 ka adlaw, ang Pangkat ga hatag dayun awtomatik sang Certificate to File Action)</i>	4.83	<i>Outstanding</i>
Total Mean	4.87	<i>Outstanding</i>

Table 3B, shows the perceived level of performance among Lupon members in terms of systematic procedures. Item #7 got the highest mean ($\bar{x} = 4.91$), wherein the Lupon Secretary was perceived to be outstanding by efficiently taking down

minutes during proceedings. Item # 6 got the lowest mean ($\bar{x} = 4.77$), in terms of receiving of written and verbal complaints, but still rated outstanding.

Spence (2010) emphasizes that it is essential that a public body has procedural requirements in order for

them to arrive with a just decision. The Lupon members seemed to perform their tasks based on the procedures and guidelines.

Table 3B

Level of Performance of the Lupon Members in terms of Systematic Procedures as Perceived by the Consitutents.

B. Systematic Procedures/ Sistema	Mean	Description
6. Our Lupon Chairman (Punong Barangay) received all written complaints and put it in writing all verbal complaints made by individuals. <i>(Ang amun Barangay Kapitan ga baton sang tanan nga nakasulat nga mga reklamo kag gina sulat man ang tanan nga mga reklamo berbal halin sa mga indibiduwal)</i>	4.77	<i>Outstanding</i>
7. Our Lupon Secretary (Barangay Secretary) record and take down all the minutes during the proceedings. <i>(Ang amun Barangay Secretary ga rekord kag gina sulat ang tanan nga gina istoryahan sa tyempo sang pagariglohanay)</i>	4.91	<i>Outstanding</i>
8. The Lupon cases in our barangay are settled in the appropriate venue (i.e. Barangay Hall, People's Hall). <i>(Ang mga kaso sa Lupon sa amun barangay gaka sulbar sa insakto nga lugar parehos sang barangay hall okun people's hall)</i>	4.89	<i>Outstanding</i>
9. Our Lupon members are punctual during the schedule of hearings and/or deliberations. <i>(Ang amun Lupon members indi ulihe/late sa iskedyul sang pag ariglohanay)</i>	4.56	<i>Outstanding</i>
10. Our Lupon members does not demands personal appearance fee before nor after hearings. <i>(Ang amun Lupon members wala naga demanda sang personal nga bayad sa tiun sila mag ariglo)</i>	4.88	<i>Outstanding</i>
Total Mean	4.80	<i>Outstanding</i>

Table 3C, shows the perceived level of performance among *Lupon* members in terms of decision making. Item 11 got the highest mean ($\bar{x} = 4.84$), rated outstanding in showing fairness in making decisions. Item #15

“Set aside their personal interests and avoid any possibility of bribe” ..” got the lowest mean($\bar{x} = 4.51$). It implies that the tendency to accept bribes as a form of corruption is visible among the *Lupon* members.

Table 3C

Level of Performance of the Lupon Members in terms of Decision Making as Perceived by the Constituents.

C. Decision Making/ Sa pag ubra sang desisyon	Mean	Description
The Lupon Members:		
11. Decides fairly for both parties. (<i>Naga desisyun sang patas para sa tagreklamo kag sa gin reklamo</i>)	4.84	<i>Outstanding</i>
12. Refers the content of the case into any appropriate laws or ordinances for examples and enlightenment purposes. (<i>Gina basi ang unod ka kaso sa mga gaka-angay nga layi okun ordinansa para e halimbawa kag sa dugang nga pag-paathag</i>)	4.82	<i>Outstanding</i>
13. Are decisive and action-oriented in settling disputes in our barangay. (<i>Ma dasig mag desisyon sa tiun sang pag ariglohanay sa barangay</i>)	4.80	<i>Outstanding</i>
14. Are consistent to its decision and always consider the evidence and pertinent facts presented before them. (<i>Ginapanindugan ang ila desisyon kag permi gina konsider ang mga ebidensya kag mga importante nga mga impormasyon nga gina presentar sa ila</i>)	4.59	<i>Outstanding</i>
15. Set aside their personal interests and avoid any possibility of "bribe" that may cause advantages and disadvantages to the parties involved. (<i>Gina bali wala ang ila mga personal nga interes kag suhol nga makahatag sang bintaha okun disbintaha sa pag ariglohanay</i>)	4.51	<i>Outstanding</i>
Total Mean	4.71	<i>Outstanding</i>

Table 3D, shows the perceived level of performance among *Lupon* members in terms of their interpersonal skills. Item# 20 on promoting gender equality got the highest mean($\bar{x} = 4.91$). It means that regardless of gender, the *Lupon* members equally treat them in the best possible manner. Item #19 on showing initiative in solving conflict through amicable settlement rather

than resorting to the higher court" got the lowest mean ($\bar{x} = 4.63$). It means that the constituents has the tendency to bring the concern to higher authority without prior consultation before the *Lupon* members.

In the study of Johnson (2010), to promote efficiency and mediate properly, a well placed personnel with broad specific interpersonal skills should be taken.

Table 3D

Level of Performance of the Lupon Members in terms of Interpersonal Skills as Perceived by the Constituents.

