

THE INTERNATIONAL JOURNAL of ORGANIZATIONAL INNOVATION

VOLUME 6 NUMBER 4, APRIL 2014

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Information Regarding:

The International Journal of Organizational Innovation (IJOI),
The 2014 International Conference on Organizational Innovation, and
The International Association of Organizational Innovation (IAOI).

The International Journal of Organizational Innovation (IJOI) (ISSN 1943-1813) is an international, blind peer-reviewed journal, published quarterly. It may be viewed online for free. (There are no print versions of this journal; however, the journal .pdf file may be downloaded and printed.) It contains a wide variety of research, scholarship, educational and practitioner perspectives on organizational innovation-related themes and topics. It aims to provide a global perspective on organizational innovation of benefit to scholars, educators, students, practitioners, policy-makers and consultants. All past issues of the journal are available on the journal website. Submissions are welcome from the members of IAOI and other associations & all other scholars and practitioners. Student papers are also welcome.

For information regarding submissions to the journal, go to the journal homepage:
<http://www.ijoi-online.org/> To Contact the IJOI Editor, email: ijoinnovation@aol.com

The International Association of Organizational Innovation (IAOI) is the publisher of this journal. It also holds an Annual Conference (See Below). For more information on the **International Association of Organizational Innovation**, go to: <http://www.iaoiusa.org>

The International Conference on Organizational Innovation (ICOI)

The **2014 ICOI Conference** will be held in Manila, Philippines at De La Salle University, **August 12-14, 2014**. For more information on the conference and to submit a paper or to register for the conference, go to: <http://www.iaoiusa.org/2014icoi/index.html> and see the next pages.




The **2015 ICOI Conference** location is Jogja/Jogjakarta, Indonesia. Jogja is a famous tourist destination after Bali. For more information, please visit <http://www.yogyes.com/> Airlangga University will be the Host University.

2014 INTERNATIONAL CONFERENCE OF ORGANIZATIONAL INNOVATION (ICOI) AUGUST 12 – 14, DE LA SALLE UNIVERSITY, PHILIPPINES

INFORMATION PACK

For more information on the conference and to submit a paper or to register for the conference, go to: <http://www.iaoiusa.org/2014icoi/index.html>

							
 <p style="text-align: center;">Country</p>	<p>The Republic of the Philippines is a sovereign nation in Southeast Asia, lying in the west side of the Pacific Ocean. The Philippines is the 64th-largest country in the world, an archipelago of 7,107 islands that are categorized broadly under three main geographical divisions: Luzon, Visayas, and Mindanao.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: yellow;"> <th style="padding: 5px;">Area</th> <th style="padding: 5px;">Population</th> <th style="padding: 5px;">Capital City</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">300,780 sq km</td> <td style="text-align: center; padding: 5px;">96 million</td> <td style="text-align: center; padding: 5px;">Manila</td> </tr> </tbody> </table> <p>Its neighbors are Taiwan, which lies north across the Luzon Strait; the Celebes Sea separates it from other islands of Indonesia to the south; to the east it is bounded by the Philippine Sea; the island of Borneo lies southwest across the Sulu Sea; and Vietnam, which sits west across the South China Sea.</p>	Area	Population	Capital City	300,780 sq km	96 million	Manila
Area	Population	Capital City					
300,780 sq km	96 million	Manila					
	<p>The two official languages are Filipino and English. Filipino, which is based on Tagalog, is the national language. English is widely used and is the medium of instruction in many institutions of learning. The eight major dialects spoken by majority of the Filipinos are Tagalog, Cebuano, Ilocano, Hiligaynon or Ilonggo, Bicol, Waray, Pampango, and Pangasinense.</p>						

<p>People & Languages</p>	<p>Approximately 80% of Filipinos is Roman Catholic, making the Philippines the only predominantly Christian country in Asia. There is also a significant number of Protestants, Born-Again Christians, and Muslims.</p>
 <p>Currency & Foreign Exchange</p>	<p>The currency in the Philippines is the Peso (PhP) and the Centavo. 100 centavos = 1 PhP. Coin denominations are: 1, 5, 10, and 25 centavos, P1, P5, and P10. Bill denominations are: 20, 50, 100, 200, 500 and 1,000 pesos.</p> <p>Foreign currency may be exchanged at the airport, hotels, banks, authorized money changers, and many large department stores. Other than these places mentioned, exchanging money is strongly discouraged. As of January 2014, the conversion of US\$1 is approximately 45.50 pesos.</p> <p>Almost all major establishments: department stores, retail outlets, restaurants, hotels, and resorts accept major credit cards including Visa, MasterCard, and American Express. Personal checks drawn on foreign banks are generally not accepted.</p>
 <p>Trading Hours</p>	<p>Private and government offices are open from 8:00 AM to 5:00 PM weekdays and 8:00 AM till 12noon on Saturdays for private offices. Most banks are open from 9:00 AM till 3:00 PM Mondays through Fridays, but some banks located inside malls are open daily, with trading hours same as the mall. Automated Teller Machines (ATM) operate 24 hours daily. When banking in the Philippines, it is advisable to have your passport with you for identification.</p> <p>The post offices are open from 9:00 AM to 5:00 PM weekdays only. Stamps for postcards are usually available from the Concierge desk or souvenir shops at most major hotels.</p> <p>NOTE: The usual lunch hour is 12noon to 1:00 PM. Most offices are closed, but business establishments remain open.</p>
 <p>Practicalities</p>	<p>TIME DIFFERENCE Local time is GMT plus 8 hours.</p> <p>ELECTRICITY 220 volts, AC 60 cycles is the common standard. Two-pin flat blade plugs are used. 110 volts AC may be available in major hotels and in selected areas.</p> <p>UNIT OF MEASURE The Metric System is used in trade and legal transactions.</p> <p>TELEPHONE, MOBILE PHONE, INTERNET Telephone service is modern and you can direct dial anywhere in the world. Public phones require a minimum of one 5-peso coin for a local call. International calls can also be made using phone cards. Short-term mobile phone cards can be easily purchased. Most hotels offer computers with internet connectivity for free. Internet cafes and free WIFI are gaining popularity in commercial establishments.</p>



Passport/Visa

Visitors to the Philippines must hold a valid passport or travel document with a minimum validity of six months beyond the intended visiting period and present a return or outward bound ticket to their country of origin or to a next country of destination.

Do you need a VISA to enter the Philippines?

Starting August 1, 2013, nationals from 151 countries may enter the Philippines without a visa and stay for a maximum of thirty (30) days. Chinese Nationals, including citizens for Hong Kong and Taiwan, will need a special permit. To see the complete list of 151 countries, visit

http://itsmorefuninthephilippines.com/download/151_countries_covered_in_30_days_visa_free_entry.pdf



Health & Safety

WATER

Metropolitan Manila and many key cities and towns have ample supply of clean water, but in most places, tap water is not potable. For drinking purposes, it is strongly recommended that bottled water be used, and is widely available. It is also advisable to ask first, if the water used for ice in restaurants is purified.

CLIMATE & WHAT TO WEAR

The summer months of March to May are hot, humid, and dry, with temperatures reaching a high of 37°C, while the months of December, January, and February are cool (early morning temperatures in the low 20's).

The rainy season is from June to October and the months between July and September are characterized by typhoons.

Mosquito repellent or long-sleeved tops are good to have against bites. Sunscreen and sun-block lotion are good to prevent sun burns.

Light, casual clothes are worn for comfort in tropical weather. Shorts, flip-flops & short-sleeved shirts are the typical outfit for mall or sightseeing outdoors. Jeans/slacks, a shirt, a modest dress, and closed shoes are the typical outfit for watching movies or going to churches or museums: For formal occasions, men are encouraged to wear the Philippine Barong Tagalog. For women, cocktail dresses or long gowns are accepted and are more contemporary.

HEALTH REGULATIONS

The Philippines is fortunate to be free from epidemics. The country remains safe from SARS, bird flu and foot-and-mouth diseases.


If you're coming from an area where yellow fever has been reported, you'll need a certificate of vaccination. It is also advisable to be vaccinated against measles.



NON-SMOKING POLICY

Smoking is absolutely prohibited in enclosed public places. Smoking in bars and diners is allowed only in areas that are designated as smoking places.

SAFETY

Filipinos are known for being hospitable and helpful towards visitors. But as a precaution, visitors must exercise discretion when dealing with strangers. They are strongly advised to stay away

	<p>from dimly-lit streets, walking alone at night, avoid wearing flashy jewelry, and be mindful of their personal belongings in public places.</p>
 <p>Airport & Taxi from the Airport</p>	<p>The Ninoy Aquino International Airport (NAIA) is the airport serving the general area of Manila and its surrounding metropolitan area. It is located about seven kilometers south of the city of Manila, along the border between the cities of Pasay and Parañaque. NAIA is the main international gateway for travelers to the Philippines.</p> <p>NAIA Terminal 1 Terminal 1 currently serves the following carriers: Air China, Air Niugini, Asiana Airlines, Cathay Pacific, China Airlines, China Southern Airlines, Delta Air Lines, Dragon Air, Emirates, Etihad Airways, EVA Air, Gulf Air, Japan Airlines, Jeju Air, Jetstar Airways, Jetstar Asia Airways, KLM, Korean Air, Kuwait Airways, Malaysia Airlines, Qantas, Qatar Airways, Royal Brunei Airlines, Saudia, Singapore Airlines, Thai Airways International, Tiger Air, and United Airlines. Terminal 1 has consistently received very poor ratings due to limited and outdated facilities, poor passenger comfort, and crowding, but it will soon undergo a major make-over and will be rehabilitated as an “Airport City”.</p> <p>NAIA Terminal 2 Terminal 2 currently serves Philippine Airlines and Philippine Airlines' subsidiary PAL Express flights (to Bacolod, General Santos, Iloilo, Laoag and Tagbilaran) exclusively. The North Wing handles the international flights while the South Wing handles the domestic flights.</p> <p>NAIA Terminal 3 Terminal 3 currently serves All Nippon Airways, Cebu Pacific, PAL Express (except the aforementioned in Terminal 1), Tiger Air Philippines (international flights), Zest Airways (flights to Quanzhou and Seoul).</p> <p>NAIA Terminal 4 Terminal 4 currently serves Fil-Asian Airways, SkyJet, Sky Pasada, Tiger Air Philippines (domestic flights), Zest Airways (domestic flights and flights to Kota Kinabalu, Kuala Lumpur and Shanghai)</p> <p>AIRPORT TAXI Yellow airport taxis bring passengers from the airport to most destinations within the city. These taxis charge a flag-down rate of 70 PhP, plus an additional 4.50PhP for every 250 m. When leaving the airport, this is the only type of taxi available at the arrival level. Each departing taxi is registered by a dispatcher.</p> <p>Special coupon taxis are special taxis with fixed rates according to the destination. Coupon taxis serve various hotels in Metro Manila and most points within the city.</p> <p>A regular white city taxi from the airport costs between 100 – 250 PhP to most destinations within the city, depending on the distance. It is possible to get a white city taxi at the departure area</p>

	<p>when leaving the airport, but airport security have orders to prevent white city taxis from picking up passengers at the departure area, hence, you may do this at your own risk.</p>
 <p style="text-align: center;">Getting Around</p>	<p>WHITE CITY TAXI Air-conditioned taxis are usually found waiting at malls, restaurants, and hotels. The flag-down rate is 40 pesos and 19.63 pesos per km thereafter.</p> <p>RAPID TRANSIT SYSTEMS There are two different rapid transit systems in Metro Manila: the Manila Light Rail Transit System, or the LRT, and the Manila Metro Rail Transit System, or the MRT. Both systems operate from 5:30am to 9:30pm. The LRT system has two lines, the Yellow Line that runs along the length of Taft Avenue and Rizal Avenue, and the Purple Line that runs along Ramon Magsaysay Blvd from Santa Cruz, through Quezon City. Fare on the LRT ranges from 12 to 15 pesos, depending on destination. The MRT system has a single line, the MRT-3 or the Blue Line, located along Epifanio de los Santos Avenue (EDSA). Fare on the MRT ranges from 12 to 18 pesos depending on destination.</p> <p>BUS Air-conditioned and non-air conditioned (“regular”) buses ply all major routes in the metropolitan area. Majority of them do not have specific loading and unloading areas, except in EDSA. A passenger may just call the attention of the driver or bus conductor if he/she wishes to alight at a particular spot. For the air-conditioned bus the standard fare is 12 pesos for the first 4 kilometers, and 1 peso for every km thereafter.</p> <p>JEEPNEY The jeepney has become the symbol of Philippine culture due to its unique and colorful design. It is the cheapest and most popular mode of land transportation. They do not have specific unloading stations. One can just make a hand signal along the jeepney’s route to stop and ride it, or call out to the driver to alight it. The standard fare is 8 pesos for the first 4 kilometers and 50 centavos for every km thereafter.</p> <p>TRICYCLE and PEDICAB The tricycle (or “trike”) is a motorcycle with an attached passenger sidecar that can sit from 2 to 4 persons. The pedicab is a bicycle, also with an attached passenger sidecar. These modes of transport take you to your destination for a fare of at least 20 pesos per person.</p>
 <p style="text-align: center;">Conference Venue</p>	<p>The 2014 ICOI will be held at</p> <p>De La Salle University 2401 Taft Avenue Manila, Philippines 1004 Phone: +632 5244611 Website : www.dlsu.edu.ph</p> <p>Shuttle service between the conference venue and the recommended accommodations enlisted below shall be provided.</p>
	<p>Here are the recommended nearby accommodation for conference participants:</p>



Accommodation

CENTURY PARK HOTEL

599 Pablo Ocampo St., Malate, Manila, Philippines 1004
 This is a 4-star hotel with 500 rooms, and at a distance of 0.5 km from the conference venue.

Contact Person : Mr. Raymond Fujii
 Trunk Line : [+63 2 5285840](tel:+6325285840) or [+63 2 5285843](tel:+6325285843)
 Fax Number : [+63 2 528 1814](tel:+6325281814)
 Mobile Numbers : [+63 920 963 5411](tel:+639209635411)
 Reservation Email: rfujii@centurypark.com.ph
 Website : <http://www.centurypark.com>

ORCHID GARDEN SUITES MANILA

620 Pablo Ocampo St., Malate, Manila, Philippines 1004
 It has 89 rooms, and at a distance of 0.8 km from the conference venue.

Contact Person : Ms. Angela Marie Gutierrez
 Trunk Line : [+63 2 516 0888](tel:+6325160888)
 Fax Number : [+63 2 708 9417](tel:+6327089417)
 Mobile Numbers : [+63 915 7945586](tel:+639157945586)
 Reservation Email: orchidsales.amgutierrez@gmail.com
 Website : <http://www.orchidgardenhotel.com>

TRADERS HOTEL BY SHANGRILA

3001 Roxas Boulevard, Pasay City, 1305, Philippines
 It has 312 rooms that offer superb views of Manila Bay and at a distance of 1.2 km from the conference venue.

Contact Person : Ms. Ika Rafeaeli Galsim
 Trunk Line : [+63 2 528 2613](tel:+6325282613)
 Fax Number : [+63 2 528 2688](tel:+6325282688)
 Mobile Numbers : [+63 920 9635411](tel:+639209635411)
 Reservation Email: ika.galsim@tradershotels.com
 Website : <http://www.shangri-la.com/manila/traders>



Shopping

Manila and the metropolitan area is a shopper's haven. Many big malls are located in Manila and Makati. Malls open at 10:00am and close at 8:00pm daily. Varied products ranging from clothes, footwear, electronic gadgets, equipment, cosmetics, Philippine products and souvenir items are available. The malls have theatres and restaurants too. The shopping malls that are near the conference venue are Harrison Plaza, Robinson's Ermita, and SM Manila. The other nearby malls are the Mall of Asia in Pasay, and in Makati, Glorietta, Greenbelt, SM Makati, Landmark, and Power Plant Rockwell.

Duty-Free Philippines near NAIA is the country's largest duty-free outlet.

"Bring Your Own Shopping Bag" is strongly encouraged, to minimize the use of plastic (non-environment friendly) bags.

There are also flea markets in Baclaran and Divisoria where prices are reasonably low and still be able to haggle. Visitors who wish to shop in these flea markets are strongly advised to go with company familiar with the area, and be very careful of pickpockets.

CARLOS CELDRAN'S WALK THIS WAY TOUR OF INTRAMUROS

This 3-hour tour takes you through a leisurely stroll around a selection of Intramuros' Fort Santiago and Plaza San Luis and takes in an ironically irreverent yet informative analysis of Philippine architecture, culture and history; society from Pre-Hispanic Manila until the present, including UNESCO World Heritage enlisted San



Sightseeing

Agustin Church. It is a stand-up comedy, performance art and melodrama in the guise of a walking tour. Fee is 1100 pesos/adult

VILLA ESCUDERO DAY TOUR

Villa Escudero is located in Tiaong, Quezon which is a pleasant 2-hour drive from Manila, through scenic countryside. Visitors will have a glimpse of historic colonial plantation and rural life of the 1800's. The day tour includes taking a guided tour of the AERA Memorial Museum, then enjoying a leisurely carabao-drawn cart ride accompanied by musicians and singers serenading them with Filipino folk songs on the way to the resort proper. Visitors can take their lunch at the Labasin Waterfalls restaurant, a unique feature of Villa Escudero. Fee is 1250 pesos per adult, Monday to Thursday, and 1400 pesos on weekends (excluding the round-trip transfer from Manila)

TAGAYTAY DAY TOUR

Tagaytay is a popular tourist destination, about 50 km south of Manila. It has a number of natural, historical, cultural and man-made attractions. The town of Tagaytay gives a spectacular view of the Taal Volcano and lake, and there are various activities available for visitors. With its cool climate and clean air, Tagaytay City is a place for leisure activities such as horseback riding and sailing, and there are breath-taking views.

CORREGIDOR DAY TOUR

Corregidor Island is one of the important historic and tourist sites in the country as it played an important role during the invasion and liberation of the Philippines from Japanese forces during World War II. Guests will need to check-in at the terminal 0700. Boarding the ferry bound for Corregidor Island is at 0730. During the tour, an optional Light and Sound show at Malinta Tunnel is offered as well as other activities like Rocket Zipline, Hike, Kayak and ATV. Buffet lunch is served at Corregidor Inn.



Filipino Cuisine

Philippine cuisine is mostly influenced by the food preparations and cooking of the Spanish, Chinese, American, and other Asian countries. The following dishes are the most popular in the Philippines:

ADOBO - chicken and/or pork in garlic, vinegar, oil, black pepper, and soy sauce, either braised or cooked until dry

KARE-KARE - variety meats (oxtail and tripe) and vegetables (eggplant, string beans, banana heart, radish) cooked in peanut sauce and annatto water, served with shrimp paste called ba-goong

LECHON - whole roasted pig

LUMPIA - spring rolls that may be fresh or fried. May be a mixture of vegetables and meat, or 100% vegetarian

SINIGANG - meat or seafood cooked in sour broth (usually tamarind or guava or miso)

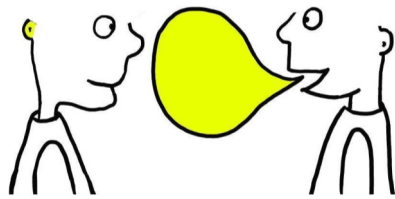
DINUGUAN - meat spicy stew cooked in pig's blood. Best served with a local rice cake called puto

And the most popular desserts are:

HALO-HALO - a dessert made with shaved ice, evaporated milk, and sugar with additional ingredients like ice cream, mashed purple yam, caramel custard, plantain bananas, jackfruit, red beans, tapioca and pinipig

BIBINGKA - a hot rice cake optionally topped with a pat of butter, slices of white cheese, salted duck eggs, and grated coconut

BUKO PANDAN - a cold dessert consisting of sweetened grated strips of coconut with gelatin, milk, and the juice or extract from pandan leaves.



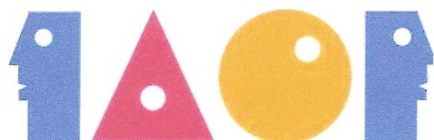
Some Filipino Words & Phrases

English	Filipino
Good Morning	Magandang Umaga
Good Afternoon	Magandang Hapon
Good Evening	Magandang Gabi
Thank you very much	Maraming Salamat
How are you?	Kumusta ka?
How much is this?	Magkano ito?
The food is delicious	Masarap ang pagkain
I love you	Mahal kita

MABUHAY!

It's More Fun in the Philippines

**We look forward to seeing at the ICOI Conference
and we hope you enjoy your stay.**



THE 2014 BOARD of EDITORS

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A SPECIAL SECTION ON:

*RESEARCH AT THE UNIVERSITY OF THE DISTRICT OF COLUMBIA, USA
UNDER THE SUPERVISION OF PROFESSOR SERGEY IVANOV, PH.D.*

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International Journal of
Organizational Innovation

APPLIED ORGANIZATIONAL RESEARCH: SCHOLARSHIP AT THE SCHOOL OF BUSINESS AND PUBLIC ADMIN- ISTRATION, UNIVERSITY OF THE DISTRICT OF COLUMBIA

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Abstract

This is a brief introduction of a focused scholarly and applied advanced graduate organizational research endeavors undertaken at the School of Business and Public Administration, University of the District of Columbia, Washington, DC, USA. The university is rapidly expanding, and is looking to accept graduate students interested in this type of advanced organizational research, while pursuing their Master in Business Administration (MBA) or Master in Public Administration (MPA) degrees. The school is also potentially exploring creation of a doctorate program focused on advanced organizational research. The school's website is www.udc.edu/sbpa.

Key Words: Organizational Research, Elliott Jaques, W. Edwards Deming, Survey Methods

Introduction

About School and University

School of Business and Public Administration, University of the District of Columbia, is located in Washington, DC, capital of the United States. The college is the only public university in the capital of the United States, providing cutting-edge

and affordable graduate and undergraduate education to the residents of the District of Columbia, as well as non-resident and international students, having become a diverse melting-pot representing America in all of its great colors and dimensions.

Advanced Organizational Research

The advanced organizational research endeavor started in 2011, and has been an ongoing effort by faculty and interested graduate students. The research focuses on scientific studies of modern organizations in the United States and abroad. The work is based on scientific studies of giants in the field (some of them are mentioned in the Acknowledgement section below). This effort is led by Associate Professor, Sergey Ivanov, Ph.D., faculty member at the School of Business and Public Administration, and is widely supported by colleague faculty members, administration, and students.

As societies slowly enter the 21st century, the field of organizational science needs more scientific contributions in order to make the organization, and through it, the entire civilization, a better place. A better place to raise families, healthier environment, reestablishment and recreation of a genuine community and dialogue, pride of workmanship and self at the workplace, ability to contribute and innovate.