D. Interpersonal Skills/ Pakigbagay / Relasyon sa Publiko	Mean	Description
The Lupon Members:		
16. Still accommodate the concerns of both parties even beyond the prescribed period of time in settling disputes. <i>(Gina akomodar sa guihapon ang mga reklamo biskan wala na sa oras sang pag ariglohanay)</i>	4.70	<i>Outstanding</i>
17. Show respect and tact among its constituents during conflict resolution regardless of age, sex, political affiliation and social status. <i>(Ga pakita sang respeto kag maayo nga pamatasan sa ila pomuloyo sa tyempo sang pag ariglohanay nga wala pinilian mapa edad man,lalaki,babayi, politika nga relasyon okun anu man nga posisyon)</i>	4.88	<i>Outstanding</i>
18. Made themselves available in serving 24 hours a day as expected from public servants. <i>(Gina tinguha-an nga maka serbisyo 24 oras sa isa ka adlaw basi sa gina expectar bilang isa ka public opisyal)</i>	4.77	<i>Outstanding</i>
19. Show initiative and adopt the Filipino-time honored principle in solving conflict through peaceful negotiation and amicable settlement rather than resorting to the higher court. <i>(Ga ubra initiatibo kag gina sunod ang Filipino-time honored nga prinsipyo sa pag ariglo paagi sa matawhay nga pag istoryahanay kag pagariglohanay nga wala na gina pa labot sa korte)</i>	4.63	<i>Outstanding</i>
20. Promote gender equality in making decisions and without biases regardless of the sectors represented. <i>(Ga pakita gender equality (i.e. agi, tomboy, etc) sa pag ubra sang desisyon kag wala bias sa kong anu man nga mga sector (i.e. indigenous,mangunguma, drayber,etc.) ang gina representar)</i>	4.91	<i>Outstanding</i>
Total Mean	4.78	<i>Outstanding</i>

Difference in the Level of Performance when categorized according Respondent’s Profile

Table 4 showed the z-value of 0.717 and the *p* value of 0.475 which is not significant at 0.05 level when respondents were classified as to age. Thus, the null hypothesis is accepted.

Contrary to the results of the current study, Rojo (2002) emphasized that age is a determinant in terms of perceived performance since committee members of the barangay justice system are usually seniors of the community.

Table 4

Difference in the Level of Performance of the Lupon members as Perceived by the Constituents in terms of Age.

Respondents' Profile	Performance of the Lupon Members as Perceived by the Constituents					
	N	Mean	Standard Deviation	df	z-value	p-value
Age						
Young	31	4.81	.2332			
Old	97	4.78	.2158	126	.717	.475
Total	128	4.78	.2196			

Table 5 showed the z-score of 0.438 and a *p* value of 0.662 which is not significant at 0.05, it means that there is no significant difference when respondents were categorized into sex. Thus, it accepts the null hypothesis.

The findings of the study contradicts that of Reyes (1995) that sex is a determinant of perception in the factors of operational and

administrative problems or constraints encountered in the implementation of the Katarungang Pambarangay.

Also, Aquino (2008), pointed out that gender is indeed a determinant of perception. Thus, women fear a lack of understanding and sympathy among a predominantly male body for resolving disputes.

Table 5

Difference in the Level of Performance of the Lupon members as Perceived by the Constituents in terms of Sex.

Respondents' Profile	Performance of the Lupon Members as Perceived by the Constituents					
	N	Mean	Standard Deviation	df	z-value	p-value
Sex						
Male	53	4.80	.2092			
Female	75	4.78	.2279	126	.438	.662
Total	128	41.28	7.7039			

Table 6 shows the z-score of 0.683 and a *p* value of 0.496 which is not significant at 0.05 level when respondents were categorized to civil

status. It means that the null hypothesis is accepted.

Contrary to the study of Reyes (1995), marital status is a determinant

in settlement of disputes. She emphasized that mistrust, failure to study issues, delay in setting cases for hearing and failure to make speedy

settlement of cases are generally considered by couples and single respondents.

Table 6

Difference in the Level of Performance of the Lupon members as Perceived by the Constituents in terms of Civil Status.

Respondents' Profile	Performance of the Lupon Members as Perceived by the Constituents					
	N	Mean	Standard Deviation	df	z-value	p-value
Marital Status						
Single	16	4.83	.1844	126	.683	.496
Married	112	4.78	.2245			
Total	128	41.28	7.7039			

Table 7 shows the z-score of 1.390 with a *p* value of 0.167 which is not significant at 0.05 level when respondents are categorized into educational attainment. Thus, the null hypothesis is accepted.

The results contradict the findings of Roefs and Atkinson (2001), where they pointed out that people who were more educated have favorable perceptions of local government officials than people who were less educated.

Table 7

Difference in the Level of Performance of the Lupon members as Perceived by the Constituents in terms of Educational Attainment.

Respondents' Profile	Performance of the Lupon Members as Perceived by the Constituents					
	N	Mean	Standard Deviation	df	z-value	p-value
Educational attainment						
Degree Holder	45	4.75	.2710			
Non-degree Holder	83	4.81	.1849	126	1.390	.167
Total	128	41.28	7.7039			

Table 8 shows the z-value of 0.295 and a *p* value of 0.769 which is not significant at 0.05 level when respondents were classified to occupation. Hence, the null hypothesis is accepted.