We also hope that through this applied research, our students would grow professionally, having acquired useful and applicable management and organizational consulting experience, while understanding, using, and appreciating a scientific method to their business or scholarly undertakings.

Overall, we hope that our contributions, in the long-run, would help organizations and executives make good strategic decisions towards people so that the organization of the future may achieve greater horizons than in the previous centuries.

Acknowledgments

Giants of Thought

Without standing on the shoulders of extraordinary giants of thought, this continuous graduate research endeavor at the

University of the District of Columbia would not have been possible. The scholarly and professional efforts of Drs. Elliott Jaques, W. Edwards Deming, Jerry B. Harvey, Max Weber, James J. Lynch, Hannah Arendt, Alfred D. Chandler, Kurt Lewin, M. Scott Peck, Norman F. Dixon, Frederick Winslow Taylor, Frederick Herzberg, Gordon Lippitt, Stanley Milgram, Niccolo Machiavelli, Albert Einstein, Muhammad Yunus, Wilfred Bion, Mary Parker Follett, Douglas McGregor, Ignaz Semmelweis are just some heroes who have made this work possible.

Many others cannot be mentioned, but their exceptional and courageous work enables us, today's scholars, to continue noble science-grounded efforts at finding better and innovative organizations and possibly societies that benefit and include everyone.

School and University

This ongoing research effort has been made possible by the faculty, students, and staff of the University of the District of Columbia.

Dr. Sandra Grady Yates, Dean of the School of Business and Public Administration has always been an avid supporter of research and scholarship of all kind at the school and university.

The author of two books and numerous journal articles, Chairperson of Management Department, Dr. Hany Makhoul, has always inspired inclusive and useful management research.

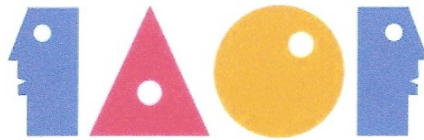
Faculty colleagues and students have created a good family-like supportive atmosphere to engage and succeed at almost any endeavor undertaken, ultimately creating a nourishing, welcoming, and scholarship-filled environment for faculty and students to engage in research and advanced professional activities.

For More Information:

To learn more about the *University of the District of Columbia* and to join the organizational research endeavor at the *School of Business and Public Administration*, please visit www.udc.edu/sbpa.

Additionally, you may read about Professor Ivanov's research on his website, at www.SergeyIvanov.org.

Dr. Ivanov publishes extensively in the *International Journal of Organizational Innovation* (IJOI), as well as other peer-reviewed scholarly journals, and often presents at the *International Conference of Organizational Innovation*, www.iaoiusa.org, and other national and international conferences and meetings.



SATISFYING INTERNAL CUSTOMERS:
HOW TO IMPROVE FACILITY MANAGEMENT QUALITY
AT A UNIVERSITY

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Abstract

This article examines the Office of Planning and Facility Management at a prestigious American university for the purpose of identifying areas that can be further developed to enhance the quality of service delivered by the organization. The research isolates the identified organizational concerns then analyzes them to offer comprehensive corrective solutions to eliminate the departmental weaknesses in order to promote customer satisfaction, employee growth and development while initiating a fundamentally secure approach to completing organizational task in a strategically accountable fashion. Primary data was collected from a sample consisting of the departments' managers and employees, faculty members from other departments and students of the university. The surveys revealed three areas within the organization that serve as major barriers to quality service facing the department: training, organizational structure, and technology.

Key Words: organizational concerns, customer satisfaction, barriers to quality of service, growth & development, elimination of departmental weaknesses, quality of service

Introduction

The Office of Planning and Facility Management consists of two separate departments. They work together, under the same umbrella, as a cross functional team at this particular university. The office of Planning consists of Architects, Engineers,

Project Managers and Administrative Personnel who are responsible for the start to completion coordination, planning and design of new construction, remodeling and renovation of facilities on the campus. Facilities Management (FM) consists of managers, skilled tradesmen, mechanics, and technicians who work in teams assigned to specific zones on the campus in order to

perform maintenance, inspections and repair of facilities and facility equipment. This article concentrates on researching the latter of the two grouped departments to identify and take advantage of opportunities to further the quality of service.

Deming Analysis of Current Work Processes

When trouble is detected or reported, a Work Management (WM) staff member generates a work order ticket, a FM employee assesses the problem, and performs minor repairs if necessary or transfers the ticket to a Facility Manager to be outsourced to a contractor if the project is considered to be a mid-sized to large project. Any project that costs more than \$5,000 in labor is considered a mid-sized project. This method as W.E. Deming (1986) states robs the hourly worker of his right to pride of workmanship (p.24). Tradesmen are interested in practicing their craft, therefore employers should permit them to display their talent capacity through overcoming challenging assignments within their scope of work.

This recommendation allows employees to see tangible results created by their own hands instilling a sense of pride and accomplishment in the worker. A sense of achievement in tradesmen promotes quality craftsmanship; which is in the best interest of the employee since he or she will be accountable for the work performed as well as the maintenance of it.

When a request is submitted for new construction or renovation, a Facility Manager obtains bid proposals from three contractors, then awards the contract to the lowest bidder. The project is then initiated, planned, executed, controlled and closed out by a Project Manager. This approach goes directly against the fourth of the 14 Points for Management in which W.E. Deming (1986) insist to “end the

practice of awarding business on the basis of price tag” (p. 23). Awarding contracts to bidders should not be decided strictly by price; quality, service and reliability should be considered as well. Selecting the highest quality contractor requires managers to compare each option through a benefits cost analysis to ensure that the expected benefit is achieved from the investment and the benefits outweigh the cost.

Work Management

A survey was designed to collect the perceptions of managers and workers within the FM department, staff members external to the department, and the staff of the student-run university newspaper. The survey intended to better understand the work environment of the department, the structure of the organization, the internal customer’s perception of FM in terms of response time, quality of service and ideas to strengthen the reputation of the department.

Student employees from the campus newspaper said that other students claimed to have created a FM work order ticket, but the work was never performed. However when they called Facilities to check the status of the ticket it was reported to them that the work order had been closed. Work Management employees admitted that sometimes maintenance personnel do not close out their work tickets or report them as being complete. The Work Management staff has a quota to close out or complete 100 percentage of the work orders that are generated within 30 days of creation. One of the Work Management employees reported that “sometimes at the end of the month if I see a ticket that is not complete but should be finished by early next month I’ll go ahead and close it out for this month even though the work is not yet complete.” Which in turn gives false

records and inaccurate accounts of productivity. However, since these employees are pressured to meet certain quotas of service some employees become innovative in their approach to increasing productivity. As W.E. Deming mentioned in his Red Bead Experiment (1992), pressure to meet a numerical goal can drive some people become other than honest; not simply because they are dishonest people but out of fear. People fear being reprimanded for “underperforming” or receiving unfavorable remarks on their annual performance reviews; which Deming views (performance reviews) as a management disease. It is fair to expect this type of result when production is promoted over quality. The department should change its goal from closing out 100 percent of the generated tickets in 30 days to achieving 100 percent customer satisfaction. Current work matrix, thus, is meaningless, and possibly even harmful because the data are corrupted. FM quality is about meeting the needs of the client not patting backs for achieving goals void of quality.

Training & Education

What stood out most from the analysis was the lack of relevant fundamental training received by the FM employees. Some of the technicians claimed to have never received any formal training on the systems that they are required to maintain. Their current knowledge about the systems functionality and required maintenance exist from experiences with similar yet older models, which they acquired while employed elsewhere. One Security Systems Technician stated that during his 15 month tenure with the university that he was “scheduled for three training sessions, none of which were more than one day in length and none of them enhanced my skills or creditability.” Several other mechanics, technicians and craftsmen were surveyed to understand how they viewed

their positions and how they could increase their quality of service. Not surprisingly more than half of the workers mentioned needing and wanting to receive meaningful training. The Facilities department should invest in an ongoing employee training program. The program should be relevant to what the employees do and lead to something tangible, valuable, and empowering such as a license or certification. Implementing such a program can expand the knowledge base of the employees, increase productivity, and save the department money by reducing its dependency on contractors while simultaneously empowering the workforce resulting in greater pride in workmanship.

Outdated Technology

Students, faculty, and staff members have complained in the past that Facilities is slow to resolve issues, does not communicate well with other faculty members, and the process of generating work request or obtaining work request status is other than transparent.

The use of limited, outdated work management software seems to be creating some problems for this section. The current system is not transparent for the customer nor does it communicate with technicians; it’s more of a ticket generating systems than a work managing system. The department should invest in a more modern powerful software system that allows the customer to update tickets, check the status and communicates with technicians in real time.

Organizational Structure

Evaluation of the hierarchical structure of the Planning and Facilities management department reveals a pyramid arrangement that is four layers deep in some sections and five layers in others. The custodial branch dominates the diagram with

its confusing and conflicting hierarchy. There are 11 custodial supervisors and 2 managers. One manager is on the same layer as 7 supervisors and 4 of the supervisors are on the same layer as the workers; it makes very little sense.

Several of the managers admitted that they are not even sure how the department is structured or who they are lateral with. The Associate Director of Resource Management maintains the organizational chart. His first response upon being asked for a copy of the departmental structure was "Sure!! Which one do you want? We have a couple of them, depending on what you want it for." This is a sign that employee rolls are not well defined and the department does not have a strategic approach to accomplishing task.

According to Clement (2013) managers of a successful organization should "define the right number of levels in your organization and establish valuing adding work at each level, including time frames in which these levels should operate" (p.22). The department should establish a well-defined unique organizational chart that is designed to produce high quality customer service and maintenance with a closed loop feedback system that ensures customer satisfaction.

New Leadership

The department hired a new vice president at the beginning of the year. He stated in an email to the department that

one of his main goals is to "effectively lead the staff to a culture of continuous improvement." He also recognized that while the Office of Planning and Facilities Management had numerous responsibilities, "it is imperative that we set clear expectations and priorities for each mission area and effectively communicate those expectations to our staff." It appears that he may have the right idea with establishing a culture of continuous improvement, setting expectations and enhancing communication. Changing the culture of an organization can be a very difficult, tedious maneuver to pull off. The new VP was not available to participate in the survey, but if he were, the two questions that would need to be addressed are; "What methods do you intend to use in implementing a culture change in the organization?" and "In what time frame do you anticipate accomplishing this goal?" (Deming, 1994).

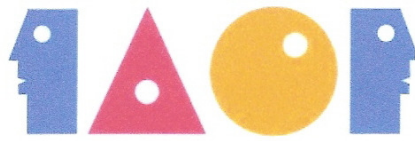
Conclusion

The university's Facilities department needs to establish Deming's constancy of purpose within the organization towards continuous improvement, invest in technology to improve work management capabilities, enhance the relationship with other departments within the university, and finally invest in an ongoing empowering and meaningful training program. These adjustments would increase the quality of service of the department resulting in a more talented workforce and happier customers.

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ENHANCING PRODUCTIVITY OF A FIRM:
CASE OF A RESEARCH ORGANIZATION IN UGANDA

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Abstract

In this study, a research effort was made to determine what factors are important in enhancing productivity of a firm. Survey results demonstrate that most people identify relevant training as an important factor in increasing productivity of a firm.

Key Words: Productivity, Enhancement, Training

Introduction

The Research Organization founded in 1948 with the objective of providing evidence based policy solutions to the pressing questions of policy makers, through economic and statistical research. Research organization receives a bigger portion of its funding from the African Capacity Building Foundation (ACBF) and another portion from the government and the rest from its own means through commissioned studies.

The Research Organization (RO) is located in Africa. It constitutes 58 employees of which 40 are the researchers the rest (18 employees) are from human resources

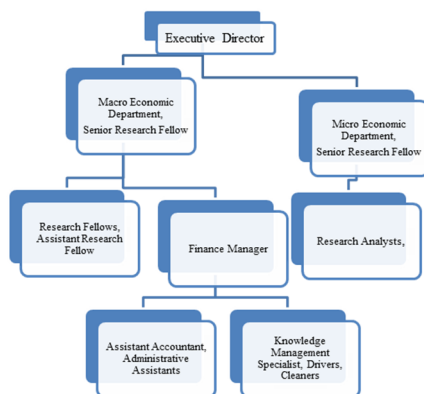
and administration staff. The executive director is the head of the organization, deputized by principle research fellow and three senior research fellows, followed by research fellows and research analysts. While the human resources and administration department constitutes eight administration assistants and three information management specialists.

The Research Organization (RO) has four levels of organizational hierarchy. Level IV Executive Director (ED): Level IV leader is one with responsibilities of diverse constituencies (Jaques, 1992). In this case the leader heads the two departments (Macro and Micro Economic Departments).

The Executive Director's (ED) roles range from developing pathways in order to ensure the Centre achieves its overall objective of providing quality research projects to help answer policy questions facing decision makers in Uganda, through evidence based research. To achieve this mission, ED with the help of the two heads of departments, develops training programs to enhance the potential of the researchers as well as ensuring they recruit competent people with the capacity to add value and get the job done.

The ED oversees the work done by the heads of both Macro and Microeconomic departments. Thus, the heads in these two departments depend on the executive director for guidance. The Executive Director works as a liaison between the board of directors and the rest of the organization and also ensuring that the Centre has enough funding for at least the next 2 years at all time.

The Hierarchical Structure at the Research Organization



Unless otherwise, funding is guaranteed at RO if accountability on use of the funds is provided to the funders like the Africa Capacity Building Foundation (ACBF), which is the main contributor and the government, a smaller percentage of the funds comes from RO own initiatives through commissioned studies. Often tasks come through and from the ED, who then decides which department is best suited to

handle a task. Has a time horizon of 2 to five years, has a felt fair pay of six times that of stratum one.

Level III Senior Research Fellows (SRF's) and heads of the Macro and Micro Economic departments

Senior Research Fellows (SRFs) know all their subordinates to the extent that they can tell who has what level of competence to perform a particular task better. The SRFs provide support to the junior researchers in a way that mentors them so they grow in their careers and achieve greater performance within the organization. In doing so, the SRF can tell which among their subordinates has better analytical skills and can finish up a task that requires advanced skill in a given time frame), which subordinate would need some help on a particular task and to what extent and generally to what degree of capability each subordinate can perform. At the RO, direct subordinates to the Senior Research Fellows are the Research Fellows, Assistant research fellows and Research Analysts.

Level II Finance Manager and the Research Fellows/Assistant Analysts

Finance Manager heads the Administration/Support staff and supervises the knowledge management Specialist, Assistant Accountant, Administrative Assistants, Drivers and cleaners. All these people get a lot of their tasks from the finance manager. Unlike other organization were the finance manager's biggest role is to ensure they raise enough money to finance the organization's activities. In RO, the role of raising funds directly falls under the Executive director as discussed above. The following roles are performed by the finance manager.

- (i) Allocates resources in a way that ensures optimal usage. With this role, the Executive director has to ensure smooth

flow so as to provide checks and balances. Under this role, the finance manager has to mitigate the variable costs and also ensure the fixed costs per unit are low. This allows the organization become more sustainable in periods of less funding from the government and the African Banking Institute.

(ii) Preparation of financial statements namely the cash flow statements, Balance sheet and the income statement. Oversees the work performed by his subordinates and providing them with the support to effectively perform well on their jobs.

(iii) The Research Fellows/Research analysts collect and analyze the data and write reports with direct supervision of the Senior Research Fellows. The longest task for the Research fellow/Research analysts can be about four months for example collecting data especially in rural areas can take a while, then checking for data consistency takes patience or completing a report on a particular project. The time span for level II is 3 months to one year.

Level I

(iv) Where level one constitutes mainly those who perform routine tasks and has a time span of one day to three months. In this level, I included Knowledge Management Specialist, Assistant Accountant, Administrative Assistants, Drivers and the cleaners. For instance a driver may drop off a researcher to a conference meeting (which could take like 30 minutes to one hour within the capital city), comes back to the office to pick up another researcher or may wait for the researcher until the meetings is done and drop him/her at whatever destination. In other incidences, drivers take the researchers to field work studies (this can take like a three days to a week or a month depending on the length of the task). So within one day a driver will have done several of the short tasks as mentioned above each could be taking like

on average 30 minutes or one to three hours if it's outside the capital city.

(v) While an Assistant Account reconciles the organizations accounts with several banks in a day and also has to verify vendor supplies before payment is furnished, prepare financial statements with the guidance of the Finance Manager, maintain and manage records of day to day transactions, for example the petty cash. The Assistant Accountant may have to do several related petty cash transactions in a day.

(vi) Roles of the knowledge management specialists include cataloging reading materials in the library so that it is easier for researchers to find them. They often provide reference services to RO staff and other users, assists with data entry and updating of the office data base and coordinate RO conferences with other organizations, for example the Ministry of Finance, the government and the United Nations, among others with the help of the researchers.

Problem Statement

The Think Tanks Report, 2009, ranked Research Organization as the 7th out of 25 Think tanks in Africa. The same report, in 2011, ranked RO as the 16th out of 30 Think Tanks in Africa. Could the decline in rankings be due to decline in quality of the research reports or fewer reports getting to be published or a combination of the two or something else? In this study, an effort will be geared towards finding out what are some of the factors that are important in enhancing the productivity of the Research Organization. Several factors may be important in explaining the decline ranging from, lack of adequate training, fear or little engagement of the staff members (especially the junior staff) which could result in communication break down and hence lead to little or no innovation

which is crucial in bringing about positive change in organization (Deming, 1993).

How the Organization Operates

At the RO, a research study is either initiated (where by a researcher or groups of researchers come up with a research idea or it can be commissioned (this means that an organization requesting RO to conduct a study on its behalf pays RO for conducting the study). Ideally one's work size would be measured by the quality and amount of research studies that have been undertaken say on an annual or semi-annually or quarterly basis. But some research projects do require more time to do than others. Often the more papers your author or co-author the more you get reimbursed in terms of extra allowance on top of your salary. This is supposed to be viewed as some initiative that enhances work productivity. Thus if you have poor analytical skills, the chance that you miss out or get very little from the extra allowances are very high. Indeed, many of those with good analytical skills find it hard to share knowledge with those labeled as not being very analytical researchers. It is possible that the reason some researchers are not good with the analytics is to a greater extent a problem from the system than it is from the researchers. Indeed (Deming, 1993) suggests, that 94 percent of the troubles in an organization come from within the system while 6 percent are attributable to special causes (that is to say they come from outside the system or organization).

Methodology (Questionnaire)

With the exception of questions 2 and 3 that had answer choices to choose from, all the other questions were open ended.

1. How long have you worked for this organization?

i. 1-2 years

ii 2+-5 years

iii 5+-10 years

iv.10 years & above

2. What is your highest level of education?

1. College 2.Bachelors 3.Masters 4 Doctoral

3. How often would you report a problem to your immediate manager or the one above him?

i. I do not report

ii rarely report

iii report sometimes

iv I always report

4. What steps are needed to improve quality of research papers?

i. Need for internal peer reviewer

ii. Relevant training

iii. Present papers to big forum for comments

b. internal communications (collaboration on work project)

i. regular meetings/updates on Centre activities

ii. Encouraging researchers to work together on projects

5. Does training and retraining in any operation in your company teach the requirements of the next operation?

i. Yes, with respect to work on poverty analysis but not on other areas

ii. Yes, but frequency needs to be increased

iii Not really, should avoid duplication except for new employees or those who need to refresh

6. a. How do you distinguish between your quality as your customer perceives it and quality as your manager and work force perceive it?

- i. Quality of work is regarded highly by manager/staff
- ii. On Poverty, customer thinks it's of high quality
- iii Refer to senior researcher

b. how does the quality of your service, as your customer sees it, agree with the quality that you intended to give him?

- i Not really in agreement except for work on poverty
- ii. Refer to senior researcher
- iii. Customer gets more and our work is rated highly by independent agencies

7. Do you depend on complaints from customers to learn what is wrong with your service?

- i. No mechanism to track and assess the complaints and to respond to them.
- ii. At times customers can query if TOR are not properly followed then we address them.
- iii. Refer to senior researcher

8. Are training courses relevant to your daily work?

- i. yes, because they enable us become better performers (give us more skills to analyze data)
- ii. Generally good, only if we could have more.
- iii. Sometimes

9. Are training opportunities fairly allocated across employees?

- i. sometimes there is the assumption some employees have adequate training from school hence no need of more
- ii more training courses go under the poverty analysis area
- iii. Training courses allocated based on need

10. Does supervisor support employee learning outside the job? (Say continuing

education, participation in professional associations)

- i. Yes but at your own cost like tuition (still have to perform your job if it is an evening program if out of the country it's a leave without pay
- ii. Refer to senior researcher

Research Findings

In this study, a decline in quality rankings of the organization prompted an investigation as to whether it was due to quality and what factors are important in enhancing quality so as to improve an organization's productivity.

Respondents were asked to provide ways on how to improve the quality of the research papers. Of the ten respondents interviewed, 20% favor having an internal peer reviewer, 50% prefer relevant training and 30% favored presentations in bigger forums where they can get feedback on how to improve upon the research papers. These results are displayed in Figure 1. below.

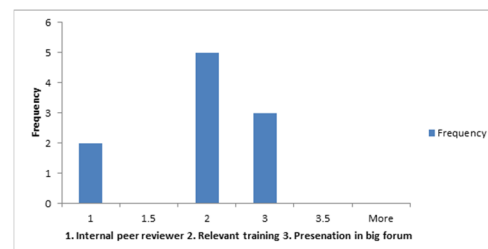


Figure 1. Steps needed to enhance quality of Research Papers

Respondents were also asked to provide their views on how training and retraining in any operation teaches the requirements for the next operation and 80% of the respondents believe that training and retraining in any function teaches them how to perform future functions better. Of these, 30% believe training and retraining helped them with their future assignments especially poverty related assignments and 50% responded that training

and retraining does indeed teach them requirements for the next job operation but that they needed to do it more frequently. The results are displayed in Figure 2. below.

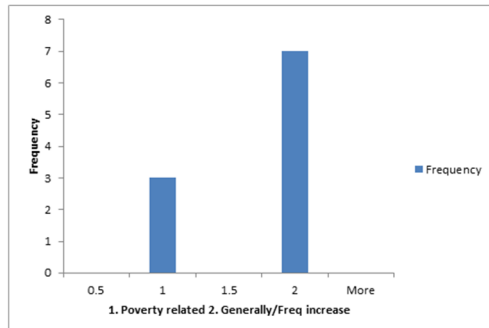


Figure 2. Training and Retraining Effect on next Job Assignment

Overall, 80% of the respondents believe that the training courses offered are relevant to their work. Of these, 30% believe that the training courses enable them perform better by giving them additional skills, and 50% said that training courses were relevant and only wished they could have them more frequently.

Respondents were also asked to provide their perception on the relevancy of the training courses. Fifty percent responded that the training courses were relevant and preferred that they could have them frequently. While 30 percent mentioned that training courses gave them additional skills how to analyze data. And, 20% responded that training courses were relevant sometimes not all the time. Below and the results displayed on a histogram.

In a related incidence respondent were asked about their perception as to whether their supervisor would support learning outside the job like continuing education or participation in professional studies. Majority (90%) responded that their supervisors would be willing to support them acquire additional training outside the job only if they met their tuition

and if working outside the country they seek leave without pay.

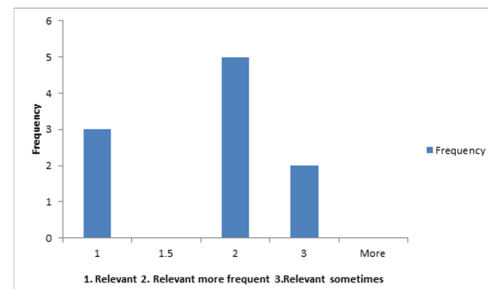


Figure 3. Employee perception on the Relevancy of Training Courses

Figure 4. below shows the extent of fear in the organization. Overall 20% percent of the respondents mentioned they do not report a problem in the organization while 40% said the rarely reported a problem compared to 30% who reported a problem all the time. This implies majority of the respondents may not report a problem in this organization which can lead to communication breaks down and hence curtailing positive change or innovation. Indeed, when respondents were asked on how best to improve communication in the organization, 70% choose encouraging researchers to work together on projects while 30% believe communication can be improved through regular meetings/updates on center activities.

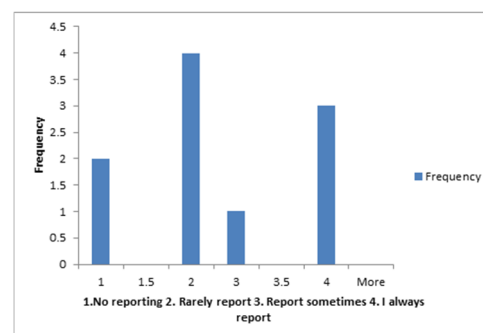


Figure 4. Provides a Clue on Extent of fear in an Organization

Conclusion

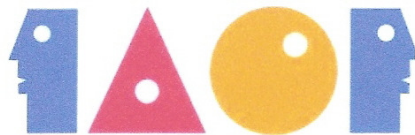
Results from the survey show that one way to improve quality of research papers is through relevant training (50%). Also, 80% of the respondents believe the training and retraining teach requirements of the next job. Of these, 30% believe training and retraining help them with next requirements of the job (poverty related assignments). While 50% responded those training courses were relevant to their jobs

and 30% mentioned that training courses gave them the skills to analyze data.

Also analyzed is the extent of fear in this organization, with 20% of the respondents mentioning they never report a problem and 40% percent say they rarely report a problem. This is likely to lead to communication breakdown. However, respondents also believe that one important way to improve communication in the organization is through encouraging researchers to work together on the projects.

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WHY SMALL ORGANIZATIONS TURN DOWN RESEARCH REQUESTS: A CASE STUDY

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Abstract

Research is important for any organization, small or big. Research allows the organization to check how it is doing, and potentially improve current operations. Organizational analysis could be one of the main drivers of continuous improvement because it identifies the organization's gaps, and lays out a realistic plan to improve the existing system and build new ones for the future. In this paper, we explore reasons why small organizations may deny research requests. By preventing research, executives and managers keep their organizations operating at a status quo level, hindering future growth and development.

Key Words: Organizational Research, Organizational Analysis, Organizational System, Continuous Improvement, Accountability, Optimization, Research Denial

Introduction

This case study researches a non-profit organization whose programs and total revenues grew 50% from one year to another in years 2011-2012. The yearly budget was already over 10 million dollars in 2011, before the exponential growth. The support team, through one of its business units, struggled to adequately

support these programs. Reports and deliverables lagged up to the point it took more than six months after the due date to deliver. The accounting and finance manager and staff members spent their time trying to close this process instead of focusing on improving daily activities. We wanted to find out what went wrong and how to avoid such situations in the future. In

2013, Pembele sent request for research proposal, and discussed it with the manager, who was quite optimistic about approving the proposed research. A month later, Pembele was denied the opportunity. Having completed preliminary research, the authors, subsequently, decided to explore the reasons why this organization turned the research request.

Methodology

To conduct this study, we used Organizational Theory developed by Deming (1992, 1993). Having conducted preliminary research, we tried to correlate the finding against why the organization has turned down the research request. In addition to Deming's organizational theory, the authors also used organizational principles developed by Jaques (2002), and Ivanov (2011, 2013).

Findings

Lack of constancy of purpose

Any organization, big or small, faces many challenges. To navigate through challenges with relative ease, an organization must be organized in a system setting. A system is a network of interdependent components that work together to try to accomplish the aim of the system (Deming, 1993). The aim of the system is what creates constancy of purpose. The aim, precedes the creation of the system, it must have a long-term emphasis and be related to how everyone is better off. Many organizations, so concerned about survival, focus on short-term goals and profits instead of long-term. Executives should allocate resources for long-term planning, creating systems and understanding them well for future improvement.

Executives or leaders need to have profound knowledge of the system. Deming (1993) believes that through profound knowledge of its system, an organization

uncovers two types of problems: problems of today and problems of tomorrow. The problems of today encompass maintaining the quality of product and services offered today, while the problems of tomorrow demand a constancy of purpose and dedication to continuous improvement (Deming, 1992).

We have found that this organization was not built in a system setting, and lacks the constancy of purpose (it is nowhere to be found). The leadership rarely thinks about continuous improvement because of uncertainty about their future. So researching their processes may reveal how little they may know about the organization, and how unorganized the department is or the organization as a whole. If executives or managers are not ready to recognize their imperfections, they may deny research requests. Likely, lacking the constancy of purpose, one of the main Deming's principles to a successful organization, has led to denial of the research request.

Short-term focus

Organizations that focus on the short-term, believing in the immediate profit, sacrifice the future of their enterprises (Deming, 1992). The short-term approach hinders the growth and future of the organization. How good is it for an organization to deliver today and yet go out of business tomorrow? The short-term focus must be eradicated because it leads to sub-optimization (Deming, 1993). Sub-optimization allows units or departments within a company to reach their goals even though they are not the best alternatives for the company as a whole. On the other hand, an organization functioning as a well-oiled machine and applying continuous improvement to its processes may achieve optimization. Optimization is a process of orchestrating the efforts of all components toward the achievement of the stated aim (Deming, 1993).

The short-term focus also limits the dynamism of the organization. If by any chance, the organization was able to grow, the growth leads to a lag in delivery of product or services. Because the organization is not a system, leaders tend to add activities, reports that may not necessarily be needed to achieve the unstated aim. For instance, as the annual audit lasted about 10 months. The management team decided to hire two consultants, one looking through month-end process and the other going over how to improve daily activities to better serve other departments. However, the biggest question is: why start with smaller activities rather than the big picture? Sure some of these daily and monthly activities caused the annual audit to lag. Isn't there any annual report that needs broken down to monthly or weekly report to facilitate the year-end audit? The question remains unanswered as of now. So in the case of next annual audit still lagging (maybe a little less than the previous one), who should be held accountable? The fear of revealing the emphasis put on short-term rather than long-term activities may have led to denial of research request.

Accountability

All organizations ought to practice teamwork and collaboration. Bringing the entire management together requires strong accountability system within the organization (Jaques, 2002) (Ivanov, 2011, 2013). Most leaders have not setup their organizations for clarity in accountability. Ashkenas argues that “the most effective organizations engage in continual (and sometimes brutally candid) dialogue — across levels, functions, and with customers and suppliers” (2012). Without clearly

stating the purpose, directions and processes, no one is held accountable. After the preliminary analysis, we find that accountability, teamwork, and collaboration are nowhere to be found in this organization. The leader was reluctant to relinquish control, and preferred to make all decisions alone. Keeping the organization centralized, holding on to power within the organization to avoid accountability could become another reason for the denial of research request.

Conclusion

The goal of research on organizational processes is to analyze the organization to enable its leaders to transform the system. Organizational system cannot exist without a goal or purpose. The research identifies ways of integrating and aligning all activities or simply creating new processes that constitute a system in order to achieve the organization's objectives.

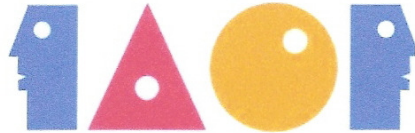
Organizations deny the research requests because they live in denial, or may think improvement is not needed. They also deny research to avoid exposing their lack of constancy of purpose and other shortcomings, such as focusing on the short-term instead of the long-term profits and health of the organization, to prevent changes within the organization or the business unit. With change and improved processes come greater accountability and transparency, for which many executives are not ready. Thus, they prevent research and deny themselves and their organizations the chance to embark on a different path.

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APPLIED ORGANIZATIONAL STUDY OF FREE JOBS TRAINING
PROGRAM IN WASHINGTON, DC: RESEARCH CASE ON STRUCTURING
OF WORKFORCE DEVELOPMENT IN THE
CAPITAL OF THE UNITED STATES

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Abstract

The Workforce Development and Lifelong Learning Program at the University of the District of Columbia Community College is distinctive to the District of Columbia, the capital of the United States, serving residents by providing them with free jobs skills training. This case study provides analysis of the organization's structure and management process, examining the current design and establishing plans for future transformation and development.

Key Words: Workforce Development, Organizational Design, Organizational Analysis, Organizational Structure, Management, W. Edwards Deming, Elliott Jaques, Education, Postsecondary Education, Case Study

Introduction

The Workforce Development and Lifelong Learning Program at the University of the District of Columbia Community College is distinctive to Washington, District of Columbia, the capital of the United States, serving residents by providing them with free jobs skills training. This case study provides analysis of the organization's structure and management process, examining the current design and establishing plans for future transformation and development.

The Workforce Development Program was initiated at the University of the District of Columbia (UDC) – a public, land-grant institution – in 2006 as part of the university's Community Outreach and Extension Service (COES) department. In 2008, the University President at the time, Dr. Allen Sessoms, created the Community College Initiative. The Workforce Development Program was moved under the initiative and the title given to the leader of the program was changed to Associate Dean for Workforce Development and Community Outreach (Community College of the District of Columbia, 2009, p. 1).

In 2009, the University Board of Trustees “approved the creation of a new University system, which include[d] UDC and the Community College of the District of Columbia (CCDC)”, later renamed the University of the District of Columbia Community College (College Brain Trust, 2010). Workforce Development became the Workforce Development and Lifelong Learning division within the community college and the associate dean position converted to a deanship, which reports to the Community College's CEO.

The Workforce Development Program currently offers free courses structured around four career pathways: Administrative Technology, Construction, Hospitality, and Nursing & Allied Health (University of the District of Columbia Community College Workforce Development Program, 2013, p. 3). These courses are offered in three of the District of Columbia's Wards (Wards 5, 7, and 8). (The nation's capital, which is not one of the fifty states, is divided into eight political and neighborhood areas which are called wards). The residents of these wards, particularly in Wards 7 and 8, are predominantly low-income minorities. Wards 7 and 8 also report the highest rates of unemployment in the District – 14.2 percent and 21.5 percent respectively in September 2013 (Department of Employment Services, 2013). Many of these residents have few options for access to any job skills or professional training, to say nothing of postsecondary education. It is therefore fitting that the Workforce Development Program's mission is “to reduce unemployment and underemployment in the District of Columbia by enhancing the skills of its residents” (About WDP, 2013).

In reflecting on the mission of the program, the current Dean of Workforce Development expressed concern regarding the division's organizational chart (Ford, 2013). In particular, the Dean was not convinced that the current organizational structure meets organization needs, promotes quality services, nor lends itself to the actualization of a cohesive, interdependent system.

This case study reviews the examination of the organizational structure, the proposed possibilities for restructuring and several recommendations made to management regarding future organizational changes that are based on organizational

analysis theories. These included suggestions on potential improvements to raise the quality of the program and increase employee satisfaction.

Methodology

Much of the information for this report comes from scholarly research; the organizational theories of Jaques, Deming, and Ivanov; and surveys with Workforce Development program staff members – in particular the head of the organization, the Dean of Workforce Development. Experience gave insight into the general operations of the division, the range of positions, and the various levels within the organizational structure. Interviews provided historical context to the division's activities and presented the researcher with a firm grasp of management's chief concerns and future plans.

Organizational Structure and Time Span

From an economic and social perspective, a well-functioning Workforce Development Program in the nation's capital is obligatory. The free program is distinctive to the District of Columbia and is shaped by the District's unique needs and requirements. As the leader of the division within the Community College, the dean is positioned at the top of the organization's hierarchical structure and serves as the leader for program development and direction. The dean must examine how the organization can best operate in the present and reshape itself to meet the needs of the future, balancing current concerns with perceived future interests, looking from present day to where the Workforce Development program will be in the coming years. As goals for the future have emerged, it has become evident to the dean that internal structural

changes are required within the organization to ensure that the program operates effectively and efficiently.

In the current organizational chart of the program (*see Appendix A*) the departments within Workforce Development are currently structured by location or activity:

- One section is connected to the various Workforce Development sites.
- Another section is Center for Workforce Strategies, which is the research and development arm of the program.
- Another section is student success activities, a department in the process of being formed and expanded.
- Continuing Education department will be removed from the Workforce Development division in the near future to stand as its own division within the larger university structure.
- Nursing department, which by the nature of its activities as a fee-based program (and therefore not being free to the District residents) is set apart in the initial creation of the organizational structure.

This structure is fragmented and siloed, each area concentrating predominantly its own activities without a great deal of interaction or clear understanding occurring between the employees of the various subsections of the program. The dean wants to revise the structure to achieve departmental unity and interconnectedness. When asked what is "off" about the structure, the dean replied that the former focus of the program (and therefore the way the program had been structured in the past) was all about the output, the credential a student receives following training. Going forward, the dean wishes to restructure around a focus on the program's outcome for students: the restoration of hope for District residents (Ford, 2013).

To that end, the dean has devised an organizational structure that links research activities with program development and expansion while shifting the focus from student credentialing to student success (*see Appendix B*). Under the new organizational chart, two major subdivisions exist: Career Pathways (the research and development arm of the program) and Student Success. Continuing Education is removed entirely, being a fee-based program, and the various courses and programmatic offerings are grouped under the sites where the programs are offered. The Student Success department focuses on student recruitment, retention, transition and connection. Finally, there is a student research and data analysis department that concentrates on the information of students pending, present, and past. This will help the program gather clear figures on how its activities benefit students, allowing Workforce Development to make data-driven decisions about how to develop the program further in the future (Ford, 2013).

In reviewing the organizational structures – current and planned – it becomes clear that the leadership of the program is operating at specific level. In order to understand this concept of organizational operating levels, it is best to examine the concept of time span as created by Elliott Jaques (1964, 1990, 2002). Several scholars have verified the time-span instrument and Jaques' organizational theory (Clement (2008, 2013), Ivanov (2011, 2013), Lee (2007), and Kraines (2001). In discussions on time span, Jaques begins by distinguishing between an employee's role ("position occupied in the organization") and their tasks ("assignment[s] to produce specified output... within a targeted completion time...") (1989, p. 15). Jaques then states, "The longest of the maximum-target-completion-times of tasks in a role gives a direct

measure of the level of work [the size of the position] of the role" and "the longer the time-span of a role and higher the level of work" (1989, p. 16). To use this theory in practice, the role of the dean was examined, and it was determined that the dean occupies what Jaques defines as a Level 4 role. The dean must plan for multiple goals at a time, designing alternative means of achieving said goals, and maintaining a consistent connection across the various objectives (Jaques, 1989, p. 27). The determination of what constitutes a Level 4 role was confirmed independently by Clement (2008, 2013), Ivanov (2011, 2013), Lee (2007), and Kraines (2001) in their studies.

In examining the roles within the Workforce Development program, one can see that the program itself is operating at Level 4. Said another way, the division has four layers from the dean's position to the office floor at the bottom of the hierarchy and these layers are determined by the time-span of the roles in each layer (Jaques, 1989, p. 19). Given this knowledge and noting that in order for the program to reach its full potential to best serve District residents, it is recommended that Workforce Development expand to a Level 5 program in the coming years. This means that the organization is functioning not only across a complex set of internal activities, but it is also fully conscious of and closely engaged with the impact of its activities externally. This external impact not only includes the program's effect on the University of the District of Columbia system, such as creating pathways for student success, expanding the university's enrollment pool, spurring students toward greater levels of academic achievement, but also its influence on the entire District of Columbia by decreasing under-and-unemployment, creating a more highly-skilled citizenry, affecting material economic and social change in the city.

At the same time, the role of the dean should expand in the future to a Level 5 role, where the dean is focused on “unified whole systems.” As a leader, the dean will “have to cope by means of judgment with a constantly shifting kaleidoscope of events and consequences,” “sense interconnections between the variables in the organization and the environment, and continually adjust them in relation to each other” (Jaques, 1989, p. 28). In order to make this transition effectively, it is recommended that roles further down the organizational hierarchy are examined and that employees in those levels are given tasks that are level-appropriate. This will free the dean from taking on work from lower levels and allow the leader to focus on the larger-scale issues.

Systems Planning

The dean’s conclusion that there is a need for greater cohesiveness across the organization is in keeping with W. Edward Deming’s theories on systems (Deming, 1993). Deming defines a system as “a network of interdependent components that work together to accomplish the aim of the system”, going on to say that “the greater the interdependency between components, the greater will be the need for communication and cooperation between them” (Deming, 1993, pp. 98-99). Going forward, all aspects of Workforce Development must tie in with each other as envisioned in the flow chart below (*see Appendix C*). This will diminish the current problem of fragmentation and help all components of the Workforce Development program understand how their efforts are part of a larger system. This will lead to greater understanding, trust, and teamwork across the various departments.

Not only will the interconnectedness of the division be crucial for its continued success, but Workforce Development must also be closely aligned with the other components of the university system. The dean feels that it is imperative that students have access to a seamless pathway within the system that allows them to transition from a Workforce Development non-credit program to the associate’s, bachelor’s, and master’s programs (Ford, 2013).

Moreover, “a system must create something of value, in other words, results” (Deming, 1993, p. 52). It is the responsibility of management to “determine those aims, to manage and continually improve processes that work toward those aims” (Deming, 1993, p. 52). As such, Workforce Development leadership must clearly define the purpose of the program, beyond the organization’s mission statement. The leader must help ensure that all the various activities are coordinated in achievement of the aim of the program. The dean has already taken steps in this direction, stating that the organization is getting better at cross-training employees so that all employees understand their role in the system and how what they do relates to the next step in the program’s activities (Ford, 2013). It is suggested that continuous efforts are made by management to ensure everyone understands the programs operations as a system and the outcomes desired of the system. Management must increase systems-thinking in order to improve program quality.

Employee Needs and Pride of Workmanship

Beyond the structural theory, it is imperative to consider the human side of the organization. One of the challenges that management faces when proposing change

in an organization is that there is a human element with distinct needs that must be contemplated.

Humans are creatures of needs, some more basic than others. Also, as Abraham Maslov determines, “human needs arrange themselves in hierarchies of prepotency. That is to say, the appearance of one need usually rests on the prior satisfaction of another, more potent need” (2007, p. 111). Maslov defines the need-based levels as ranging from physiological needs forming the base of the hierarchy to safety needs, then love needs, esteem needs, and finally self-actualization needs (2007, pp. 112-117). Douglas McGregor takes Maslov’s ideas further, applying them in the workplace. McGregor maintained that “unless there are opportunities *at work* to satisfy . . . higher level needs [social/ love, ego/ esteem, self-fulfillment/ self-actualization], people will be deprived; and their behavior will reflect this deprivation” (2007, p. 160). It is for that reason that management must consider what Deming calls “pride of workmanship” when rearranging roles within an organization and when planning deliberately for the human element of the workplace.

Deming concludes that there are 14 points that management must adopt in order to stay in business, protect their livelihoods, and ensure the jobs of their employees (Out of the Crisis, 1982, p. 23). These points can be used to evaluate how management is doing within an organization. While all the points are worth considering, this report’s recommendations focus on one of them specifically: removing barriers that deprive workers of their right to pride of workmanship.

Earlier in this report, the concept of a system was addressed, as well as the fact

that the Workforce Development program needed to operate more like an interconnected system. To that point, when talking about pride of workmanship among employees, it is critical to understand that employee performance is a factor of the systems in which they operate. As Deming points out, “A common fallacy is the supposition that it is possible to rate people. . . The performance of anybody is the result of a combination of many forces . . . Apparent differences between people arise almost entirely from action of the system they work in, not from the people themselves” (Deming, 1982, pp. 109-110).

Given this belief – that employee performance is determined by the system – and also knowing, as stated above, that it is the role of management to create effective and quality systems, it is clear that the first order of business among leaders must be to abolish practices that rob employees of pride in their work and create a fearful working environment.

One such practice is the mandatory annual performance evaluation. Deming condemns these assessments, saying “what is wrong is that the performance appraisal or merit rating focuses on the end product, at the end of the stream, not on leadership to help people. . .” (Deming, 1982, p. 102). He goes further to state that performance evaluations promote short-term thinking and short-time performance, reducing everything to a quantifiable measure. He states that this directly results in employees being deprived of pride in their workmanship because they are always being held to some subjective numerical standard – how much did they produce, how many people did they serve, how many reports did they generate, how much paperwork did they process, etc. (Deming, 1982, p. 105).

Workforce Development, as part of the University of the District of Columbia – which is itself an independent agency of the District of Columbia – is bound by many of the bureaucratic policies enforced on District agencies. While it is unclear whether the University could resolve to abolish performance evaluations, it is certain that the Workforce Development division cannot make the autonomous decision to do so. Therefore, it is recommended that Workforce Development management give only minimal consideration to the mandated appraisals and instead focus efforts on mentorship. The dean is already engaging in one-on-one meetings with all levels of her staff at least once a year (Ford, 2013). It is recommended that this practice should be continued and expanded, so that all managers begin mentorship and engagement activities beyond their direct reports but also with the direct reports once removed, as suggested by Jaques (2002). This will promote a trusting, pleasant environment for staff, one where they feel they are acknowledged and appreciated.

Planning for the Future

In speaking with the dean, she notes that the District is in a unique position in that it rests in a contained geographic space and has a smaller population than many other cities. In looking to the future, the dean stated:

“The District has a population of over 600,000 residents, of which at least 100,000 - 125,000 could benefit from programs at the Community College. At the same time, the population is shifting, and low-income individuals, most of whom are minorities, are being pushed out of the District into counties in Maryland and Virginia. As such, the District has limited time

– I estimate 7 to 10 years – to have an impact on individuals who are under- and-unemployed before the need for workforce development, as it is currently done, no longer exists” (Ford, 2013).