The findings contradicts that of Rojo (2002) that people’s financial and material capacity influence their experience in justice.

Table 8
Difference in the Level of Performance of the Lupon members as Perceived by the Constituents in terms of Occupation.

Respondents’ Profile	Performance of the Lupon Members as Perceived by the Constituents					
	N	Mean	Standard Deviation	df	z-value	p-value
Employment Status						
Employed	38	4.80	.2161			
Unemployed	90	4.79	.2222	126	.295	.769
Total	128	41.28	7.7039			

Conclusions

With an Outstanding rating in all categories, it is hereby concluded that the *Lupon* members are faithful public servants to their oath of office. Moreover, the functionality of Lupon members in solving cases within the barangay is indeed efficient in a sense that they have the knowledge and have observed the required procedure.

Further, it could probably be based on the normal assumption that Knowledge, Systematic Procedures, Decision Making, and Interpersonal Skills do have an impact in the productivity of their work units, and effective implementation of the Barangay Justice System is always

associated with better performance regardless of the personal factors such as age, sex, civil status, educational attainment, and occupation.

Recommendations

There should be re-orientation of the public officials especially the Lupon members of the provisions of RA 6713 “Ethical Standards and Norms of Conduct Among Public Officials and Employees” with inclusion of the topic on Republic Act 3019 “Antigraft and Corrupt Practices Law of the Philippines ” to develop among them the value of honesty and credibility as they serve the public, as it was noted

in the results that the Lupon members rated with the lowest mean against the tendency to accept bribe.

The constituents should also be informed on the nature of cases that

are within the jurisdiction of the barangay.

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The Local Government Code of 1991.

Sustainable Tourism Awareness-Adherence and Coastal Issues and Concerns of the Selected Coastal Tourism Stakeholders in Southern Iloilo, Philippines

Carmen N. Hernandez¹, Maribel B. Dunton², Ma. Amihan T. Panes² and Febe Rose L. Torres²

ABSTRACT

The common problems in tourism are the exploited rapid growth of coastal tourism and the seasonal nature of tourism has led to swings in employment and income most markedly in the small sector (Islam, 2015). The stance of sustainability is essential since this will be the reason that companies may survive the global pandemic (Pololikashvili, 2020). Hence, the purpose of this study was to determine the sustainable tourism awareness-adherence and issues and concerns of the selected coastal tourism stakeholders in Southern, Iloilo, Philippines. This study utilized the descriptive-correlation design using a researcher-made questionnaire. The study found "high" sustainable tourism adherence and awareness with "low" coastal tourism issues and concerns of the coastal tourism stakeholders in Southern, Iloilo. There was a relationship between sustainable tourism awareness and sustainable tourism adherence. The result also revealed that sustainable tourism awareness had a correlation with coastal issues and concerns and on relationship between sustainable tourism adherence and coastal issues and concerns.

Keywords: sustainable tourism, tourism awareness, stakeholders, coastal issues

INTRODUCTION

Background/Rationale, Related Literature and Significance of the Study

Coastal tourism deals with two complex systems, the tourism system and the coastal system. The former is primarily a human system and the latter, an environmental one. Of the same importance are the impacts of tourism on the environment and social settings of a coastal system (oneocean.org). The Philippines is the country most at risk from the climate crisis according to a report published in 2019 by the Institute for Economics and Peace.

The Philippines, through tourism, aspires to become a stronger player in the integrated travel industry of today. Yet, the country realizes that in order to do so, it must conserve, protect and strengthen the cultural, historical and natural resources upon which the Philippines draws its unique competitive advantages (Alampay, 2005). Sustainable tourism is a way of traveling and exploring a destination while respecting its culture, environment, and people (Arnould, 2019). A strong sustainability concept by addressing protection, conservation, and management of coastal ecosystems and resources (Neumann, et al., 2017).

The stakeholders in a destination can be classified into three major groups with their respective interests: national government, the local destination, and the tourism sector or industry operating in the destination. The three stakeholder groups, acting independently or in concert, will thus determine the degree to which the goals of sustainable development can be achieved through tourism (Alampay, 2005).

Objectives

The main objective of the study was to determine the sustainable tourism awareness, sustainable tourism adherence, and coastal tourism issues and concerns of the selected coastal tourism stakeholders in Southern Iloilo, Philippines.

The study has the following specific objectives:

1. To determine the coastal tourism stakeholders profile.
2. To determine the sustainable tourism awareness of the coastal tourism stakeholders in Southern Iloilo, Philippines.
3. To determine the sustainable tourism adherence of the coastal tourism stakeholders in Southern Iloilo, Philippines.
4. To determine the coastal tourism issues and concerns of the

coastal tourism stakeholders in Southern Iloilo, Philippines.

5. To determine if significant difference exists in the sustainable tourism awareness and coastal tourism stakeholders' profile in Southern of Iloilo, Philippines.

6. To determine if significant difference exists in the sustainable tourism adherence and coastal tourism stakeholders' profile in Southern of Iloilo, Philippines.