Given this timeline for evident changes in the District’s social and economic makeup, the Workforce Development program will seek to do as much job skills training as possible in the coming years, hoping to touch at least 5,000 residents annually as soon as next academic year (the program currently serves about 2,800 residents a year) (Ford, 2013). In order to accomplish this goal, the organization will have to operate as efficiently and effectively as possible. At the same time, the dean knows the organization must prepare for what workforce development will look like once the manner in which it currently operates in the city becomes obsolete. As the dean declares, “I want us to be at the forefront of whatever “workforce” is next” (Ford, 2013). In the final section of this report are listed the recommendations for management that will be requisite in accomplishing these aims.

Summary of Recommendations and Conclusion

Subsequent to the study regarding the need to reorganize the Workforce Development program, the following is a list of recommendations this report makes to management in order to accomplish not only the simple goal of structuring the organization to operate more effectively but also to accomplish its larger aims regarding creating an organization that provides quality services to District residents.

The recommendations are:

- Strive toward expanding to a Level 5 organization, with a broader focus on the various goals to be accomplished, the myriad of alternative pathways to accomplish them and to the impact of the outcomes on the activity of these goals on the internal and external community.
- Expand the deanship to a Level 5 role concurrently with the organizational development and assign level-appropriate tasks to employees in the lower levels of the organization hierarchy.
- Focus on systems-thinking and system-creation in order to decrease fragmentation within the program. Purposefully design the organization around its interdependent activities. Clearly define the aim(s) of the system.
- Remove barriers that deprive employees of pride in their workmanship. In the example of personal evaluations, it was noted that while it may not be in the power of the organization to abolish appraisals, it can assign them less significance and focus instead on quality leadership and mentorship activities that create an environment where employees feel valued.

Management's next steps will be to put into action the recommendations listed above and to educate the organization about

the recommendations and the resulting actions to be taken. If clear plans are put in place to make these recommendations a reality, management should find itself with a sound organizational structure that is poised to work collaboratively and productively toward the needs of today and the goals of the future.

In conclusion, there exists the possibility that programs such as the District of Columbia's free job-skills training Workforce Development program could be created in other urban centers within the United States as a means to combat socio-economic challenges. In the creation of such programs, the recommendations noted in this study would provide points of consideration for design and for the management processes to be instituted. Support for such programs where feasible could potentially serve to make a significant civil impact in cities across the nation.

Acknowledgements

The authors are grateful to Kim R. Ford, Dean of Workforce Development and Lifelong Learning, University of the District of Columbia Community College, for her valuable support and counsel.

The authors also thank Sherman Cook, Jerry Johnson, and Dr. Edith Westfall for providing additional historical details and context on the Workforce Development Program. Their insights and wisdom are greatly appreciated.

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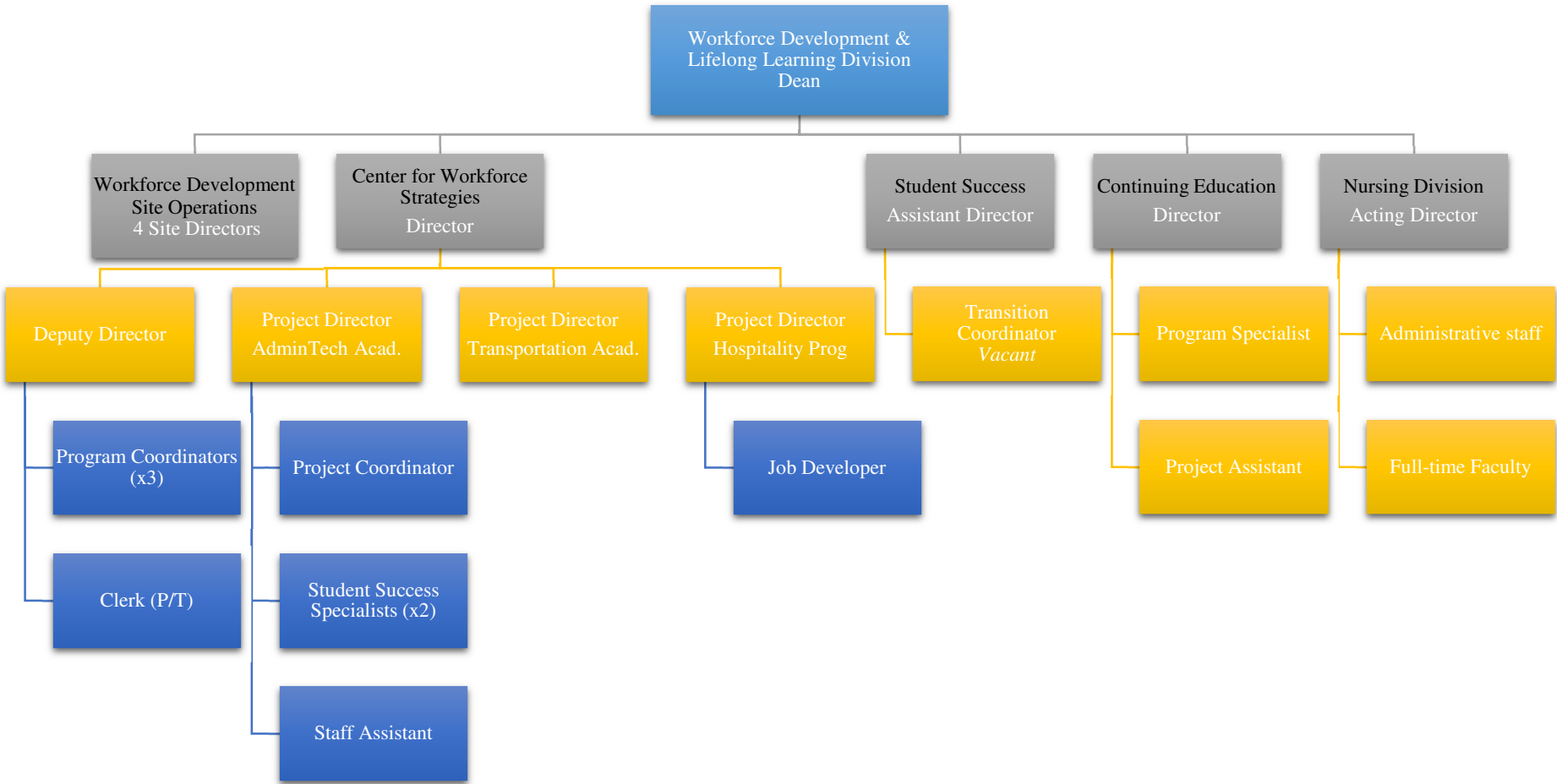
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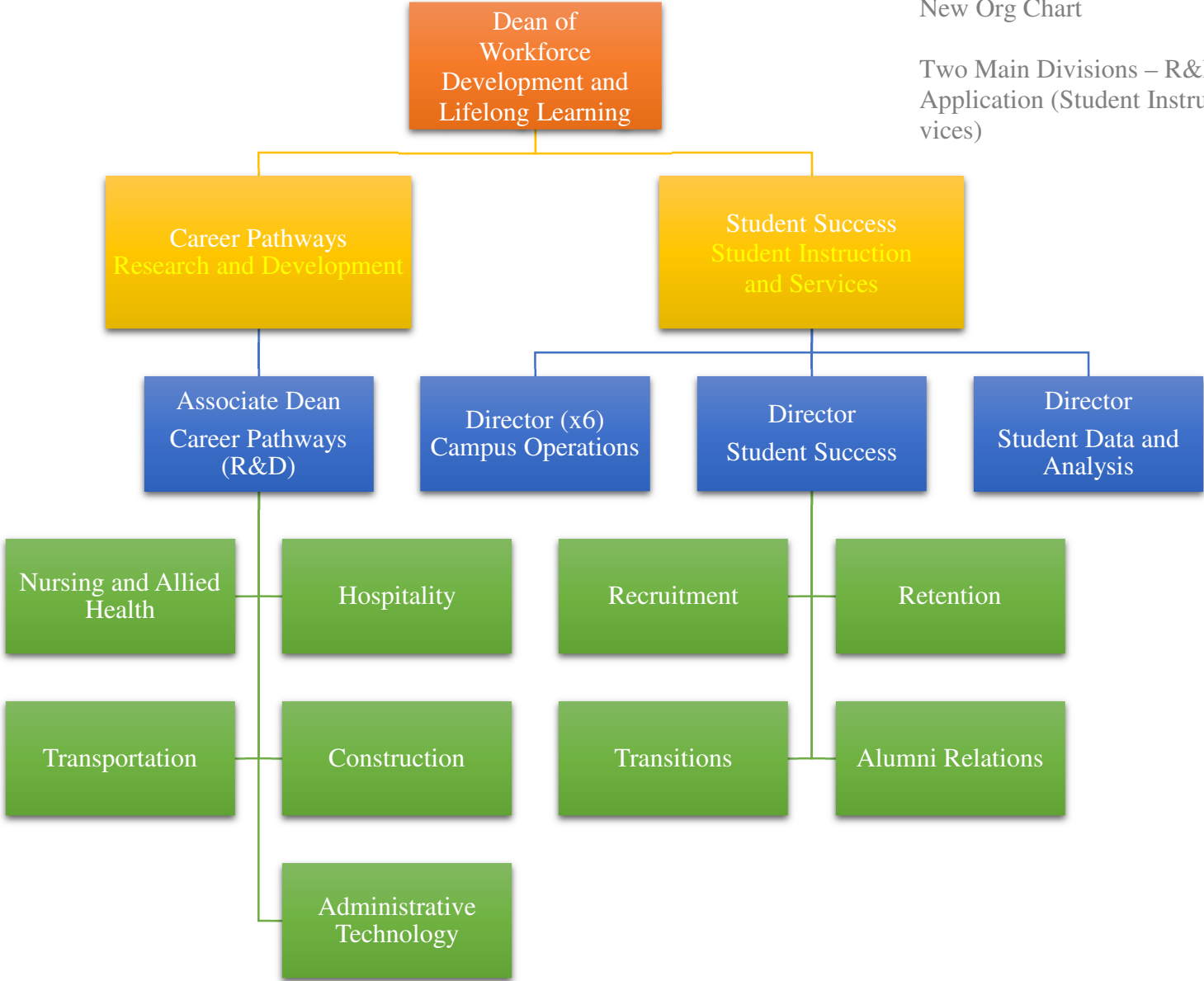
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Appendix A – Workforce Development Current Org. Chart



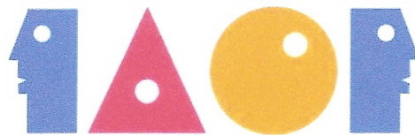
Appendix B – Workforce Development
New Org Chart

Two Main Divisions – R&D and Practical Application (Student Instruction and Services)



Appendix C – Workforce Development Program as Flow Diagram





CHALLENGES OF A SMALL BUSINESS IN THAILAND: HOW TO REPOSITION FOR GROWTH

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Abstract

The garment industry in Thailand is one of the most competitive industries. Success in a competitive industry requires that the company has a great organizational structure and good internal communication. Companies that are able to communicate within the organization will gain competitive advantage over their competitors. This paper conducts an intensive study how to expand a small factory-organization in Thailand. The purpose of this paper is to investigate the existing problems preventing growth of the business to allow it to develop, as well as to try to prevent future problems. Following the study, the researchers then identify several general recommendations applicable to comparable small businesses.

Keywords: Management, Organizational Structure, Organizational Transformation, Organizational Study, W. Edwards Deming, Elliott Jaques, Small Business

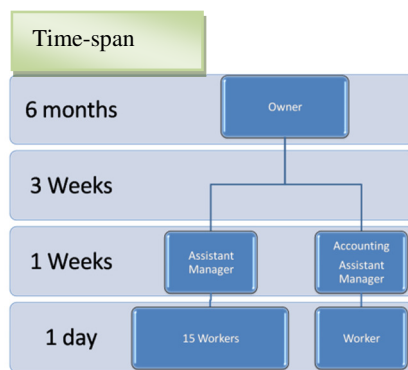
Introduction And Background Of The Organization

The organization studied is a family business in Thailand. This family-owned small business runs a garment factory. It specializes in producing parts of an outfit such as collars and hems. Everything is made to order. The main clients are other factories that need our pieces to complete their final products.

The factory is physically small. It employs 15 workers and 50 automated-machineries. The machines work around 10 hours a day during the low season and 24-hour-long during the high season, which lasts around five months. Working shift also depends on how busy factory is. Usually the schedule consists of one-to-two shifts with the maximum of three shifts during the peak time.

Organizational Structure

The figure below depicts the organizational hierarchy and time span associated with their position. The hierarchy shows the relationship between the jobs and how much time each position needs to complete their job (time-span), (Jaques, 1998). Below are the explanations of each level in regards to their jobs.



Workers

Most of employees working at the lowest level are only accountable for the day-to-day work. They do not have many other responsibilities in the company besides their own. Since their job is mainly in labor, the time span of their work is only one day. They receive work orders directly from the assistant manager each morning. Manager expects them to complete their job within the day. The only exception is when the factory has many orders and employees have to work over time. They may take additional days after, but only after the manager has given them the permission to finish the job late.

Assistant Manager

The next is the assistant manager role. There are two assistant managers in the organization. First one is the accounting assistant manager who is responsible for all the finance activities. He makes financial reports and submits them to the manager every week; submit the overall financial

activities to the owner twice a year. The other assistant manager, on the other hand, is in control of the operations. He monitors the workers and initially tries to solve problems. If a problem is out of hand, he then would report it to the manager. He acts as a middle-man between the manager and the workers. Time span of this position is flexible (longest task is 1 week) depending on how the kinds of job as well as how busy the factory is.

Manager

In this organization, the manager is responsible everything, from planning, managing and driving the organization. Even though the two assistant managers assist him in many essential parts of the factory, the manager is still left with numerous responsibilities. In addition to overseeing all the employees below his level, the manager has to deal and contact customers. This latter part is time-consuming and takes a lot of planning since the company's capacity is very limited. He needs to be realistic about what the company can do versus how to grow the business. Most of the time, he has to plan 3 months in advance.

Owner

The owner does not typically interfere with the organizational management, even if it presents a significant problem. He gives all authority to the manager and mainly focuses on the financial part (check the reports every six months). Normally, he would set up missions and long-term goals for the manager to see and follow. His time span hence is much longer than of others (six months) since he only focuses on the overall operations of the company.

Current Production Procedure

This factory is a family business. The owner of the factory employs his

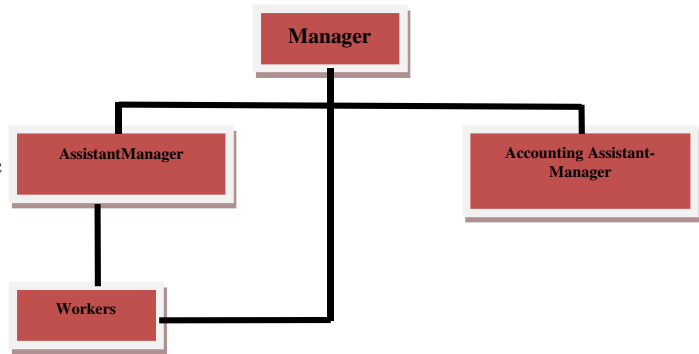
brother-in-law as the manager and the one in action. The manager runs day-to-day operations of the factory and makes all of the decision regarding the operations. A normal routine for an order starts when a customer calls the manager and places an order. The manager first looks at the production line and calculates how much time needed to finish the job. He then lets the customer knows right away when our driver will deliver the order. Because the manager also takes control over the production line, he proceeds to create work schedule for all the workers. The routine repeats itself when new orders come and

According to the chart above, the manager is in charge of supervising everyone under his control. Even though he is the one who creates the schedule for all the workers, the general assistant manager is the one who actually receives the schedule/ commands and distributes to the workers. Conversely, the accounting assistant manager does not have any contact with the lower lever works because he works solely on the finance.

Problem Analysis

According to the study surveys (conducted in 2013), many workers think that this production procedure is not as effective and functional as it should be. Malfunctions or conflicts arise when the manager and the assistant manager miscommunicate and direct the workers differently. The workers, hence, get confused about who they should obey the order. For example, the manager told a production line worker to deliver an urgent order to a customer. But when he was about to leave, the assistant manager ordered him to stay and finish his job instead. The reason was that the worker was not the driver. In the end, the order did not get delivered on time and the company eventually lost money and a loyal customer.

finished orders got delivered to the customers.



This structure is destructive as there is no clear hierarchy in their work. As the example has suggested, any employee can go straight to the manager for every issue they have, bypassing the assistant manager. It means when a problem arises, the production has to be stopped until the manager returns to make a decision. A small problem that could have been avoided becomes very serious due to the wait. One time, the manager was in a meeting while a truck broke down, the driver waited for two hours to hear what the manager wanted him to do. Finally, the driver could not make the delivery on time and the customer was displeased. It simply ruins our reputation and becomes very costly over time.

Furthermore, since the manager is very busy, he has no time to think about expansion. When an organization does not expand, it is actually going backward as it only relies on current customers (Ivanov, 2013). The expansion plan is a big thing that requires a lot of time and attention. Though the manager knows it is important, he simply is overwhelmed by all the responsibilities. He does not have enough time to search for a new location, find new customers, or invest in new machineries. The expansion plan, hence, has been holding off.

The organization has lost many great opportunities, especially with potential foreign clients because of this limitation. The current factory simply does not have the capability to produce big orders. All the machines were bought 6 years ago when the organization first started. They are outdated and need more advanced technology. New machineries will help the factory to produce more efficiently. Nevertheless, even if we get more machines, the warehouse will also be too small to put them, as well as to stock up the extra inventory.

Another problem the organization is facing is in regard to the business strategy. The organization has been using the same strategy since it was founded years ago. It has yet to apply new ideas. Comments and suggestions from employees are not heard. For instance, one employee suggested the company to produce a seasonal promotion to attract new customers as well as to reinforce the loyalty of the current customers. The idea did not fly because everyone was waiting for the manager to make time and decide on the outcome.

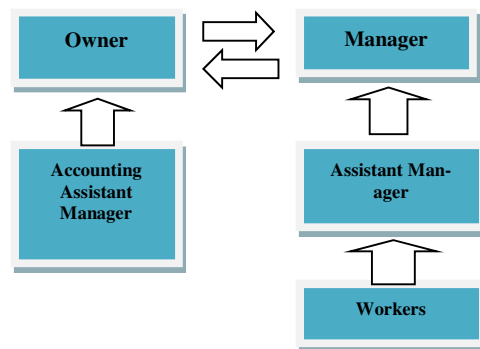
Findings and Recommendations

The factory depends too much on the manager. Power and authority should be decentralized to other employees. To do that, the manager need to create a management structure, appoint qualify employees to take charge in specific work areas. Once the new production procedure is set-up, the manager will have less day-to-day work and more time to concentrate on the big picture and the future of the company.

Moreover the manager should encourage the workers to present new ideas. Not only does the organization benefit from diverse inputs and real work experience, but it also promotes employees self-esteem as their ideas contribute to the company growth.

Once these changes have taken place, the company should grow more prosperously. The capable manager will have time to expand the business while the employees are happy to see advancement in their career.

Based on this study, we would like to propose the new structure for the company.



This new production line would be more effective and efficient than the current one. Each position gets proper portion of responsibility and knows exactly what they have to do. The workers now know exactly who they should go to when issues arise. The only one who talks, advices and distributes work to the workers is the assistant manager. Then, malfunctions or conflicts will not occur.

Both assistant managers are completely separated from each other. Each assistant manager concentrates on his jobs. The first assistant manager is only responsible for the operation such as work schedules and operation issues. His jobs are distributing works and communicating to the workers. He is a representative of the manager. When problems occur, he is the first manager to solve them. The other assistant manager will report directly to the owner. He is still responsible for all of financial activities and does not have to pass the manager.

The manager does not have to deal with finances anymore. He would focus on

the overall picture of the organization. Therefore, he will have time to expand the organization prosperously working on expansion.

General Recommendations and Conclusion

Having conducted the study of the small factory in Thailand and its challenges with growth of the business, we identified the following general obstacles preventing growth:

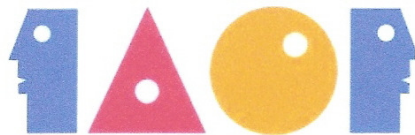
- 1) Unclear Organizational Structure
- 2) No Working Role is Dedicated to New Business Development

- 3) Owners, spending too much time in the smaller operations of the business, do not dedicate enough time towards business growth

Based on this study, we recommend that owners of small businesses, interested in growing their business, address these issues. To reposition their organizations for growth, they have to create a clear organizational structure, find competent managers to run day-to-day operations, so that to free up their own time to work on new business development and strategies.

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GROWTH STRATEGIES FOR VERY SMALL ORGANIZATIONS:
A CASE STUDY OF A VERY SMALL ENTREPRENEURSHIP

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Abstract

This paper analyzes challenges that hinder growth of Global Street Real Estate. In addition, it examines various strategies that could aid the growth of the company. The ultimate goal of this paper is to explore growth strategies for small entrepreneurship.

Key Words: Growth Challenges, Strategies, Small Business, Entrepreneurship

Introduction

About The Company

Global Street Real Estate is an investment management company that specializes in property acquisition and development (2013). The company is based in Washington DC. Global Street also offers secure programs designed for people that are interested in investing their capital as well as retirement funds.

Global Street is a limited liability company. The company is run by its owner, and it has five permanent employees in total. The manager reports to the owner, but he is also responsible for overseeing the work of four specialty workers.

Global Street also employs other subcontractors specifically for architectural and engineering work.

The company currently embarks on about five projects annually. Each project takes about three months from start to finish.

Methodology

The purpose of this paper is to examine Global Street Real Estate with regard to growing the company. This paper will then provide recommendations towards addressing the issue of growth. The survey questions below are intended to determine the goals of Global Street, how the owner plans to attain them, and the challenges

that hinder the growth of the company. The survey questions below were presented to the Owner of Global Street in October 2013.

During the survey, the owner admitted that although the company must grow, he is not sure of how to effectively manage growth. For now, the owner has a three-year plan to increase the number of annual projects to about ten, with a focus on condominiums.

Survey

1. What challenges is your company currently faced with?
2. What have you learned from your employees as a leader?
3. How do you determine what building projects to embark on?
4. How long does it take to complete a project?
5. On a given project, what factors do you consider before you partner with another company?
6. Given the opportunity, what would you change in the Real Estate industry?
7. If you could, would you rather do something else instead of what you are doing now?
8. Compared to the Real Estate environment, what adjustments would you like to make to your company?
9. Where do you want Global Street to be in five years?
10. How are you planning to reach your goal?

Survey Results

(i) *Obsolescence*

While surveying the Owner of Global Street, I discovered that the company seemed to suffer from Deming-identified management disease of Obsolescence. According to Deming (1992), “practically all of our major corporations were started by technical men- inventors,

mechanics, engineers, and chemists, who had a sincere interest in quality of products. Now these companies are largely run by men interested in profits, not product. Their pride is in P & L statement or stock report.” Obsolescence in this case refers to fear of innovation. Fear, according to Deming (1992), and Ivanov (2011, 2013) are detrimental to all organizations.

Although Global Street is a small business, its growth could be hindered by the fear of out-growing the traditional practices of the real estate business. For example, instead of embarking on more projects, the company could invest in Green Technology. As Ivanov (2013) suggests, it is necessary for the leadership of a company to focus on innovation. Global Street could focus on doing research in sustainable design innovation. Although this might seem to be a daring step, I believe that with focus, it is possible for any courageous company to grow.

(ii) *Marketing*

On the other hand, if the company decides to hire more specialty workers, Global Street could consider the option of attracting more investors by focusing on marketing. During the survey, the owner told me that he considered increasing his workforce although he had to acquire more projects before he could do that. From a business standpoint, no one would invest in a company if they do not know that it is performing well. Therefore, attracting more investors depends not only on performance but also on brilliant marketing.

(iii) *Strategic Alliances*

Another alternative growth strategy is for Global Street to consider forming a strategic alliance with a more experienced real estate firm. As a result, there would be less risk on the part of Global Street. By partnering with a more experienced company, Global Street would learn how to

grow while working simultaneously. However, the owner would have to persuade shareholders that a strategic alliance would grow the company in the long term.

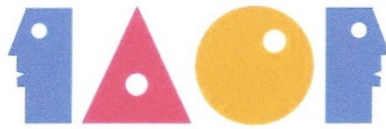
Conclusion

The observations made above all center around innovating and improving Global Street's business practices. According to Ivanov (2013), an organization can only survive when it innovates and improves. Moreover, Jaques (1999) famously stated that "Leaders create an environment which everyone has the opportunity to do

work which matches his potential capability and for which an equitable differential reward is provided." This suggests that in the case of Global Street, its employees will eventually feel under-employed if they are not challenged by more complex tasks. Therefore, it is necessary for the company to improve on its business practices as well as take innovative steps towards growing the company. On a general note, small businesses do not necessarily have to become corporations. They could remain small and still perform excellently by adopting innovative practices and improve constantly.

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APPLYING BUSINESS LESSONS TO EDUCATION: MENTORING AS JOB-EMBEDDED PROFESSIONAL DEVELOPMENT

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Abstract

Mentoring is a form of nurturing that not only impacts professional practice but affects school climate and morale, as well. As educators continue to experience an attrition rate that exceeds other professionals, the intentional administrator must begin to implement effective strategies for the induction and development of campus faculty. While current trends advocate using outside sources to develop comprehensive professional development plans, this best-practice papers seeks to inform professional practice by using mentoring as a form of job-embedded training that aligns professional development with the demonstrated need and identified goals of educators.

Keywords: mentoring, professional development, teacher retention, teacher improvement

Teacher attrition has attracted considerable attention as national policies – aimed at improving student outcomes, increasingly focus on recruiting and retaining more qualified and effective teachers (Boyd et al., 2005). Moreover, as the trend in education continues to shift toward additional accountability matrixes, the discussion regarding a connection between teacher retention and student achievement continues to elude most educators. While focusing on teacher quality is a laudable goal and research supports the connection between the quality of teachers and student academic success (Darling-Hammond,

2000), there appears to be some disconnect as policy makers continue to overlook the cyclical nature of continuous professional improvement. As such, schools continue to succumb to the pitfalls of standards-based education reform, the premise of which believes the setting of high standards and establishing measurable goals alone can improve individual outcomes in education. Improving individual outcomes in education is a dichotomy that must shift from the isolationism of understanding student needs to a more holistic process of responding to adult needs that in turn facili-

tate the creation of new knowledge structures in students. Literature suggests that the focus of professional development has shifted from the district to the school level, from fragmented efforts to comprehensive plans, from off-site training to job-embedded training, and from generic skills to a combination that includes content-specific skills (Sparks & Hirsh, 1997; Mertler, 2013).

Improving traditional models of professional development often focus on community issues and challenges rather than on the specific and demonstrated needs of each educator. By contrast, mentoring is a product of personalized learning and choice, as each collaborative exchange between mentor and mentee is innately tailored to meet the strengths and needs of the intentional educator seeking to impact professional practice.

Moreover, mentoring is a form of coaching that supports individual development. Whether learning new skills or rethinking developed ones, mentoring transitions teachers to exceed expectations through immersion in a supporting process that addresses differing levels of readiness while being sensitive to those differences by finding resources to support each person's developmental goals.

Fibkins (2011) likens teaching to a performance art – one where those who are classically trained (performers) persist at improving their craft through countless hours invested in honing and refining a set of unique skills that may take a lifetime to truly master. In much the same fashion, teachers should accept the role of practitioner; that is, to understand that the process toward becoming effective is a continual journey replete with successes and failures. However, it is the failures that may cause deeper issues for educators. Teachers often lack immediate support systems that enable immediate feedback aimed at skill development. Mentoring is

one solution for bridging this gap and one lesson where business may have the right answers. In *An Administrator's Guide to Better Teacher Mentoring*, Fibkins (2011) establishes the foundation for the text by reminding the reader of the need for forward thinking educators to embrace a business model for the induction of employees. "We live in a world in which mentoring, coaching, team building, and empowering have become standard practices for many successful corporations and corporate leaders" (p. 1). Schools are beginning to use terms synonymous with those who compete in a global economy; terms like human capital or partner relations. As Smith (2009) describes, human capital is the set of skills that an employee acquires on the job, through training and experience, and which increases that employee's value in the marketplace. Certainly, educators have resisted the intentionality of investing in employees through ongoing professional development. Admittedly, education is the great equalizer in our competitive global economy; however, "ongoing mentoring for teachers - investing time and money into their professional development – has not caught on in the same way it has in the corporate life" (Fibkins, p. 1).

While schools are not immune to the challenges of becoming change-agents, Fibkins (2011) discusses strategies that afford the means for the intentional administrator to restructure their roles. Central to this premise is for the administrator to begin the process of collaboration with stakeholders. For example, the establishment of a mentoring team comprised of "competent educators who are known and respected by the school" (p. 4). Other campus leaders, including department heads, lead teachers, and assistant principals are logical choices suggested by the author. One is in agreement with this process of shared leadership, as transformational leadership is necessary for creating a culture of sustainability. As Fibkins (2011) chimes, "the potential for professional

growth involved in effective mentoring is not just for teachers. In developing a trusted mentoring role with teachers, administrators also create a teacher-learner climate in which they, too, become open to examining their own skills [and strengths]" (p. 9).

Interestingly, and moving beyond a more traditional function of using mentoring to improve attrition rates for new teachers, Fibkins' (2011) approach speaks of creating a learning environment for all teachers by framing discussions on teaching and learning and striving to develop each teacher into a competent master teacher. "The mentor's task is to find ways to help teachers reach their goal of improving. It is a worthy goal. When educators see fellow teachers and their students floundering, it is [a] professional responsibility to help them better their craft" (p. 23).

Implications for Administrators

Education always lags behind the curve of innovation. In fact, education tends to be a more reactive practice than a proactive one. As such, administrators must begin to have forward-thinking dialogue about improving practice through relevant job-embedded professional development. So many times, teachers report that professional development sessions are often unrelated to specific skills needed or are just a complete waste of time. Why not use the human capital available within the school to target and improve areas of demonstrated need. While not taking anything away from providers who sponsor professional development activities, it is more beneficial for the campus administrator to align each educator in need of assistance with a peer or group of peers who can directly impact professional practice in a meaningful and deliberate manner.

The central task is to select wise mentors – those educators who have proven

track records of failures and successes in public education. Intentional administrators must validate the process by first focusing conversations on improving teacher effectiveness. "Teachers can overcome their lack of experience, skill, and self-awareness with caring interventions by mentors who can dignify their worth and at the same time help them learn new, effective approaches" (Fibkins, p. 30). To highlight: Wise mentors have perspective. As effective educators, wise mentors have experienced the battle scars of teaching. Not only are they practitioners in the field, they affirm the day-to-day demands of the teacher: "confrontation, care, deflection, encouragement, reprimand, and more" (Fibkins, p. 31). Wisdom also prevails when challenging teachers to have the courage to grow professionally.

Wise mentors understand that teaching is rewarding because of the time invested in the process. Teaching involves cycles akin to those in life; however, the constant is hard work. One affirms Fibkins' (2011) call for self-renewal in the face of the inherent risk of improving one's skills and forging new directions. One applauds the idea that "effective mentoring helps teachers understand that their greatest potential for growth comes from accepting students who rebuff their good intentions. It is the teacher's job to figure these students out – to sweat, try new approaches, fail, be tough, be soft, do whatever it takes to win over these students" (Fibkins, p. 33). One also applauds the author for correctly clarifying that the teacher's ultimate validation comes from self-reflection, not student feedback.

Wise mentors understand that building trust is a product of loyalty and privacy. Teachers are like everyone else; they frequently encounter personal issues that threaten their ability to be successful in the classroom. In order for the mentor protégé relationship to flourish, all parties must agree to share openly, as "trust and loyalty

spark renewal and allow one to take risks” (Fibkins, p. 36). Veteran educators are aware of the power of the tongue and its residual effects on a culture of trust. Effective mentors must build the foundation whereby “teachers [freely] talk about personal issues that may be affecting daily work” (Fibkins, p. 38).

The wise mentor understands his charge of developing the capacity of the protégé. “The eventual maturing of the protégé into mentor should be a cherished goal” (p. 39). With an understanding of sustainable leadership, one affirms the author’s intentions of perpetuating the cycle of professional growth by encouraging and nurturing the skill set of intentional educators.

Wise mentors are skilled communicators. “Successful mentors know how to intervene, listen, be non-judgmental, give constructive and accurate feedback, confront failure-causing behaviors, support successful and failed efforts to change, be available for counseling on educational and personal issues, and be a general advocate for their protégés (Fibkins, p. 42). One affirms that mentors cannot know everything about every subject or situation; however, Fibkins’ (2011) admonition to “be [your] brother’s keeper” (p. 45) is appreciated and well received. Having appropriate support systems in place, where “informal learning and exchange are ongoing and easily accessible” (p. 54) is paramount to success for the mentor and the protégé.

Finally, wise mentors will assist teachers in finding their personal teaching voice by “encouraging the evolving teacher to look within himself, identifying strengths as well as areas that need improvement” (Fibkins, p. 50). The discussion again centers on reflective leadership, and perhaps a better connection should be made here. Renewal (i.e., personal, institu-

tional and professional) is necessary to discover and discard the inner demons as the intentional educator searches for his unique teaching self (Fibkins, 2011). As with students, it’s not about what teachers know but rather how they learn.

Reflection and Discovery

Intentional improvement for educators begins with what Mertler (2013) emphasizes as the integration of professional reflection throughout the mentoring process as a form of job-embedded professional development. Administrators must dialogue with colleagues regarding this essential progression toward self-discovery. Reflective journals not only assist with learning from successes and failures by articulating celebrations and challenges along the path, this deliberate approach serves as a basis for improving learning and teaching. Further, the process aims to narrow the gaps between theory and practice, an essential skill lacking in many young educators. As the late Sydney Harris, a former columnist for the Chicago Times wrote, “the whole purpose of education is to turn mirrors into windows” (n.d.).

To further clarify, reflective practice is a process of continuous improvement whereby the educator learns from those critical episodes in life. The process looks something like: Experience (actions past and present), Observation (documenting what happened), Reflection (making sense by investigating) and Planning (making plans for future action). It is this last part that is somewhat intriguing. Effective mentoring is about facilitating conversations that enable both parties to struggle with meanings and events in order to effectively plan for what’s next. In other words, mentoring becomes a form of formative evaluation.

Individual Performance Goals

Planning for what's next is a matter of bettering one's craft and begins with establishing an Individual Success Plan or ISP. What is it that I need my mentor to help me improve and what is our timeline? How will we determine skill mastery or pedagogical improvement? How will I deal more effectively with challenges and how can my mentor support me in this endeavor? These essential guiding questions frame the basis for setting individual performance goals. The quest of the mentor is to keep the mentee on track through collaboration, support, and intervention. For example, if the goal is to improve technology integration by a specified date and both parties have agreed on what successful representation will look like, it is incumbent upon the mentor to keep the educator squarely focused on the acquisition of new knowledge and the improvement of specific skill sets. Secondly, the mentor must assist in evaluating in a thoughtful and collaborative manner that affords the opportunity for sustained growth and development. It is noteworthy to mention that an ISP may be needed as often as weekly or infrequently as every 4-6 weeks and may be revised as necessary to account for growth and obstacles.

Modeling through Collaborative Learning

Mentors must be allowed release time to observe protégées and vice versa. Modeling is an effective teaching tool and one that facilitates improving practice through study and dialogue. Therefore, mentors must be allowed time to conduct informal and formal walk-throughs and evaluations.

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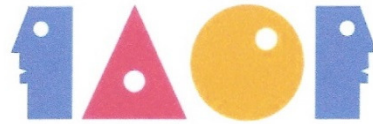
If the guiding question for the week is improving classroom management, the mentor may first guide his protégée through a study of best practices as included in a recent journal article. Next, the protégée may be asked to formulate a line item in the ISP to address needed improvements as documented from a recent classroom visit. At the next classroom observation, the mentor may ask permission to video the teacher during the presentation of the lesson. During a follow-up conference, this video may be compared with one from another effective teacher in order to draw inferences and conclusions about improving practice in this area. Likewise, the current video may be paired with an older one to demonstrate growth. In this manner, the teacher has not been told what to do but has instead participated in a collaborative learning activity that eventually leads to a desired outcome.

Conclusion

Mentoring invests in people. "Mentoring is different. It is a shared role that requires delicate and caring intervention and feedback. It is a slow process built on mutual trust and self-respect. It only works when both parties, the mentor and the protégé, clearly understand the areas that need improvement and how the mentor can be useful" (Fibkins, 2011, p. 2). The overarching goal of each campus administrator must be to invest in students by investing in teachers. Use mentoring for its intended use – to build capacity in people and to empower their sustained collective growth.

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CONSTRUCT OF EDUCATIONAL INFORMATION SYSTEM'S USING
WILLINGNESS MODEL: AN EXTENDED APPLICATION OF
TECHNOLOGY ACCEPTANCE MODEL

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Abstract

The dropout rate has always been considered to be a significant indicator of educational success or failure. According to the relevant research results, the dropout rate has a huge influence on the prevalence of social problems. This study attempted to integrate TAM with information system quality and re-construct the willingness to accept the model of dropout notification and return to school system in order to provide reference points for improving the outcomes of helping to find dropout students. The total number of 165 valid questionnaires of was collected to explore the willingness to use the dropout notification and return to school system and strengthen the TAM model from the perspective of quality. The research results show that effectiveness and interactivity of the system indeed had significant positive influence on user attitude. Comparing to the original technology acceptance model, this proposed

educational information system integrated model will be able to better explain users' behavioral intentions toward using the dropout notification and return to school system. On the other hand, considering the purpose of establishing the dropout notification and return to school system, enhancement of the stability of the system will make the relevant units better able to save and search information at the appropriate time, which not only can increase users' positive attitudes but also can strengthen users' willingness to use the system.

Keywords: dropout, technology acceptance model, structural equation modeling

Introduction

The dropout rate has always been considered to be a significant indicator of educational success or failure. According to the relevant research results, the dropout rate has a huge influence on the prevalence of social problems (Cohen, & Smerdon, 2009; Somers, Owens, & Piliawsky, 2009). In order to solve dropout problems, the Ministry of Education built an online dropout notification and return to school system in 1994 for the relevant units to utilize. The main purpose was to have each junior high school and elementary school go online, via this reporting system, to immediately report the status of students dropping out, being located, and their returning to school, as well as transmitting information about unaccounted students to the National Police Administration for assistance in finding the students in question. The Ministry of Education hoped to understand the flow of dropout students through the construction of an information system in order to provide subsequent counseling services. However, relevant studies have not examined the effectiveness of this online system in helping to locate dropout students.

In general, most studies have employed the Technology Acceptance Model (TAM) to explore users willingness to use a new information system; however, some studies have pointed out that TAM still has room for improvement in its predictive capability of information system use willingness. Therefore, researchers must integrate appropriate assessment variables according to the characteristics of the case study, so as to be able to suggest a more effective strategy. Accordingly, this study attempted to integrate TAM with information system quality and re-construct the willingness to accept the model of dropout notification and return to school system in order to provide reference points for improving the outcomes of helping to find dropout students.

Literature Review

Technology Acceptance Model (TAM)

Because of the rapid development of information technology, understanding the willingness of consumers to accept new information technology has become one of the most important considerations for any cor-

porate planning strategy blueprint. Accordingly, Davis (1989) first proposed the Technology Acceptance Model to represent the consumers' mental processes when using information technology. Generally speaking, TAM consists of five variables: perceived ease to use, perceived usefulness, attitude, behavioral intention, and actual usage behavior. Perceived usefulness and perceived ease of use are considered the two key elements that affect consumer acceptance of information technology.

Since TAM can assist managers by easily explaining the basic elements that influence consumer acceptance of information technology, as well as having been supported by relevant studies (showing that TAM has a high predictive power of the acceptance of new technology), TAM has been widely used in other management areas. For example, Cheng, Lam, and Yeung (2006) applied TAM to investigate the willingness of consumers to use Hong Kong web banks and further integrated cognitive network security; test results proved that the integrated model has the ability to forecast customer behavior intentions. Kim, Lee and Law (2008) also used TAM to explore perceived ease to use, perceived usefulness, using attitude, actual use, quality and quantity of information system, perceived value and users willingness to accept the hotel front desk management system, and they developed an extended modified model.

Summarizing the above mentioned studies, although TAM has a certain degree

of effectiveness in information technology-related research areas, in order to improve the overall explanatory power of the model, most studies based on TAM have added other relevant research variables according to the characteristics of the research topics in order to better explore users' behavior intentions. Therefore, this study continued to explore the possible elements that impact the service quality of online information systems and further filter the appropriate integrated variables according to the functions and established purpose of dropout notification and return to the school system.

Information system quality model

In response to the trend of IT-enabled service, DeLone and McLean (1992) proposed an information systems success model of six dimensions that comprises system quality, information quality, use, user satisfaction, individual influence and organizational influence. Although this model differs from previous product or service centered measures, later studies indicated that if the assessment model cannot integrate service quality variables, subsequent strategic development misjudgments can occur. Accordingly, DeLone and McLean (2003) included service quality dimensions in the original success model in order to apply willingness to use through a procedural perspective. As shown in Figure 1. system quality, information quality, and service quality all can affect the usage of the information system and user satisfaction while

usage and user satisfaction can influence individuals and in turn affect the organizational performance.

On the other hand, Barnes et al. (2001) pointed out that a successful information systems quality model not only needs to emphasize the hardware features and functionality of the website, but also should consider the system's communication and integration capability. For example, after the empirical study of an auction site, Barnes, et al (2001) divided quality measurement into three categories: (1) website information quality, (2) website interaction quality, and (3) website design quality. Zeithaml, et al. (2002) and Parasuraman et al. (2005) employed an exploratory study and constructed ES-QUAL

and E-RecS-QUAL to assess online suppliers' quality performance, in which the ES-QUAL scale included the four quality dimensions of efficiency, fulfillment, system availability, and privacy, whereas the E-RecS-QUAL scale evaluated the vendors' ability to handle special conditions. Therefore, quality dimensions can be divided into quick response, compensation, communication, and liaison.

One of the main objectives of this study was to explore how to enhance people's willingness to use the dropout notification and return to school system. However, the educational information system this study explored was a non-profit type, so not

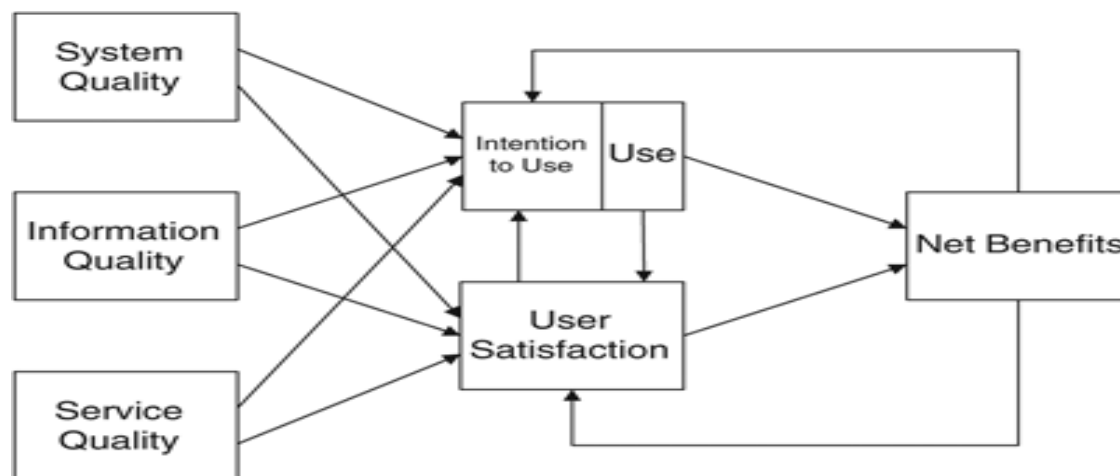


Figure 1. DeLone and McLean model of information system success

all of the assessment dimensions of online transactions used in the previous studies are fully applicable to this case study (such as: privacy and compensation). On the other

hand, since the information system examined by this study requires educational units to notify and pass the information to police units, this reference information for conducting follow-up tracking and helping to find dropouts is unique to the current study.

System interaction, stability and effectiveness of this system are extremely important for the success of tracking and locating dropouts. Accordingly, this study used TAM as the base and further integrated effectiveness and interactivity of information

system quality dimensions to explore the key influencing elements of the willingness to use the dropout notification and return to school system.

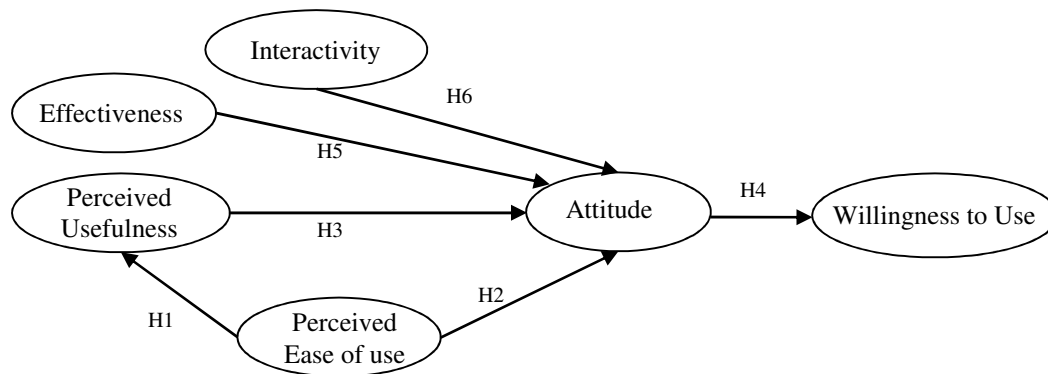


Figure 2. Integrated educational information system model

Research Methodology

This section mainly describes the research framework, research hypotheses and measurement of each research dimension.