7. To determine if significant difference exists in the coastal issues and concerns and coastal tourism stakeholders' profile in Southern of Iloilo, Philippines.

8. To determine if significant relationship exists in the sustainable tourism awareness, sustainable tourism adherence and coastal tourism issues and concerns of the coastal tourism stakeholders in Southern Iloilo, Philippines.

Theoretical Framework

According to the World Tourism Organization, tourism is sustainable when it fully keeps into consideration the present and future economic, social and environmental impact on the territory meeting the needs of the visitors, the tourism industry, the environment and the host communities. Studying coastal tourism is relevant and with the use of change theory which explains how activities

are understood to produce a series of results that contribute to achieving the final intended impacts (Rogers, 2014). It is also imperative to indicate social awareness theory. The term social awareness may be defined as the individual's ability to understand people, social events, and the processes involved in regulating social (Greenspan (1981a). Some other theories anchored were deontological theory which states that people should adhere to their obligations and duties when engaged in any activities they have or choose to do (Snoussi, 2021). Moreover, the theory of Social Cognitive Theory (SCT) that could also support the premise where psychosocial functioning in terms of triadic reciprocal causation (Bandura, 1988).

Conceptual Framework

Coastal tourism is strongly dependent upon natural and resources. Therefore, certain areas are particularly suited to specific types of tourism activities, for which they became known on a global scale (www.unep.fr). The resulting impact on coastal communities along with their physical, socio-economic and cultural environment has to be managed efficiently to achieve sustainable coastal tourism (Ghosh, 2012).

In recent decades, the awareness has been strengthened that tourism needs to be developed following the sustainable development concept. This approach eliminates or significantly decreases the negative impacts of tourism growth and sets the basis for long-term enjoyment of benefits. In the field of tourism, sustainable development translates in two important categories of considerations: conserving natural environment and resources and the biodiversity and conserving the living cultural heritage and traditions. Low levels of awareness and limited

understanding of tourism may nullify meaningful participation in widely advocated tourism planning and development strategies (Porter, et al., 2018). Thus, identifying the sustainable tourism awareness and sustainable tourism adherence of coastal tourism stakeholders will identify the tourism industry's readiness to address the pressing coastal tourism issues and concerns faced by the tourism establishments and coastal tourism industry.

Figure 1 shows the conceptual framework of the study.

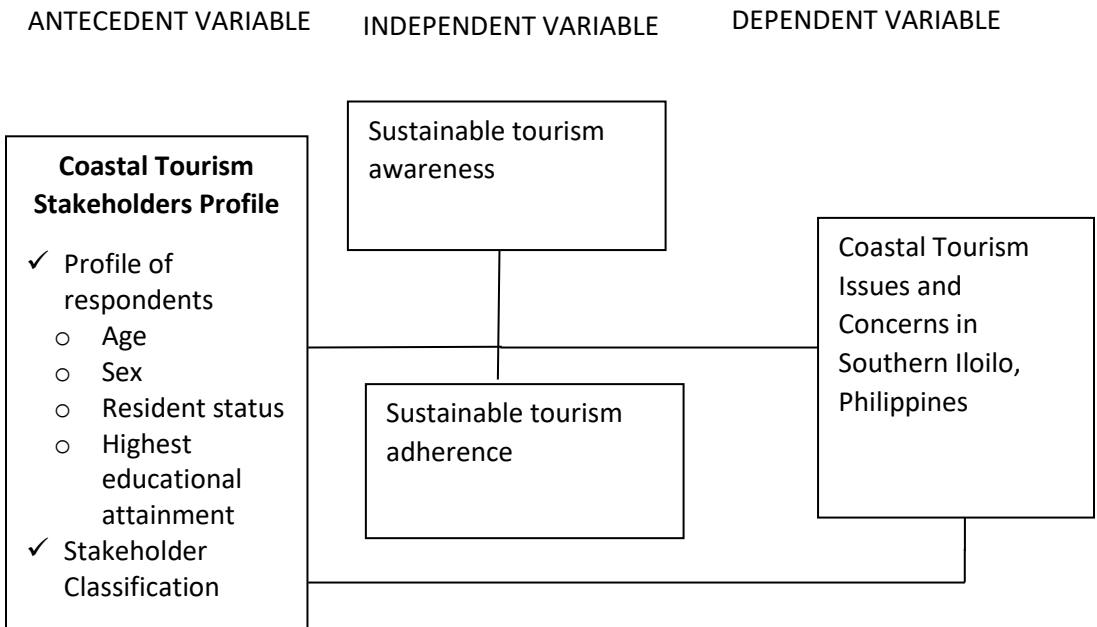


Figure 1. Sustainable tourism awareness-adherence and coastal tourism issues and concerns of the coastal tourism stakeholders in Southern, Iloilo, Philippines

Scope and Limitation of the Study

The main objective of the study was to determine the sustainable tourism awareness, adherence, and coastal issues and concerns of coastal tourism stakeholders in Southern Iloilo, Philippines. In the duration of the study, however, only 60 respondents from Oton and Tigbauan were able to answer the questionnaire

through google form. The researcher-made Sustainable Tourism Awareness, Adherence and Coastal Issues and Concerns of the Coastal Tourism Stakeholders questionnaire was the data-gathering instrument and utilized Google forms with the aid of emails and Facebook messenger as communication channels with the informed consent to participate.