Research Hypotheses and Research Framework

In the past, studies related to TAM primarily explored the willingness of consumers to accept new information/ technology products and verified that TAM has a certain level of predictive effect on the willingness of acceptance (Cheng, et al., 2006; Kim, et al., 2008). Recently, because more people are placing great importance on the quality of education, many scholars have begun to apply TAM to investigate the teaching system. For instance, Teo, Lee, Chai,

and Wong (2009) used TAM as the research framework to study 495 pre-service teachers from Singapore and Malaysia and their willingness to use the teaching system; the research findings were in accordance with the relational structure of TAM. Park, Roman, Lee, and Chung (2009) used TAM to investigate the behavioral intention of influencing people to adopt a digital library system and also used Africa, Asia, and Central / Latin America locations for the case studies. Based on a sample of 1082 respondents, perceived ease of use of the library systems had a significant impact on the perceived usefulness of those systems, eventually leading to a willingness to use. Following upon the studies mentioned above, this study proposed the following hypotheses:

H1: The higher the relevant unit's perceived ease of use of the dropout supporting system, the higher the relevant unit's perceived usefulness.

H2: The higher the relevant unit's perceived ease of use of the dropout supporting system, the more likely the relevant unit is to have a positive attitude towards using.

H3: The higher the relevant unit's perceived usefulness of the dropout supporting system, the more likely the relevant unit is to have a positive attitude towards using.

H4: The higher the relevant unit's attitude toward using the dropout supporting system, the higher the relevant unit's using intention.

Even though perceived ease of use and perceived usefulness are considered to be the key elements affecting user attitude, numerous studies have indicated that adding appropriate external variables is extremely important to strengthen the predictive capability of the model as a whole, according to case characteristics. Accordingly, this study chose system effectiveness and interactivity of web service quality as the external variables influencing willingness to use the educational information system and proposed the following hypotheses:

H5: The higher the relevant unit's cognitive effectiveness of the dropout supporting system, the more likely the relevant unit is to

have a positive attitude towards using the system.

H6: The higher the relevant unit's cognitive interactivity of the dropout supporting system, the more likely the relevant unit is to have a positive attitude towards using the system.

In sum, the integrated educational information system model proposed by this study is shown in Figure 2.

Questionnaire design

The questionnaire for this study consisted of three main parts. The main purpose of the first part was to understand, from the perspective of technology, the willingness to use the dropout notification and return to school system. So the assessment contents included TAM variables (perceived ease of use, perceived usefulness, attitude, and willingness to use). The relevant assessment items were modified according to the study of Davis (1989).

The main purpose of the second part of the questionnaire was to strengthen, from the perspective of quality, the TAM model. However, considering the uniqueness of the case study, this study only assessed effectiveness and interactivity dimensions of the system, and related items were modified based on ES-QUAL E-RecS-QUAL.

The last part was the basic information survey of the respondents, included the respondent's gender, age, occupation, and educational level. Relevant assessment items of TAM and effectiveness and interactivity of the system are summarized in

Research Results

This study collected 182 questionnaires after four weeks of distribution. After deleting questionnaires with incomplete responses, the total number of valid questionnaires was 165. The following describes reliability and validity of the questionnaire results as well as results of structural equation modeling analysis, the path effect analysis of the integrated model of educational information system, and final review of the hypotheses for support.

Reliability and validity analysis

Cronbach's alpha value was used as the basis of judgment for the reliability of the questionnaire, and according to the recommendations of Nunnally (1978), if Cronbach's alpha value is higher than 0.7, the questionnaire has high reliability. According to the analysis results of Table 1, the reliability values of each factor dimension ranges from 0.828 to 0.920. Furthermore, in terms of construct reliability value (CR), the research results showed that the CR value of each assessment dimension ranges from 0.825 to 0.919. As a result, the reliability of this questionnaire is good.

Regarding validity, this study first followed the recommendations of Hair et al. (2006). When the absolute value of each variable factor loadings is greater than 0.5 and reaches a statistically significant level, it supports that the measurement model has a good fit. From the analysis results of Table 1, we can see the absolute value of each variable factor loadings ranges from 0.626 to 0.867; accordingly, the convergent validity of this questionnaire is good. On the other hand, the results indicated average variance extracted (AVE) of each assessment dimension ranges from 0.60 to 0.74, higher than the correlation coefficient between two dimensions, thus indicating good discriminant validity. Overall, the construct validity of the scale is supported.

Structural equation modeling analysis

The authors first conducted a goodness-of-fit test of structural equation modeling on the proposed educational information system integrated model in order to confirm that the research model and the observed data had a good fit. Following that, they undertook path effect analysis.

Goodness-of-fit test of structural equation modeling

A goodness-of-fit test of structural equation modeling results in a p value of χ^2 (Chi-square) that when less than 0.001, exhibits there is not a good fit between the research model and observation data, but since

Table 1. Assessment items and reliability and validity analysis

Dimension/Item	Factor loadings
Perceived ease of use (Cronbach's $\alpha = 0.920$; AVE = 0.742)	
PEOU-1 Operation method is simple.	0.824
PEOU-2 Operation process is clear and understandable.	0.867
PEOU-3 Operation method is easy to learn.	0.850
PEOU-4C Change flexibly according to personal habits.	0.717
Perceived usefulness (Cronbach's $\alpha = 0.895$; AVE = 0.650)	
PU-1 helpful for dropout notification.	0.800
PU-2 helpful for locating dropouts.	0.772
PU-3 reduce the unnecessary processes and time.	0.711
PU-4 increase locating rate of dropouts	0.731
PU-5 have data archiving and search capabilities.	0.697
Effectiveness of the system (Cronbach's $\alpha = 0.883$; AVE = 0.654)	
SA-1 always on the normal operational state.	0.666
SA-2 can instantly turn on and operate	0.745
SA-3 has no breakdown and failure.	0.818
SA-4 does not have frozen screen situation.	0.764
Interactivity (Cronbach's $\alpha = 0.828$; AVE = 0.614)	
IA-1 helpful for information transferring and sharing.	0.699
IA-2 helpful for grasping the trends of the required information	0.734
IA-3can create the atmosphere of inter-departmental cooperation.	0.626
Attitude (Cronbach's $\alpha = 0.839$; AVE = 0.622)	
AT-1 has a high appraisal	0.701
AT-2 is a very good policy.	0.749
AT-3is voluntary.	0.653
Willingness to use (IN) (Cronbach's $\alpha = 0.898$; AVE = 0.609)	
IN-1continue to use	0.815
IN-2 will make the best use of this system to assist work execution.	0.798
IN-3 recommend to colleagues.	0.760 (0.65)
IN-4 also willing to use after system update.	0.716 (0.49)

the χ^2 indicator is easily influenced by sample size (Mueller, 1996), this study used statistics of the modified degrees of freedom (χ^2 / df) as the goodness-of-fit indicator to assess the model, supplemented with GFI, NFI, and RMSEA—three commonly used goodness-of-fit indicators to synthetically determine if the model is suitable or not. The results showed that each indicator is above the acceptable range. The results of goodness-of-fit test for each indicator are summarized in Table 2.

Path effect analysis

After confirming the overall model's goodness-of-fit, this study undertook the path analysis of the model through structural equation modeling (SEM). According to the analysis results, the attitude of the relevant units for using the dropout support system had a significant positive influence on willingness to use the system ($\beta = 0.96$). As to increasing users' positive attitude, results showed the influence level of perceived usefulness was highest ($\beta = 0.4$), followed by the system effectiveness ($\beta = 0.23$), and interactivity ($\beta = 0.23$). In addition, the results exhibited that the relevant unit's perceived ease of use directly and significantly influenced perceived usefulness ($\beta = 0.89$) but did not have significant influence on user attitude. Overall, for the six research hypotheses proposed, based on relevant literature, five hypotheses (H1, H3 and H4, H5 and dropout notification and return to school system should be the place for management units to actively improve on in the future.

H6) were supported. In contrast, H2 did not reach a significant level and was not supported. Table 3 shows the summary of each hypothesis testing results of the proposed educational information integrated model.

Conclusions and Suggestions

Because most previous studies employed TAM to examine users' willingness to use information systems, this study further considered the characteristics of the dropout notification and return to school system and incorporated other assessment variables into the proposed model in order to enable the system to provide a better explanatory model. The research results show that effectiveness and interactivity of the system indeed had significant positive influence on user attitude. Comparing to the original technology acceptance model, this proposed educational information system integrated model will be able to better explain users' behavioral intentions toward using the dropout notification and return to school system.

As illustrated by the analysis results, besides perceived ease of use, perceived usefulness, system effectiveness, and interactivity all significantly increased users' positive attitudes. Therefore, how to strengthen information sharing and transferring among the relevant units in order to improve the actual usage benefits of the On the other hand, considering the purpose of establishing the dropout notification and return to school system, enhancement of the

Table 2. Indicator value test results of goodness-of-fit test for the model

Name of the indicator	Indicator value	Ideal value	Result
χ^2 value	547.95*	the smaller, the better	reject the null hypothesis
χ^2 / df	2.479	≤ 3	fit
RMSEA	0.095	≤ 0.05	acceptable
GFI	0.77	≥ 0.9	acceptable
NFI	0.95	≥ 0.9	fit

Note: * means $p < 0.05$

Table 3. Summary of hypotheses testing results

Hypothesis	Path coefficient	Testing result
H1 : attitude→willingness	0.89*	supported
H2 : ease to use→attitude	-0.04	not supported
H3 : ease to use→usefulness	0.4*	supported
H4 : usefulness→attitude	0.96*	supported
H5 : effectiveness→attitude	0.23*	supported
H6 : interactivity→attitude	0.23*	supported

Note: * means $p < 0.1$

stability of the system will make the relevant units better able to save and search information at the appropriate time, which not only can increase users' positive attitudes but also can strengthen users' willingness to use the system.

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THE INFLUENCES OF ETHICAL CLIMATE ON TURNOVER INTENTION: THE MEDIATING ROLE OF EMOTIONAL EXHAUSTION

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Abstract

This article describes a model in which emotional exhaustion mediated between perceived ethical climate and employees' turnover intention. Our sample comprised 253 employees within foreign banks throughout the Taiwan. We showed that emotional exhaustion partially mediated between ethical climate and turnover intention. Implications for the human resource ethics theory and practice of banking industry with a reference for human resource management decisions are discussed, and future research directions offered.

Key Words: Ethical Climate, Emotional Exhaustion, Turnover Intention, Taiwan, Banking Industry

Introduction

Cullen et al. (1993) indicated that an ethical climate is one type of organizational work climate. An ethical climate is created when employees perceive that a

company's internal ethics or behavioral decisions satisfy expected standards or norms (Cullen et al., 2003). Organizational climate refers to members' psychological identification with organizational practices and procedures, as reflected in their actions. Incorporating ethical connotations

into organizational practices and procedures yields an ethical climate (Victor & Cullen, 1987). An organization's ethical climate is a part of its organizational culture. When encountering ethical dilemmas, the ethical climate of an organization influences decision making and subsequent behavioral developments. Therefore, ethical climate is defined as the primary perceptions that feature ethical content in organization-specific rules and procedures (Victor & Cullen, 1988), which possesses numerous useful functions in organizations. When encountering an ethical dilemma, an organization should provide employees with "appropriate response" guidelines to assist them in resolving ethical issues (Homans, 1950). Additionally, an ethical climate allows employees to identify ethical issues within an organization. In other words, an ethical climate offers a useful perception that enables employees to judge and evaluate situations (Cullen et al., 2003).

When an ethical climate is established in an organization, it regulates employees' words and actions while directing them toward positive thinking modes. Ethical climates involve guidelines for employee behavior and reflect an organization's ethics and morals (Cullen et al., 2003). Furthermore, an ethical climate describes a work climate type that features organizational policies, procedures, and practices that generate ethical outcomes (Mulki et al., 2008). Additionally, a company's ethical climate determines its ethical values and expected behaviors, and ethics has been found to potentially affect other members (Wimbush & Shepard, 1994; Verbeke et al., 1996). Previous studies have shown that an ethical climate can generate greater job satisfaction and organizational commitment while reducing employees' role stress and turnover intentions (Schwepker, 2001; Valentine & Barnett, 2003; Schwepker & Hartline, 2005; Mulki et al., 2006).

Job turnover refers to the actual behavior of leaving an organization (Williams & Hazer, 1986). Robbins and Judge (2013) defined turnover as employees' voluntary or involuntary permanent departure from organizations. Pater et al. (1974) argued that turnover generates potential influences on both organizations and individuals, and is a decisive behavior. However, in the decision-making processes of individuals, turnover intentions may precede subsequent turnover behavior (Mobley, 1977). Turnover intentions can also be considered workers' tendencies, wishes, and plans regarding their departure from their current positions (Williams & Hazer, 1986). Therefore, turnover intentions include turnover ideas and behaviors and attitudes regarding pursuing alternative employment (Miller et al., 1979). In other words, turnover intentions refer to workers' self-generated behaviors of leaving an organization. Turnover intentions are indicators of job turnover; the levels of individuals' turnover intentions determine their turnover behaviors (Mobley, 1977). Tett and Meyer (1993) asserted that turnover intentions are expressions of various thoughts and considerations, and refer to employees' free will to leave an organization.

Turnover intentions are also defined as intentional and carefully-planned efforts to leave an organization (Egan et al., 2004). Management studies have employed the theory of turnover to demonstrate that turnover intentions are the optimal predictors of whether an employee will leave an organization (Steel, 2002). Griffeth et al. (2000) indicated that job characteristics, such as job content, work stress, and fair rewards, affect turnover intentions. Additionally, turnover intentions are also influenced by extra-organizational factors such as alternative work, and other behaviors, including absenteeism and work performance, can also be used to predict turnover intentions. Considerable empirical research has been conducted regarding

the concept of turnover, which is an issue of organizational research, and turnover concepts have been confirmed in related empirical studies. The organizational costs of turnover include the transfer of organizational experience, recruitment, and training. An increasing amount of evidence shows that turnover intentions negatively affect performance (Shaw et al., 2005). Therefore, turnover intentions can be considered to have a certain level of influence on organizations. When turnover intentions are developed, organizations must determine whether particular employees should be retained.

Emotional exhaustion is an indicator for mental and physical health. Employees who experience constant work stress (particularly those in positions that involve frequent interpersonal contact) are likely to develop fatigue, which is closely related to the enhancement of work life quality and organizational functions (Wright & Cropanzano, 1998a). When performances and learning interests decline, a person's emotional resources (e.g., passion and perseverance) may be depleted. Simultaneously, if work demands continue to cause stress, emotional exhaustion can result (Halbesleben & Bowler, 2007). Numerous studies have indicated that emotional exhaustion has significant predictive effects for employees' work performances, turnover behaviors, and turnover intentions (Wright & Cropanzano, 1998b; Witt et al., 2004; Kundsén et al., 2006; Babakus et al., 2008).

Emotional exhaustion is a key factor of employee burnout (Maslach & Jackson, 1981, 1986) and a critical variable that influences job burnout (Maslach et al., 2001; Cropanzano et al., 2003; Schaufeli & Taris, 2005). The theory of job burnout and related experience (Halbesleben & Bowler, 2007) indicate that emotional exhaustion can affect an individual's effort and ability to improve performances (Maslach et al., 2001). In addition, emotional exhaustion

prompts people to distance themselves from their emotions and work cognition (Schaufeli & Bakker, 2004). Numerous studies have emphasized the correlation between an ethical climate and turnover intentions. This study used emotional exhaustion as an additional intervening variable to further clarify this correlation in an attempt to expand the diversity of relevant research.

Ethics issues involve all commercial activities, such as the activities of accountants, financial managers, buyers, and market researchers (Mulki et al., 2009). Unethical behaviors have become common social events rather than isolated incidents (Mulki et al., 2006). Recent evidence indicates that although unethical behaviors appear legal, they are detrimental to corporate image and reputation and cause customer losses, reduce employee morale, and increase turnover intentions (Thomas et al., 2004). Customers tend to avoid purchasing products and services from unethical organizations (Gilbert, 2003; Babin et al., 2004; Roman & Ruiz, 2005). Consequently, companies suffer because both their current and future business value is damaged. Particular unethical behaviors are illegal or fraudulent, and companies are liable for the resulting financial risks and costs (Chan, 2002; Neese et al., 2005). Ethical concepts are closely linked to a company's public image and contribute to the maintenance of successful long-term customer relationships (Schwepker & Hartline, 2005; Thomas et al., 2004).

Based on these arguments, we can infer that a favorable ethical climate is vital for companies because it provides ideal ethical guidelines for company decision-making and enables employees to influence each other's ethical values. Recent reports concerning corporate scandals abound, and all involve some form of fraud, such as employees' engaging in false accounting, asset misappropriation

committed by business owners, and companies and employees conspiring to obtain insider information or interests through deception (Stawiski et al., 2009). These behaviors can be attributed to a lack of fully established ethical values between companies and employees. However, the majority of ethical problems tend to concern the relationship between shareholders and customers. Numerous professional managers perceive that high ethical standards are vital for establishing long-term customer relationships and sustaining customer loyalty (Johnston & Marshall, 2003). Therefore, employees should honor their ethical norms and assist colleagues in safeguarding a company's ethical climate. The establishment of ethical concepts is particularly crucial in the banking industry. Management can lead by example by establishing ethical concepts, thereby preventing the frequent occurrence of corporate scandals.

This study investigated foreign banks, which are multinational corporations. Compared to domestic banks, foreign banks manage more complex capital flows and financial products, and the clerks of these banks experience greater business performance pressure. With corporate scandals of the types mentioned previously, clerks may cause damage to the global financial system when they decide to manipulate the loopholes of their companies. Therefore, bank clerks must adhere to high ethical standards to safeguard the banks they serve. These clerks also interact with customers on a daily basis; when customers are angry, clerks must adjust their emotions and adopt a pleasant attitude to resolve customers' negative emotions. Executives require that their employees comply with relevant standards regarding attitudes and etiquette when interacting with customers. Therefore, we sampled foreign banks in Taiwan to explore the correlation among an ethical climate, emotional exhaustion, and turnover intentions. The results can provide a reference for bank

managers making decisions related to human resources. This issue is relevant to and representative of this study's research topic.

Background and Hypotheses Formulation

The establishment of organizational ethical behavior standards boosts employees' confidence and enables management to trust the employees and adopt ethical behaviors (Mulki et al., 2006). In professional environments, the organizational ethical climate depends on the rules and standards regarding logical channels that enable employees to pursue their goals. The behaviors of executives provide a model for employees to understand the expected behavioral modes within an organization (Wimbush & Shepard, 1994). Therefore, companies should formulate well-defined rules and guidelines for governing employee behaviors, and provide convenient channels through which employees can resolve ethical problems or ethical dilemmas encountered when addressing customer demands (Mulki et al., 2009). Executives must provide timely information and workplace feedback and offer employees prompt assistance and support (Durham et al., 1997) to prevent vital resources, such as employee emotions, from exhaustion (Van der Doef & Maes, 1999; Singh, 2000).

Emotional exhaustion is characterized by employees' reaction to the fundamental pressure of extended emotions (Maslach et al., 2001). Subsequently, people perceive greater pressure in their work environment and are more likely to perceive that they do not possess sufficient resources (e.g., time, energy, or knowledge) to manage their work responsibilities or achieve their career goals; thus, people may experience burnout (Cristina et al., 2009). The employees of foreign banks examined in this study had long fostered an ethical corpo-

rate climate, which, according to the conservation of resources theory, was extremely likely to become another source of work stress. If these employees maintained their level of emotional output, their emotional resources may be depleted. Therefore, we evaluated the fit between personal characteristics and work environment, using the results as a crucial predictive indicator regarding the source of burnout pressure (Xie & Johns, 1995; Brigham & DeC astro, 2003). According to these findings, we found that when the level of employee contribution to the organization's ethical climate was high, employee identification with the organization was greater. This also reduced the pressure that the organization placed on employees, thereby enhancing employees' enthusiasm for work. Based on this discourse, this study proposed the following hypothesis:

Hypothesis 1. Ethical climate has a significant negative influence on emotional exhaustion.

Studies regarding the relationship between ethical climate and turnover intentions are rare, with only a few studies contending the existence of an indirect influence between the two. DeGeorge (1990) indicated that individuals tend to not remain in an organization if they perceive the organization to be unsuitable for them. Conversely, individuals are unlikely to leave an organization when they perceive the internal corporate climate to be ethical (Schwepker, 2001). A number of studies regarding the indirect influence between ethical climates and turnover intentions are discussed below. Schwepker (2001) found that an ethical climate is reinforced by organizational commitment, thereby reducing salespeople's turnover tendencies. Jaramillo et al. (2006) indicated that an ethical climate has an indirect influence on reducing turnover intentions because of the role conflicts and role ambiguity involved. Additionally, through job satisfaction, organizational commitment, and supervisor

trust, an ethical climate also indirectly affects turnover intentions (Mulki et al., 2006; Ulrich et al., 2007). Mulki et al. (2008) contended that through supervisor trust, an ethical climate indirectly reduces turnover intentions and positively influences work attitudes while reducing employee work stress and turnover intentions.

These studies show that commitment is a vital indicator of turnover intentions because employees are unlikely to leave an organization when they exhibit an active attitude (Jex, 2002). By conducting comprehensive analysis, Meyer et al. (2002) found that organizational commitment is negatively correlated with turnover intentions. Satisfied and productive employees can contribute to the achievement of organizational goals and exhibit comparatively less turnover intentions (Harter et al., 2002). However, the ethical climate refers to employees' ethical standards in response to an organization's conduct, procedures, norms, and values (Babin et al., 2000; Schwepker, 2001). When customers perceive that an employee is serving in an organization with a highly ethical climate, they are likely to predict that the employee will exhibit an ethical and reliable performance. This is beneficial for product development and establishing long-term customer relationships (Wright & Lundstrom, 2004). Therefore, employees of organizations that have a highly ethical climate perceive that they possess greater market competitiveness (Thomas et al., 2004). Based on the concepts discussed above, we proposed the following hypothesis:

Hypothesis 2. Ethical climate has a significant negative influence on turnover intention.

Numerous studies have shown that the experience of workplace stress is linked to employee welfare (Barling et al., 2005). Frontline employees generally have positions with low salaries, irregular working hours, and heavy workloads (Babin &

Boles, 1998). In addition, to effectively perform their work tasks, these employees must handle unspecific and unreasonable requests from colleagues, supervisors, and customers (Singh, 2000). These work requirements and uneven distributions of work resources, such as minimal training and supervisor support, low salaries, and a lack of rights and rewards (Ross & Boles, 1994; Deery & Shaw, 1999; Yavas et al., 2004), exhaust employees' energy and spiritual resources, thereby generating emotional exhaustion. Regarding work performance, turnover is related to burnout and absence, poor efficiency, interpersonal conflicts, low productivity, job dissatisfaction, and reduced organizational commitment (Maslach & Jackson, 1986). More importantly, customers realize that burnout is "contagious" among employees; therefore, burnout at the unit level is linked to low consumer satisfaction and service acceptance regarding professional staff and nurses (Garman et al., 2002; Vahey et al., 2004).

Several studies have indicated that a positive correlation exists between emotional exhaustion and turnover intentions among the average employee (Lee & Ashforth, 1996; Blanckertz & Robinson, 1997; Cropanzano et al., 2003). Multiple theoretical perspectives can be used to explain this correlation. Some scholars have contended that individuals engage in withdrawal behaviors (an example of which is turnover intentions) to cope with and reduce the psychological costs of emotional exhaustion (Jex, 1998; Schaufeli & Bakker, 2004). According to Social Exchange Theory, "withdrawal behaviors are a response to perceived imbalances in the exchange relationship between an employee and his or her employing organization" (Cropanzano et al., 2003, 2005). Emotional exhaustion affects a person's psychological well-being and has general effects on organizational variables (Cordes & Dougherty, 1993). When emotional exhaustion occurs, employees perceive that

existing resources can no longer satisfy work demands, and their emotional exhaustion eventually transforms into job dissatisfaction and ultimately departure from the organization (Singh et al., 1994). To summarize the above points, under a high ethical climate, employees' emotional strength increases because of their confidence in the organization, and they perform ethical behaviors with reduced emotional exhaustion. By contrast, employee turnover intentions increase when emotional exhaustion occurs (Cropanzano et al., 2003). Based on these contentions, we proposed the following hypotheses:

Hypothesis 3. Emotional exhaustion has a significant positive influence on turnover intention.

Hypothesis 4. Emotional exhaustion has a mediating effect on the relationship between ethical climate and turnover intention.

Methods

Participants and Procedure

The participants of this study comprised clerks employed at foreign banks in Northern, Central, and Southern Taiwan. For this study, we employed paper questionnaires, distributing a total of 300 copies. Design and distribution of the questionnaire combined with statistical analysis was conducted and purposive sampling was used to perform relevant research. Before distributing the questionnaire, the content and purpose of the questionnaire were explained to clerks via telephone calls and personally visiting the retail locations to ensure that the clerks understood and consented to the questionnaire investigation.

Measures

This study used a seven-point Likert scale, with points 1 to 7 representing

“strongly disagree,” “disagree,” “slightly disagree,” “neutral,” “slightly agree,” “agree,” and “strongly agree.” After collecting the participants’ responses, the average scores and standard deviations were calculated. We adopted SPSS 12.0 and AMOS 7.0 for analysis; SPSS 12.0 was employed to analyze the Cronbach’s α coefficients of various dimensions and items, and AMOS 7.0 was employed to analyze the reliability, convergent validity, and discriminant validity of the dimensions. Descriptive analysis of the sample characteristics was performed before conducting a correlation analysis. Subsequently, AMOS 7.0 was used to conduct empirical analysis of the model developed in this study.

Ethical Climate.

Ethical climate is a part of organizational culture. When an organization encounters ethical dilemmas, its ethical climate affects corporate decision making and subsequent behaviors. Ethical climate has been defined as the primary perceptions of the ethical content in organization-specific rules and procedures (Victor & Cullen, 1988).

Based on this definition, we adopted the ethical climate scale developed by Victor and Cullen (1988). The questionnaire consists of 26 items that address the five dimensions of ethical climate, that is, care, laws and codes, rules, instruments, and independence.

Emotional Exhaustion.

Emotional exhaustion, which refers to the fatigue resulting from long-term exposure to work stress (particularly in positions that require frequent interpersonal contact), is an indicator of mental health and is closely linked to the enhancement of work life quality and organizational functions (Wright & Cropanzano, 1998a). Based on this definition, we employed the Maslach Burnout Inventory developed by

Maslach and Jackson (1981) and selected a scale of emotional exhaustion to develop nine items for the questionnaire.

Turnover Intention.

Turnover intentions are voluntary behaviors of leaving an organization. Turnover intentions are an indicator of turnover; when individuals exhibit strong turnover intentions, they are likely to leave an organization (Mobley, 1977). Based on this definition, we employed the turnover intention scale developed by Carmeli and Weisberg (2006) and designed three items for the questionnaire.

Results

Descriptive Statistics

Data were collected for this study by distributing questionnaires to Taiwan’s foreign banks employees. A total of 300 questionnaires were distributed. Employing questionnaire tracking and reminders, a total of 297 completed questionnaires were returned, for an overall retrieval rate of 99%. After excluding 44 invalid questionnaires, a total of 253 effective questionnaires were retained, for an effective retrieval rate of 84%. This figure suggests that the sample data is representative.

Common Method Variance (CMV)

Samples were measured by conducted exploratory factor analysis (EFA) according to Harman’s single-factor method (Podsakoff et al. 2003). Results demonstrated that 8 factors could be extracted and that the explanatory power of the first factor did not reach 50%. Therefore, CMV was not a problem in the sample used for this study. Results showed that not all of the item’s loading reached the significant level of .5. Also, the observed single-factor CFA value ($\chi^2 = 2896.357$, D.F. = 481, GFI = .537, AGFI = .549, IFI = .613, CFI = .608, RMR = .087) was poor. Therefore,

CFA was conducted by separating each construct. Results indicated that the goodness-of-fit ($\chi^2 = 94.758$, D.F. = 34, GFI = .927, AGFI = .913, IFI = .957, CFI = .964, RMR = .027) demonstrated better than that of single-factor. Therefore, CMV was not a problem in this study.

Reliability and Validity Analysis

Reliability Analysis.

This study used Cronbach's reliability coefficients and CFA to examine the composite reliability (CR) of latent variables and explore the reliability of research constructs. In the ethical climate scale, the tested Cronbach's for caring, law and

code, rules, instrumental, and independence was .835, .902, .851, .701, and .716, respectively. In the emotional exhaustion scale, Cronbach's was .927. In turnover intention, the Cronbach's tested was .928. All of the above Cronbach's were over the threshold of .70 suggested by Nunnally (1978).

In terms of CR and average variance extracted (AVE), Table 1 demonstrates that the CR of each dimension was above .704 and AVE was above .512. These values were greater than the threshold of .70 and .50, respectively, suggested by Hair et al. (2009, 2010). As a result, the internal consistency of the variables used in this study is within the acceptable range.

Table 1. Discriminant Validity and Correlation Coefficient.

Construct Dimension	EC			EE			TI	CR	AVE
	CA	LC	RUL	INS	IND				
CA	.716							.836	.512
LC	.595***	.843						.903	.710
RUL	.599***	.764***	.768					.852	.590
INS	.208**	.114**	.062**	.756				.704	.572
IND	.249***	.309***	.349***	.255***	.719			.717	.517
EE	-.146**	-.267**	-.318**	.338***	-.015**	.755		.927	.570
TI	-.247**	-.308**	-.381**	.216**	-.055**	.572***	.902	.929	.813
Mean	4.789	5.582	5.441	4.464	4.903	3.757	3.101		
Variance	.412	.710	.590	.270	.417	.570	.813		
Cronbach's α	.835	.902	.851	.701	.716	.927	.928		

EC = ethical climate, CA = caring, LC = law and code, RUL = rules, INS = instrumental, IND = independence, EE = emotional exhaustion, TI = turnover intention, CR = composite reliability, AVE = average variance extracted. ** $p < .01$; *** $p < .001$.

Validity Analysis.

Convergent validity and discriminant validity were both examined. To measure convergent validity, this study adopted Anderson and Gerbing's (1988) proposed standard, Bagozzi and Yi's (1988) CFA standard, and Gefen et al. (2000) goodness-of-fit indicators. For all the constructs, ethical climate, emotional exhaustion, and turnover intention, GFI, NFI and CFI were all higher than .90. RMSR were all lower

than .05. Also, all factor loadings reached significance level, CR values were all higher than .70, and AVE were all higher than .50. Therefore, the measurement model of ethical climate, emotional exhaustion, and turnover intention possessed convergent validity.

Discriminant validity was measured using the standard proposed by Fornell and Larcker (1981): two dimensions possess discriminant validity if the correlation coefficient of the two dimensions is smaller

than the square root of AVE for each dimension. Table 1 indicates that all dimensions fulfill the discriminant validity standard proposed above. This result demonstrates good discriminant validity for all dimensions.

Model Testing

Evaluation of Theoretical Models.

This study measured goodness of fit by three aspects according to Bagozzi and Yi (1988): preliminary fit criteria; overall model fit; and fit of internal structure of model. The results were shown in Table 2 indicated that the preliminary fit criteria, overall model fit, and fit of internal structure of model of this study possessed good model fit.

Table 2. The Analysis of Measurement Model.

Variable	Estimated parameter of MLE			CR	AVE
	FL (λ_x/λ_y)	EIM (δ/ϵ)			
Ethical climate				.902	.588
Caring	.884***	.218			
Law and code	.893***	.203			
Rules	.888***	.212			
Instrumental	.910***	.271			
Independence	.784***	.385			
Emotional exhaustion				.920	.570
Indicator 1	.693***	.325			
Indicator 2	.607***	.215			
Indicator 3	.768***	.223			
Indicator 4	.803***	.317			
Indicator 5	.903***	.267			
Indicator 6	.874***	.254			
Indicator 7	.638***	.233			
Indicator 8	.711***	.340			
Indicator 9	.815***	.307			
Turnover intention				.929	.813
Indicator 1	.894***	.212			
Indicator 2	.889***	.253			
Indicator 3	.923***	.334			

MLE = maximum likelihood estimation, FL = factor loading, EIM = errors in measurement, $\chi^2 = 94.758$, D.F. = 34, GFI = .927, RMSR = .021, RMSEA = .062, AGFI = .913, NFI = .934, CFI = .964, PNFI = .646, PGFI = .541. *** $p < .001$.

Hypothesis Testing.

The model used by this study was illustrated in Figure 1. The path coefficients for β_{31} , β_{32} , β_{33} were all significant with -.351, -.201, and .579. T-value was -4.03, -3.06, and 8.26, respectively. In other words, foreign banks employees' ethical climate significantly and negatively affected emotional exhaustion and turnover intention; emotional exhaustion

significantly and positively affected turnover intention.

In the analysis of the antecedent variables of turnover intention. Fig. 1 shows that ethical climate had one direct effect β_{32} and one indirect effects β_{31} β_{33} , of which coefficients were -.201 and -.203 (= -.351 \times .579), respectively,

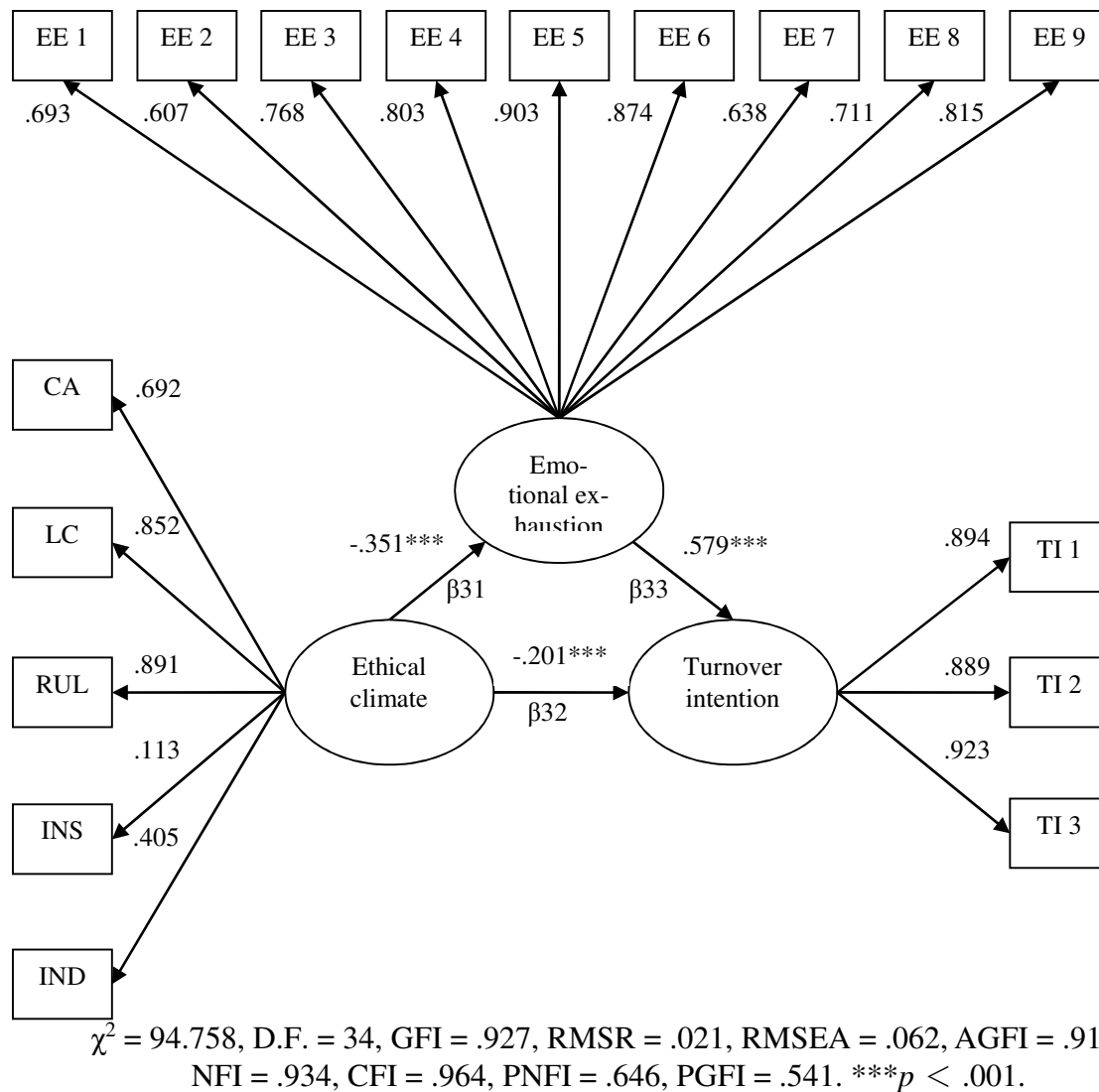


Figure 1. Overall Structural Model.

and the total effect was -.404. These results support H4, that is, emotional exhaustion has a partial mediating effect on the relationship between ethical climate and turnover intention. Therefore, H1 through H4 proposed by this study were all supported.

Discussion

Most of the hypotheses proposed by this study were supported. A detailed analysis of the results is provided as follows:

H1, which states that ethical climate has a significant negative influence on emotional exhaustion, is supported. The results show that the existence of regulated

and standardized channels in companies did not cause clerks to perceive that their personal resources for managing work demands and achieving their career goals were insufficient. The finding matches the studies of Xie and John (1995), Brigham and DeCastro (2003). Therefore, H2 (Ethical climate has a significant negative influence on turnover intention) of this study is supported. This indicates that the clerks would leave an organization when the perceived fit between themselves and the organization no longer existed. This finding conforms to the studies of Jansen and Chandler (1994), Schwepker (2001).

The hypothesis of H3 (Emotional exhaustion has a significant positive influence on turnover intention) is supported. This shows that the clerks' turnover intentions increased significantly when their emotions reached their pressure limits. This finding conforms to the research results of Lee and Ashforth (1996), Blankertz and Robinson (1997), Cropazano et al. (2003).

The hypothesis of H4 (Emotional exhaustion has a mediating effect on the relationship between ethical climate and turnover intention) is also supported. That is, emotional exhaustion has a partial mediating effect between ethical climate and turnover intention. Consequently, the inclusion of emotional exhaustion in the relationship between corporate ethical climate and turnover intentions influences employee turnover. Therefore, a well-formulated ethical company climate reduces employee burnout and, thus, decreases employee turnover intentions.

Additionally, among the dimensions of ethical climate, law and code received the highest average rating, whereas instruments received the lowest average rating. A consensus was exhibited in the overall evaluations, indicating that the clerks identified with the laws and codes of their companies' internal ethical climate, but adopted reserved attitudes when their interests or morals were challenged. A trend of disagreement was observed in the overall evaluations of emotional exhaustion, indicating that the employees could self-regulate their work-related emotions without expressing these emotions or experiencing burnout. A trend of disagreement was observed in the overall evaluations regarding turnover intentions exhibited, indicating that the clerks were satisfied with their current jobs and were unlikely to leave an organization because of dissatisfaction or corporate rules.

Research Implications

The results of this study show that the ethical climate has a significant intervening effect on turnover intentions through the influence of emotional exhaustion. Previous studies focused exclusively on the relationship between the ethical climate and turnover intentions (e.g. Mulki et al., 2006) without including emotional exhaustion as an intervening variable. This study explored whether emotional exhaustion influences the relationship between the ethical climate and turnover intentions. The results confirmed that emotional exhaustion affects the influence that ethical climate has on turnover intentions. Under the ethical climate of a company, employees are unable to focus on work and ultimately leave the organization if they cannot identify with the corporate system.

Therefore, this study compensates for the lack of research regarding the influence that the ethical climate has on emotional exhaustion.

Practical Implications

The pursuit of profit is no longer the sole purpose of business operations. Companies that value sustainable development allocate attention to ethical concepts and conduct, which are beneficial for success. The ethical climate is a crucial aspect of the organizational climate. The management departments of companies can create a particular ethical climate based on corporate culture and reputation to promote individual and organizational ethical behaviors. As previously stated, when employees' moral awareness declines, embezzlement within businesses frequently occurs. The incidents in history that involved the highest amounts of money or collective fraud ultimately resulted in losses for the public and society. When a company does not lead by example regarding its ethical climate, moral decay is inevitable, followed by a vicious cycle of embezzlement

and bankruptcy. Therefore, cultivating an appropriate ethical climate for a company is a crucial issue, and employees must be able to work comprehensively within a company's specific ethical climate.

The results of this study show that the employees considered the following company dimensions to be the most important (in sequential order): laws and codes, rules, and independence. This indicates that the majority of the employees continued to perceive laws as the core norm. In organizations with an ethical climate that values laws and codes, employees comply with laws and regulations regarding their conduct, and the rules and systems of the companies are valued by the employees, who are concerned of violating rules and regulations. These employees are satisfied with their jobs. However, when their interests are threatened, employees attempt to preserve the majority of their interests. These organizations are predominately small or medium-sized companies that do not require their employees to engage in continuous innovation. Therefore, employees are often unpunished providing they do not violate corporate rules and regulations.

Therefore, companies should establish or formulate appropriate policies, regulations, systems, and behavioral criteria. In addition to providing regular educational training for organization members to enhance their professional knowledge and managerial capabilities, companies should provide work ethics education and on-the-job training for all organization members to correct unethical behavior. By establishing rules and regulations that organization members can refer to, the influence of ethical climates can be fully exerted. On-the-job ethical educational training enables management staff to understand organization members' individual ethical philosophies, communicate with organization members, and enhance organizational coherence. Consequently, the members' identification with relevant organizational

strategies increases, and members and the organization can be expected to achieve a certain level of consensus. Thus, organizational functions can be fully realized, thereby enhancing organizational performances.

When bank clerks comply with the code of conduct for financial practitioners during relevant operations, they can identify their personal advantages and disadvantages immediately and conduct timely adjustment of their professional skills and knowledge required for financial work. Consequently, these employees consider financial work relaxing and pleasant, and are more likely to engage in financial tasks that involve moral and ethical conduct while maintaining positive opinions and perceptions. In addition, companies should enhance interactions between caring employees and the company. By promoting excellent communication, constantly caring for employees, and building interactive platforms, a company can convince employees that they are cared for and that profit optimization is not the company's only priority. In addition to communicating a company's concern for its employees, this approach inspires employees to work harder to achieve the company's goals.

When employees feel cared for from their supervisors, emotional resource depletion gradually declines and employee work devotion increases. In addition, companies should promote personal ethics to prevent independent employees from engaging in misconduct because of excessive self-awareness. Meetings or weekend gatherings can be organized to introduce relevant measures and correct employees' ethics. When a company stipulates appropriate measures for an ethical climate, employees are reassured to continue working for the company, and their emotional resources are preserved rather than depleted.

Limitations and Future Research

Limitations.

The sample distribution of this study was uneven because of geopolitical limitations. Furthermore, because foreign banks in Taiwan are dominated by Citibank, we only collected a few samples from other smaller foreign banks. Additionally, this study examined foreign banks solely, without considering domestic banks. Therefore, future studies must be conducted to determine whether the situations in local banks are consistent with the findings regarding foreign banks. As a cross-sectional study, we could only investigate the situations at a specific time and were unable to confirm whether long-term relationships were consistent with the findings of this study. In addition, this study only examined bank clerks according to the research questions and purposes, without investigating whether the same results were observed for frontline service personnel; thus, the results of this study are incomplete. The questionnaires were distributed and recovered by post; therefore, the actual

reply conditions could not be monitored. Consequently, the questionnaires contained ambiguous replies and missed items, resulting in relatively low reliability and validity.

Future Research.

In this study, the questionnaire survey was conducted with a single sample target (employees), without obtaining data from managers and supervisors. We suggest future studies to adopt multiple sample targets for questionnaire distribution to understand the situations of both supervisors and employees. Emotional exhaustion is influenced by numerous factors, and differing variables should be introduced to test the various intervening variables and further analyze the relationships between variables. Furthermore, future studies can expand the industry scope by extending investigations from the service industry to the manufacturing industry to examine whether the ethical climate and emotional exhaustion exhibit mutual influences in situations that involve greater work stress.