METHODOLOGY

There were 60 respondents of the study who were the coastal tourism stakeholders that comprises the coastal tourism establishment (resorts and restaurant) managers and employees, the local tourism officers of the coastal municipalities, and the coastal municipality barangay member of the barangay council of the coastal municipalities of Oton and Tigbauan, Iloilo. The sampling technique implemented was purposive sampling technique. Primary data was taken

using a researcher-made self- Global Sustainable Tourism Council and Coastal Issues and Concerns Questionnaires in of Google Form. The SPSS software was used to process with statistical tools percentage, frequency count, mean, and standard deviation to identify for the descriptive results and Mann Whitney-U test, Kruskal-Wallis Test, and Spearman rho were deployed for inferential results. Alpha level were set at 0.05.

RESULTS AND DISCUSSION

Results

Descriptive Data Analysis

The coastal tourism stakeholders of the Southern, Iloilo were mostly older (42 or 70%) and a small

percentage are younger (18 or 30%) was shown in Table 1. A little more to half are female (31 or 51.7%) and lesser half are males (29 or 48.3%). Majority of them are native of the

municipality (58 or 96.7%) and a small percentage of them are non-native of the municipality where they live (3.3%). Almost half of them are college graduate (29 or 48.3%) and also almost half are high school graduate (27 or 45%). Very few of them are graduate school graduates (4

or 6.75). Half of them were from the coastal barangay council (30 or 50%) and almost half are the coastal tourism establishment representatives (25 or 41.7%). Only very few are the local tourism officer of the municipalities (5 or 8.3%).

Table 1
Coastal Tourism Stakeholders Profile.

Categories	f	%
Age		
Younger (35 and below)		
Older (36 and above)	18	30 %
Sex	42	70 %
Male	29	48.3 %
Female	31	51.7 %
Resident Status		
Native of the municipality	58	96.7 %
Non-native of the municipality	2	3.3 %
Highest Educational Attainment		
High School Graduate	27	45 %
College Graduate	29	48.3 %
Graduate School Graduate	4	6.7 %
Stakeholder Classification		
Local Tourism Officer	5	8.3 %
Coastal Barangay Council Member	30	50 %
Coastal Tourism Establishment	25	41.7 %

Table 2 revealed that the coastal tourism stakeholders of Southern, Iloilo has “high” level of sustainable tourism awareness (M = 3.73, SD = .482) shown in Table 3. In terms of age, the younger coastal tourism stakeholders has “high” sustainable tourism awareness (M= 3.85, SD= .482) as well with the older also with

“high” sustainable tourism awareness (M= 3.68, SD= .480). The male coastal tourism stakeholders also has “high” level of sustainable tourism awareness (M = 3.61, SD = .317) at par with the female stakeholders with “high” level of sustainable tourism awareness (M = 3.84, SD = .580). Those who are native of the municipality has “high”

level of sustainable tourism awareness (M = 3.71, SD = .474) while those who are non-native of the municipality has “very high” level of sustainable tourism awareness (M = 4.23, SD = .641). In terms of highest educational attainment, the high school graduates stakeholders has “high” level of sustainable tourism awareness (M = 3.52, SD = .316), the college graduates has “high” level of sustainable tourism awareness (M = 3.83, SD = .491) while those stakeholders who are graduate school

graduates has “very high” level of sustainable tourism awareness (M = 4.45, SD = .512). The coastal tourism stakeholders from the local tourism office has “very high” level of sustainable tourism awareness (M = 4.56, SD = .342), the barangay council of coastal tourism barangays has “high” level of sustainable tourism awareness (M = 3.52, SD = .416) and the coastal tourism establishments has “high” level of sustainable tourism awareness (M = 3.73, SD = .482).

Table 2
Level of Sustainable Tourism Awareness of the Coastal Tourism Stakeholders in Southern Iloilo, Philippines.

Categories	Mean	Description	SD
Entire Group	3.73	High	.482
Age			
Younger (35 and below)	3.85	High	.482
Older (36 and above)	3.68	High	.480
Sex			
Male	3.61	High	.317
Female	3.84	High	.580
Resident Status			
Native of the municipality	3.71	High	.474
Non-native of the municipality	4.23	Very High	.641
Highest Educational Attainment			
High School Graduate	3.52	High	.316
College Graduate	3.83	High	.491
Graduate School Graduate	4.45	Very High	.512
Stakeholder Classification			
Local Tourism Officer	4.56	Very High	.343
Coastal Barangay Council Member	3.52	High	.417
Coastal Tourism Establishment	3.83	High	.364

Table 3 showed that the coastal tourism stakeholders of Southern, Iloilo has “high” level of adherence to sustainable tourism (M = 3.85, SD = .548). In terms of age, the younger

coastal tourism stakeholders have “high” sustainable tourism adherence (M= 3.96, SD= .523) as well with the older also with “high” sustainable tourism adherence (M= 3.80, SD=

.558). The male coastal tourism stakeholders also has “high” level of sustainable tourism adherence (M = 3.74, SD = .475) at par with the female stakeholders with “high” level of sustainable tourism adherence (M = 3.95, SD = .598). Those who are native of the municipality has “high” level of sustainable tourism adherence (M = 3.83, SD = .553) while those who are non-native of the municipality has “very high” level of sustainable tourism adherence (M = 4.23, SD = .082). In terms of highest educational attainment, the high school graduates stakeholders has “high” level of sustainable tourism adherence (M = 3.56, SD = .391), the college

graduates has “high” level of sustainable tourism adherence (M = 4.03, SD = .571) while those stakeholders who are graduate school graduates has “very high” level of sustainable tourism adherence (M = 4.39, SD = .273). The coastal tourism stakeholders from the local tourism office has “very high” level of sustainable tourism adherence (M = 4.33, SD = .322), the barangay council of coastal tourism barangays has “high” level of sustainable tourism adherence (M = 3.51, SD = .471) and the coastal tourism establishments has “high” level of sustainable tourism awareness (M = 4.15, SD = .471). These are shown in Table 4.

Table 3
Level of Sustainable Tourism Adherence of the Coastal Tourism Stakeholders in Southern Iloilo, Philippines.

Categories	Mean	Description	SD
Entire Group	3.85	High	.548
Age			
Younger (35 and below)	3.96	High	.523
Older (36 and above)	3.80	High	.558
Sex			
Male	3.73	High	.475
Female	3.95	High	.598
Resident Status			
Native of the municipality	3.83	High	.553
Non-native of the municipality	4.24	Very High	.082
Highest Educational Attainment			
High School Graduate	3.56	High	.390
College Graduate	4.03	High	.572
Graduate School Graduate	4.39	Very High	.273
Stakeholder Classification			
Local Tourism Officer	4.32	Very High	.322
Coastal Barangay Council Member	3.52	High	.471
Coastal Tourism Establishment	4.15	High	.416

Table 4 shows that the coastal tourism stakeholders of Southern, Iloilo has "low" level of coastal tourism issues and concerns (M = 2.14, SD = .587). In terms of age, the younger coastal tourism stakeholders have "low" level of coastal tourism issues and concerns (M= 2.14, SD= .399) as well with the older also with "low" level of coastal tourism issues and concerns (M= 2.14, SD= .656). The male coastal tourism stakeholders also has "low" level of coastal tourism issues and concerns (M = 2.10, SD = .538) at par with the female stakeholders with "low" level of sustainable tourism awareness (M = 2.17, SD = .637). Those who are native of the municipality has "low" level of coastal tourism issues and concerns (M = 2.10, SD = .541) while those who are non-native of the municipality has "moderate" level of coastal tourism

issues and concerns (M = 3.09, SD = 1.329). In terms of highest educational attainment, the high school graduates stakeholders has "low" level of coastal tourism issues and concerns (M = 2.01, SD = .528), the college graduates has "low" level of coastal tourism issues and concerns (M = 2.19, SD = .562) while those stakeholders who are graduate school graduates has "low" level of coastal tourism issues and concerns (M = 2.58, SD = 1.001). The coastal tourism stakeholders from the local tourism office has "low" level of coastal tourism issues and concerns (M = 2.29, SD = .470), the barangay council of coastal tourism barangays has "low" level of coastal tourism issues and concerns (M = 2.01, SD = .610) and the coastal tourism establishments has "low" level of coastal tourism issues and concerns (M = 2.14, SD = .587).

Table 4
Level of Coastal Tourism Issues and Concerns of the Coastal Tourism Stakeholders in Southern Iloilo, Philippines.

Categories	Mean	Description	SD
Entire Group	2.14	Low	.587
Age			
Younger (35 and below)	2.14	Low	.398
Older (36 and above)	2.14	Low	.656
Sex			
Male	2.10	Low	.538
Female	2.17	Low	.637
Resident Status			
Native of the municipality	2.10	Low	.541
Non-native of the municipality	3.09	Low	1.32
Highest Educational Attainment			
High School Graduate	2.01	Low	.527
College Graduate	2.19	Low	.562
Graduate School Graduate	2.57	Low	1.00
Stakeholder Classification			
Local Tourism Officer	2.28	Low	.470
Coastal Barangay Council Member	2.01	Low	.610
Coastal Tourism Establishment	2.25	Low	.570

Inferential Data Analysis

Table 5 below in Mann-Whitney U test showed no significant difference in sustainable tourism awareness as to age of the coastal tourism stakeholders (U=303.00, p=.226). Also, no significant difference is found in sustainable tourism awareness to the

sex of the coastal tourism stakeholders (U=358.50, p=.178). Moreover, resident status of the coastal tourism stakeholders of Southern, Iloilo showed no significant difference in sustainable tourism awareness (U=20.50, p=.155).

Table 5
Differences in the Level of Sustainable Tourism Awareness of Sustainable Tourism of the Coastal Tourism Stakeholders according to their Age, Sex and Resident Status.

Category	Mean Rank	U	Z	Sig
Age				
Younger	34.67	303.00	.412	.226
Older	28.71	0		
Sex				
Male	27.36	358.50	1.346	.178
Female	33.44	0		
Resident Status				
Native of the municipality	29.91	20.50	1.42	.155
Non-native of the municipality	47.75	0		

Table 6 showed that there is significant difference in the level of awareness of sustainable tourism according to the highest educational attainment ($\chi^2 (2) = 13.276, p = .001$) where the graduate school graduates coastal tourism stakeholders has higher mean rank than college and high school graduates. Using pairwise comparison, significant differences were seen in the high school graduates and college graduates ($p=.008$) and high school

graduates and graduate studies graduates ($p=.002$). Also, significant difference was found in stakeholder classification ($\chi^2 (2)= 5.510, p =.000$) where local tourism officers has higher mean rank, with the results in pairwise comparison, coastal barangay council and coastal tourism establishments has significant difference ($p=.003$), also a significant difference in coastal barangay council and local tourism office ($p=.000$).

Table 6

Differences in the Level of Sustainable Tourism Awareness of Sustainable of the Tourism Coastal Tourism Stakeholders according to their Highest Educational Attainment, Municipality Located and Stakeholder Classification.

Category	Mean Rank	X ²	df	Sig
Highest Educational Attainment				
High School Graduate	22.59			
College Graduate	34.95	13.276	2	.001*
Graduate School Graduate	61.63			
Stakeholder Classification				
Local Tourism Officer	54.60			
Coastal Barangay Council	21.13	21.540	2	.000*
Coastal Tourism Establishment	36.92			

* $p < 0.05$

Table 7 showed no significant difference in sustainable tourism adherence as to age of the coastal tourism stakeholders ($U=328.00, p=.420$) using Mann-Whitney U test. Also, no significant difference is found in sustainable tourism awareness to the sex of the coastal tourism stakeholders ($U=354.50, p=.160$). Moreover, resident status of the coastal tourism stakeholders of Southern, Iloilo showed no significant difference in sustainable tourism awareness ($U=25.50, p=.174$).

Table 7

Differences in the Level of Sustainable Tourism Adherence of Sustainable Tourism of the Coastal Tourism Stakeholders according to their Age, Sex and Resident Status.

Categories	Mean Rank	U	Z	Sig
Age				
Younger	33.28			
Older	29.31	328.00 0	.807	.420
Sex				
Male	27.22			
Female	33.56	354.50 0	.141	.160
Resident Status				
Native of the municipality	29.93			
Non-native of the municipality	47.00	25.50 0	1.36	.174

Table 8 showed that there is significant difference in the level of adherence of sustainable tourism according to its highest educational attainment ($\chi^2(2) = 13.276, p = .001$), graduate school graduates has higher mean rank than college and high school graduates. Pairwise comparison showed that significant difference exist in high school graduates and college graduates ($p=.002$) and high school graduates and graduate school graduates ($p=.007$). Using pairwise comparison, significant difference were seen in

Southern ($p=.001$). Moreover, in stakeholder classification attainment ($\chi^2(2) = 24.957, p = .000$), a significant difference is found with local tourism officer having higher mean rank than coastal barangay council and coastal tourism establishment. With the pairwise comparison, it showed that coastal barangay council has significant difference with the coastal tourism establishment ($p=.000$) and coastal barangay council and local tourism office ($p=.003$).

Table 8

Differences in the Level of Sustainable Tourism Adherence of Sustainable of the Tourism Coastal Tourism Stakeholders according to their Highest Educational Attainment, Municipality Located and Stakeholder Classification.

Category	Mean Rank	X ²	df	Sig
Highest Educational Attainment				
High School Graduate	20.89			
College Graduate	36.83	16.726	2	.000*
Graduate School Graduate	49.50			
Stakeholder Classification				
Local Tourism Officer	47.30			
Coastal Barangay Council	19.38	24.957	2	.000*
Coastal Tourism Establishment	40.48			

*p<0.05

Table 9 showed no significant difference in sustainable tourism adherence as to age of the coastal tourism stakeholders (U=352.50, p=.680) using Mann-Whitney U test. Also, no significant difference is found in sustainable tourism awareness to the sex of the coastal tourism stakeholders (U=406.50, p=.524). Moreover, resident status of the coastal tourism stakeholders of Southern, Iloilo showed no significant difference in sustainable tourism awareness (U=20.50, p=.122).

Table 9

Differences in the Level of Coastal Tourism Issues and Concerns of Sustainable Tourism of the Coastal Tourism Stakeholders according to their Age, Sex and Resident Status.

Categories	Mean Rank	U	Z	Sig
Age				
Younger	31.92	352.50	.412	.680
Older	29.89	0		
Sex				
Male	29.02	406.50	.637	.524
Female	31.89	0		
Resident Status				
Native of the municipality	29.85	20.50	1.546	.122
Non-native of the municipality	49.25	0		

Table 10 showed that there is no significant difference in the level of coastal tourism issues and concerns according to its highest educational attainment ($\chi^2 (2) = 2.751, p = .253$ and stakeholder classification ($\chi^2 (2) = 3.775, p = .151$) as tested with Kruskal -Wallis Test.

Table 10
Differences in the Level of Coastal Tourism Issues and Concerns of the Tourism Coastal Tourism Stakeholders according to their Highest Educational Attainment, Municipality Located and Stakeholder Classification.

Category	Mean Rank	X ²	df	Sig
Highest Educational Attainment				
High School Graduate	26.81			
College Graduate	32.67	2.751	2	.253
Graduate School Graduate	39.63			
Stakeholder Classification				
Local Tourism Officer	38.40			
Coastal Barangay Council	26.28	3.775	2	.151
Coastal Tourism Establishment	33.98			

*p<0.05

Table 11 showed that there was a “high positive correlation” between the level of sustainable tourism awareness and adherence, $r=.768, n=60, p= 0.000$ and a “low positive correlation” between the level of sustainable tourism awareness and the level of coastal issues and concerns $r=.303, n=60, p= 0.019$. No relationship was evidenced in the level of adherence and the level of coastal issues and concerns $r=.128, n=60, p= 0.330$.

Table 11
Relationship of the Level of Coastal Issues and Concerns to Level of Sustainable Tourism Awareness and Level of Sustainable Tourism Adherence, and the Coastal Tourism Issues and Concerns of the Coastal Tourism Stakeholders in Southern, Iloilo, Philippines

Categories	Awareness	Adherence	Coastal Tourism Issues and Concerns
Sustainable Tourism Awareness		.000*	.019*
Sustainable Tourism Adherence	.000*		.330
Coastal Tourism Issues and Concerns	.019*	.330	

*p<0.05

CONCLUSIONS AND RECOMMENDATIONS

In view of the findings, the following conclusions were drawn:

1. The coastal tourism stakeholders in Southern, Iloilo, are older people and mostly females. They are natives of the municipality. Thus, they know the coastal destinations very well, and most of them have a high literacy rate being college graduates.

2. Sustainable tourism awareness is evident in the coastal tourism stakeholders, thus making them highly aware.

3. The high sustainable tourism adherence is a good indicator of the efforts of the local coastal tourism stakeholders in Southern, Iloilo. Those stakeholders with higher educational attainment have a significant impact on sustainable tourism practices. It is to highlight that the results showed the non-natives to be doing it better than the natives.

4. The respondents' low coastal issues and concerns are good indicators that they know they are doing their best to combat the issues and concerns they face in the coastal areas.

5. The tourism officers and with high literacy stakeholders are the persons who can spread more

awareness on the concepts of sustainable tourism.

6. Adherence to sustainable tourism was higher with graduate degree holders and the local tourism officers. Thus, it is imperative to develop programs and action plans for sustainable tourism in the coastal tourism establishments and local barangay council to work together.

7. Knowledge of the coastal issues and concerns is relevant to the coastal tourism stakeholders in Southern. The variables showed no significant differences, and the low coastal tourism issues and concerns are valid to the respondents.

8. To conclude, sustainable tourism awareness is relative to sustainable tourism adherence. Similarly, sustainable tourism awareness is relevant to the coastal tourism issues and concerns faced by the coastal tourism stakeholders. Sustainable tourism adherence may not matter in the coastal tourism issues and concerns as to the extent of the practices of the coastal tourism stakeholders limited to this study.

Based on the findings and conclusion, the following recommendations are advanced:

1. It is imperative to make campaigns for the younger population, knowing that the stakeholders are mostly older. They can be the movers of sustainable tourism in the coastal destinations in Southern, Iloilo.

2. Make more campaigns to heighten and develop plans to make sustainable tourism the way of life of coastal tourism stakeholders and coastal tourism destination community.

3. Develop strategies and plans to make sustainable development goals part of the development plans of Southern, Iloilo municipalities to uplift the practices in sustainable tourism in the coastal tourism destinations of the Southern, Iloilo municipalities.

4. A thorough study considering the objective measures of indicators for the coastal tourism issues and concerns is needed.

5. Local tourism officers must be the key stakeholders to uphold sustainable development principles through sustainable tourism, especially in the coastal areas. The high sustainable tourism awareness is relative to the implementation of plans and actions of coastal tourism stakeholders, thus fostering a more robust campaign on the grassroots level, the communities, the residents of coastal communities, is essential. Therefore, it is also crucial to measure the indicators contributed by the

residents of the local coastal tourism destination in Southern, Iloilo. It is proposed to have a follow-up study to identify the gaps and more relevant factors that may affect the coastal tourism issues and concerns in a destination.

6. Plans and programs for sustainable tourism to be led by the local tourism officers developing local barangay council's actions as partners of the coastal tourism establishment for sustainable coastal tourism as part of the priority. Sustainable tourism adherence is relevant because practices the actions are the most important. Therefore, studies on sustainable tourism practices are recommended.

7. It is imperative to identify in-depth indicators and qualitative data to see the coastal issues and concerns of Southern, Iloilo. Southern, Iloilo can develop practices that will also be relative to the mandate of UNWTO. Also, it is relevant is to check on the different predictors of these issues and concerns and identify the demographic and geographic/environment-related factors.

8. It is recommended that sustainable tourism awareness be heightened to increase sustainable tourism adherence in Southern, Iloilo coastal tourism destinations. It is essential also to address the practices to adhere to sustainable tourism

criteria set by Global Sustainable Tourism Council as it can reflect on the coastal tourism destinations' actions to combat coastal issues and concerns

impacting the local coastal tourism industry.

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