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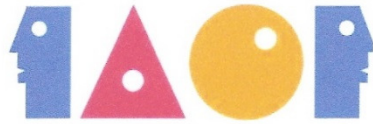
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THE EFFECT OF FINANCIAL MANAGEMENT ON THE PERFORMANCE
OF NON-PROFIT ORGANIZATIONS: AN EMPIRICAL
STUDY IN HAITI

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Abstract

The purpose of this research is to examine the influence of financial management on the achievement of goals of non-profit organizations. Financial data of forty international non-profit organizations that provided services in the field of basic education and health care was analyzed in this study. The efficiency of financial management of non-profit organizations was measured by fiscal performance ratio, fund raising efficiency ratio and public support ratio. The general performance of those non-profit organizations was measured by the number of people benefiting from their basic education and health care services. The findings show that fiscal performance ratio and fund raising efficiency are significantly associated with the performance of non-profit organizations. Predictably, the size of non-profit organizations, as measured by total assets, also positively affects their performance.

Key Words: financial management, performance of non-profit organizations, fiscal performance ratio, fund raising efficiency ratio, public support ratio

Introduction

According to the WTO (2007), managers and employees have increasingly recognized the importance of finance in non-profit organizations. Employees, including managers, participate in all kinds of activities in order to increase the organization's performance and ensure its success. In fact, the management of the organization's resources will determine the life of the organization (York, 2010). It is important to harmonize the use of various resources within organizations in order to ensure the organization's performance and sustainability. During the 21 century, non-profit organizations have continued to occupy the focal point of every successive development plan in less-developed countries. Financial performance of non-profit organizations is very important for their sustainability and achievement of their goals. As many of non-profit organizations' missions are geared towards helping local communities, proper management of the organizations' resources, which allows accomplishment of their missions, can also benefit the communities in which non-profit organizations operate (Bureau, 2010).

Whether the organization is large or small, local or international, private or public, its performance depends on efficient management of its financial resources (Green and Griesinger, 2006). Hence, financial management of non-profit organizations is expected to have a significant impact on their performance, even when their size is controlled for. The objective of this research is to investigate the impact of effective financial management on general performance of non-profit organizations and their achievement of goals.

This study is focused on the relationship between efficiency of financial management of non-profit organizations

and the results of their activities in providing access to basic education and health care in Haiti. This research is expected to provide useful information to interested parties, especially to professions in the area of finance who work in non-profit organizations. This study expands the literature on non-profit organizations by providing some insights for both academics and practitioners.

Literature Review

Non-profit organizations are legal and economic institutions with a mission to advance the economic and social welfare of a society (Bryce and Bryce, 1999). Non-profit organization operates for different purposes whether they are charitable, humanitarian, scientific, or educational, including promotion of literacy. Financial management of non-profit organizations is similar to that in the commercial sector in many respects; however, rather than increasing share-holder value, non-profit organization's primary goal is to provide for some socially desirable need on an ongoing basis (Anthony, 2010). The management and reporting activities of non-profit organizations emphasize stewardship for the resources donated to them (DeWitt, 2010).

Due to the importance of donated resources, financial managers of non-profit organizations not only determine the fund raising targets but also identify the best instruments that meet donors' requirements (Keating and Frumkin, 2001). The funds obtained through ongoing fund raising generally cannot be used for activities that are outside the strategic plan without threatening the mission and long-term sustainability of the organization (Bryce and Bryce, 1999).

Since the 1990s, there have been several empirical studies that measured the financial performance of non-profit organ-

izations using various financial ratios. According to Abraham (2004) and Glynn et al. (2003), "Ratio analysis is considered as a well-established tool to evaluate the performance of organizations profitability, liquidity and financial stability". Tuckman (1991) indicated the unreliability of applying financial ratios analysis, which has been devised for use in private sector or profit organizations, to non-profit organizations and developed financial ratios applicable to non-profit organizations in the first place. He proposed using four financial ratios to analyze whether or not a non-profit organization is financially vulnerable. These financial ratios include: Low Administrative Costs, Revenue Concentration, Inadequate Equity Balances and Low or Negative Operating Margins.

The ratios employed in this study to analyze the financial performance of non-profit organizations are as follows: fiscal performance ratio, fundraising efficiency ratio, and public support ratio. The fiscal performance ratio shows the fiscal management status of the organization (Siciliano, 1997). Fundraising efficiency measures the relationships between fundraising costs and total contribution and indicates the amount raised for each dollar of fundraising cost incurred (Green and Griesinger, 2006; Janet and Bukovinsky, 1998; Lee, 2010). Public support ratio indicates the extension of the dependence of the organization on direct public support (Siciliano, 1997; Lee, 2010).

Lee (2010) and Green and Kiesinger (2006), show that the performance of non-profit organizations (in terms of achieving their goals) depends on efficient management of their financial resources. Financial weaknesses of a non-profit organization limit the quality and quantity of services that it may provide to people in need (Green and Griesinger, 2006). Bryce and Bryce (1999) studied the effect of total assets on the goal achievement of non-profit organizations. He showed that the

size of non-profit organizations is correlated with their ability to provide social services to population in need in less developed countries.

Based on the existing literature, as well as the gaps in it, and the objectives of this study, the following four hypotheses are discussed and tested in the remaining sections of this paper.

Hypothesis 1: Fiscal performance is positively associated with the performance of non-profit organizations.

Hypothesis 2: Fund raising efficiency is positively associated with the performance of non-profit organizations.

Hypothesis 3: Public support is negatively associated with the performance of non-profit organizations.

Hypothesis 4: Total assets are positively associated with the performance of non-profit organizations.

Methodology

This study aims to explore the relationships among total assets, fiscal performance, fundraising efficiency, public support and the performance of non-profit organizations. The performance involves achievement of goals by non-profit organizations in providing social services in the form of access to basic education and health care. According to Fabozzi and Drake (2009), financial analysis should be conducted using a sample of organizations that have similarities in their missions and programs. Therefore, this study is conducted using a sample of forty international non-profit organizations that provide access to basic education and health care in Haiti. The sample includes data on 40 non-profit organizations during the period from 2009 to 2011. The data consist of revenues, expenses, gifts, donations, and grants. The data source is the website of

“GuideStat.org” (www.guidestar.org). ‘GuideStar.org’ is the website of GuideStar USA, Inc. It provides an informational service specializing in international non-profit organizations. It updates information on more than 1.7 million IRS-recognized non-profit organizations. Financial ratios are computed from annual report of the organizations.

Around the world, educated and healthy people are the basis of economic development (Fabozzi and Drake, 2009). Universal access to basic education and health care still remains an unfulfilled commitment in many areas. Several international and multinational initiatives were launched to tackle without contestation the schooling and health of people (Jaganathan, 1999). This research also focuses on education and health care. The dependent variables in the regression analysis are access to basic education (ABE), and access to health care (AHC), which measure the numbers of people to whom the non-profit organizations provide access to basic education and access to health care respectively. “EducHealth” is another dependent variable, which is the sum of ABE and AHC. The first ratio used in this financial analysis is related to fiscal performance which shows the financial management status of each organization, and this category is calculated as the ratio of total reserves plus total revenues to total expenses (Siciliano, 1997; Lee, 2010). A ratio of 1.00 means that total revenue including reserves equals total expenses. If the ratio is higher than 1.0, an organization could save some revenues. On the contrary, if the ratio is less than 1.0, an organization might fall in a deficit.

The second financial ratio in this study is related to fundraising efficiency. Fundraising efficiency ratio measures the relationship between fundraising costs and total contributions and indicates the amount of contributions raised for each dollar of fundraising cost incurred (Green,

and Griesinger, 2006; Jaganathan, 1999). This ratio is calculated as the ratio of fundraising expenses divided by total contributions. As the ratio becomes lower, it shows greater efficiency (York, 2010; Ritchie and Kolodinski, 2003). ‘Standards for Charity Accountability’ by ‘Better Business Bureau’ emphasizes that a non-profit organization should spend no more than 35% of contributions on fund raising (Bureau, 2010).

Finally, the third and last financial ratio for this study is related to public support. This ratio indicates the extent of an organization’s dependency on direct public support and is calculated as the ratio of total contributions divided by total revenue. Public support includes gifts, grants, and other contributions from government and donors. A ratio that is high or increasing is not desirable because the contributions are very flexible and unpredictable (Green, and Griesinger, 2006, Lee, 2010; Bryce and Bryce, 1999). Denison and Beard (2003) mentioned that an organization can be more vulnerable to financial shock when revenue sources are concentrated on a specific source. There is no standard for this ratio, but usually a lower ratio means less risk and better performance. This research includes also total asset as independent variable that controls for the organization’s size. Total asset may affect the number of people that benefit from the activities of the non-profit organizations. See the appendix for explanations of definitions of the variables in Table 1.

The regression analysis that tests the hypotheses employs the following linear equation model:

$$\text{EducHealth} = \alpha_0 + \alpha_1 * (\text{FPR}) + \alpha_2 * (\text{PSR}) + \alpha_3 * (\text{FRER}) + \alpha_4 * (\text{TA}) + \varepsilon_1$$

where:

α_0 is a constant; $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ are regression coefficients of independent variables; and ε_1 is an error term.

Table 1. Definition of variables

Variables	Definition
EducHealth	The number of people benefiting from access to basic education and health care activities of non-profit organizations.
FPR	Fiscal performance ratio. The ratio of total revenues and total reserves to total expenses.
FRER	Fund raising efficiency ratio. The ratio of fund raising expenses to total contributions.
PSR	Public support ratio. The ratio of total contributions to total revenues.
TA	Natural Logarithm of total assets.

Result and Discussion

Data on 40 non-profit organizations are analyzed in this research. Financial information was obtained from the annual reports of these non-profit organizations for the period 2009 – 2011. The descriptive statistic, including the minimum, maximum and mean values of the variables, for 120 observations is presented in Table 2. As shown in the Table 2, the sample includes small as well as large non-profit organizations, with total assets of

US\$ 53,100 and US\$ 557,763,254 respectively. On average, they provide assistance with the access to basic education and health care to about 2,111 persons. The mean of public support ratio is about 75%, while the minimum and maximum vary from 1% to 145%. Similarly, the mean of fiscal performance ratio is 72%, with minimum and maximum of 1% and 132%. The data of fund raising efficiency ratio seem to be positively skewed with a mean of 29%, the values ranging from 0% to 497%. See appendix Table 2 for more details.

Table 2. Descriptive statistics of 40 non-profit organizations for the period 2009-2011

Variables	N	Minimum	Maximum	Mean
Total asset	120	\$ 53,100.00	\$557, 763,254.00	\$29,314,221.69
Total revenues	120	\$20,229.33	\$455, 947,867.00	\$31,854,111.60
Total reserves	120	5,030.67	\$182,900,622.67	\$10,214,425.72
Total expenses	120	\$26,480.00	\$638,848,489.67	\$37,200,905.38
Total contributions	120	\$7,572.00	\$597,587,964.67	\$30,275,783.29
Fund raising expenses	120	\$0.00	\$25,560,301.00	\$1,794,910.68
EducHealth (persons)	120	253	16,397	2,111.28
Fiscal Performance ratio	120	1.00%	132%	72%
Fund raising efficiency ratio	120	.00%	497%	29%
Public support ratio	120	1.00%	145%	75%

Table 3. below shows Pearson correlation coefficients among the variables used in this research. Performance of non-profit organizations (EducHealth) is positively correlated with the fiscal performance ratio, fund raising efficiency ratio and total assets. The correlation coefficient between the latter two and EducHealth is

statistically significant at 5% and 1% level respectively. Unsurprisingly, larger organizations are able to provide their services to larger number of beneficiaries. The correlation coefficient between EducHealth and public support ratio is negative and statistically insignificant.

Table 3. Pearson coefficient based on 40 organizations

Variables	EducHealth	FPR	FRER	PSR	TA
EducHealth	1				
FPR	.182	1			
FRER	.018*	.419**	1		
PSR	-.173	.875	-.452**	1	
TA	.212**	.028	.035	-.202*	1

* mean significant at the level of 5%

** mean significant at the level of 1%

There is a strong positive correlation between fiscal performance ratio and fund raising efficiency ratio, while the correlation between the latter and public support ratio is negative and statistically significant at 5% level. This suggests that fundraising efficiency is more important than public support for both the organizations' fiscal performance and their main activity of providing access to education and health care. The correlation between total asset and public support ratio is negative and statistically significant, suggesting that compared to small-sized non-profit organizations, the larger ones have a wider range of revenue sources in addition to public support.

The results of regressing EducHealth on fiscal performance, public support, and fund raising efficiency ratios, as well as total assets are presented in Table 4.

The adjusted R-squared of 0.217 indicates that the model fits the data reasonably well. The results indicate that three of the four variables have a significant positive effect on access to basic education combined with access to health care. The effect of the fiscal performance ratio has a coefficient of 0.19, which is statistically significant at 5% level. Fund raising efficiency ratio also affects EducHealth; the coefficient equals 0.114, and it is statistically significant at 1% level. Improving fiscal performance ratio or fund raising efficiency ratio by ten percentage points allows the non-profit organizations to help two or one more individuals, respectively. Unsurprisingly, the total assets also positively affect EducHealth, with a coefficient of 0.465 and statistical significance at 1% level. However, public support ratio has a negative coefficient, and its effect on number of people benefiting from the organizations' activities is statistically insignificant.

Table 4. Regression: $\text{EducHealth} = \alpha_0 + \alpha_1*(\text{FPR}) + \alpha_2*(\text{PSR}) + \alpha_3*(\text{FRER}) + \alpha_4*(\text{TA}) + \varepsilon_1$

Variables	Sign	coefficient	t-value	p-value	VIF
Constant	+		2.370	.023	
FPR	+	.190	1.276	.048*	1.109
FRER	+	.114	.741	.000**	1.184
PSR	-	-.193	-1.235	.225	1.217
TA	+	.465	4.687	.003**	1.025
R²= .298	Adj R²= .217	F-value=3.710	P-value= .013		

* mean significant at the level of 5%

** mean significant at the level of 1%

These results of the data analysis support three of the four hypotheses. Hypothesis one states that fiscal performance ratio has a positive effect on the performance of non-profit organizations, measured by number of people provided with access to basic education or health care. Lee (2010) mentioned that a higher ratio indicates better financial management in non-profit organizations. The regression results support the hypothesis one. The second hypothesis suggests that fund raising efficiency ratio has a positive effect the organizations' provision of access to basic education and health care. Ritchie and Kolodinski (2003) stated that as the ratio becomes lower it shows greater efficiency. The regression results support the second hypothesis of this research. The third hypothesis of this study expects public support ratio to be negatively associated with the performance of non-profit organizations. Greenlee and Griesinger (2006), and Bryce and Bryce (1999) implied that a high ratio is not desirable for non-profit organizations because the contributions are very flexible and unpredictable.

The third hypothesis is not supported by the regression results; they suggest that public support ratio does not have a significant effect on the organizations' performance. The fourth hypothesis sug-

gests that total assets are positively associated with numbers of beneficiaries that a non-profit organization can reach. This suggestion is rather apparent and is supported by previous studies (Denison and Beard, 2003) and regression results of the current research.

Conclusion

Non-profit organizations are an essential part of every community. They provide benefits to members of the community. It is important to ensure that a non-profit organization is sustainable, properly capitalized and funded. Appropriate financial management ensures that there are adequate resources to support its operations and achieve its goals (Bryce and Bryce, 1999). The purpose of this study is to examine the relationship between financial management in non-profit organizations operating in Haiti and their performance in terms of providing benefits to a greater number of beneficiaries.

The results indicate that fiscal performance, fund raising efficiency and total assets are positively associated with the number of individuals whom the organizations can assist in accessing basic education and health care. The effective financial management is as important for the performance of non-profit organizations as

it is known to be crucial for the performance of for-profit firms. Additionally, this study shows that too much emphasis on unpredictable public contributions may not be very beneficial for the performance of non-profit organizations. Besides, the study also confirms the apparent notion that the greater assets of the organizations provide them with more considerable ability to achieve their goals.

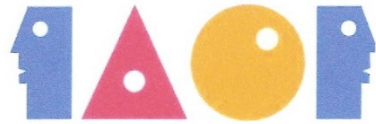
This research reduces the gap in understanding the role of financial management for non-profit organizations. Improved understanding of the relationship

between financial management and the performance of non-profit organizations allows its managers to employ the financial resources more efficiently for the benefit of achieving the organization's goals. Future researches may build up on the result of current study in a number of ways; including expanding the sample size used in the analysis, and checking the robustness of current results when other measurements of performance of non-profit organizations are adopted.

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RELATIONSHIPS AMONG WORK VALUE, QUALITY OF WORK LIFE,
AND TURNOVER INTENSION IN NURSES IN YUNLIN, TAIWAN

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Abstract

The purpose of this study was to investigate the relationships among work value, quality of work life, and turnover intension in nurses in Yunlin, Taiwan. The questionnaires were submitted to 568 nurses and 478 questionnaires were completed accounted for a response rate of 84.0 percent. They were verifying the validity and reliability of the scale. The data were analyzed by statistic analysis such as frequencies, means, path analysis using computer program SPSS for windows 17.0 and LISREL 8.72. Results demonstrate: (1) a significant, direct, and positive effect of work value on quality of work life. (2) a significant, direct, and negative effect of quality of work life on turnover intension. (3) an indirect negative effect of work value on

turnover intension through quality of work life was also revealed in the finding. All paths in the model were significant ($P < 0.05$). After the analysis of LISREL, the suitability of the framework was fine and proves that the model is applicable for the research. The results of this research will be used as a reference to develop strategies for human resource management in the hospitals of Taiwan.

Key words: Work Value, Quality of Work Life, Turnover Intension, Structural Equation Modeling (SEM)

Introduction

Employee turnover, which is the voluntary departure of members from an organization, is a topic of wide interest in organizational research (Hayes et al., 2006). Previous studies have been focused only upon turnover intentions, which gauge the extent to which employees intend to leave, rather than measuring factors relative to the actual turnover (Cohen, 1999). Nursing professionals represent the largest employee group in hospitals (Flanagan, 1997). The workplace role of nurses is increasingly demanding. Nevertheless, reducing the number of nursing personnel is often the first consideration in cost containment efforts implemented in many Taiwan-based hospitals (Yin & Yang, 2002). In several countries, shortage of nurses is currently an important problem. This shortage has been precipitated by a number of factors, including an increasing number of elderly people, who typically suffer from chronic illnesses and demographic changes with decreasing numbers of young females. However, turnover is the major contributor to shortage of nurses (Price & Mueller, 1981). There are

inconsistencies within the literature regarding turnover, which may be attributable to the uncertainty surrounding both definition and measurement (Cavanagh, 1989). Moreover, both high turnover and high absence are very costly and result in decreased standards of patient care (Price & Mueller, 1981). The aim of this review of the nursing literature is, therefore, to identify the main influences on nurses' turnover and absence and possible common factors influencing both as well as the relationship between absence and turnover.

In management literature, "work value" is important, since the degree to which employees value their work attitude toward commitment, job satisfaction, and loyalty. A clear understanding of employee work value structure helps employers and managers develop effective HR policies that meet employees' needs and achieve satisfactory work outcomes in areas that their employees value most. Research on work values can be divided into three main areas: (1) defining the basic components of the work value domain and testing hypotheses concerning its structure (Bolton, 1980;

Hendrix & Super, 1968; Neumann & Neumann, 1983); (2) the correlation between work values and other personal, social, or organizational variables (Judge & Bretz, 1992; Lee, Dougherty, & Turban, 2000); and (3) the impact of culture on work values (Sagie, Elizur, & Koslowsky, 1996). These three areas of work value research have been the focus of attention in the last few decades. However, little research has been conducted to investigate the work values of Taiwanese hospitality employees. Pizam (1993) pointed out that more research is needed to identify employees' work values that are industry specific and relevant to various national and ethnic cultures.

The magnitude of work value, quality of work life, and turnover intention has become a matter of concern for nurses. Although a number of researchers have explored quality of work life and turnover intention nurses who work in critical care settings, a few studies have explored these issues among nurses, but there is a lack of studies assessing the work value, and lack of studies assessing the structural model of these concepts. Little research has been done in the nurses using work life, quality of work life, and turnover intention questionnaires to analysis the relationships between these three independent variables. Thus, the purposes of this study were to examine work value, quality of work life, and turnover intention and their relationships in nurses in Yunlin, Taiwan. Consistent with the argument about mediating variables posited by Baron & Kenny

(1986), we first estimate a preliminary model to establish whether there are direct associations between work value and the one dependent variable turnover intention. Then, we use structural equation modeling to test the hypothesized relationships presented in Fig. 1. Although not pictured in Fig. 1, the model estimates the associations of the control variables on the mediating variables and the one dependent variable.

Hypotheses

H1: The level of work value is positive associated with the level of quality of work life.

H2: The level of work value is negative associated with the level of turnover intention.

H2: The level of quality of work life is negative associated with the level of turnover intention.

Method

Participants

The general and job characteristics of 478 subjects were shown in Table 1.

Measures

Structural equations modeling (SEM) was used in a comprehensive, combined analysis of both structural and measurement models. The LISREL software

package was used to perform all SEM statistical procedures, and all research hypotheses were tested using SPSS for Window 15.0 and LISREL 8.72 with the measurement items. The measurement model specifies the relationships between the latent variables (constructs being measured) and

the observed variables (indicators, or manifest variables). Using LISREL estimations and traditional alphas, the assessment of the measurement model includes: Average Variance Extracted (AVE), composite reliability coefficients (LISREL internal consistency coefficients), and an investigation of reliability coefficients (Cronbach's α).

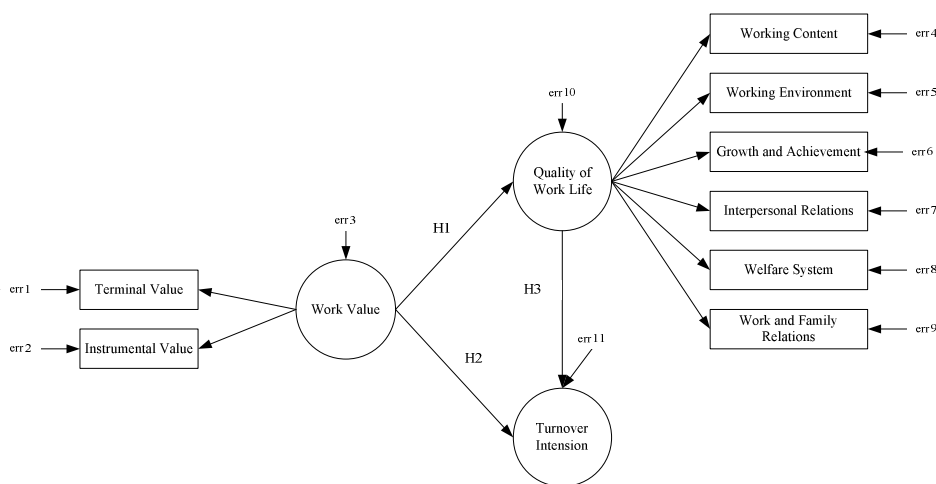


Figure. 1. The hypothesized model, linking work value, quality of work life, and turnover intension.

This research utilized a pretest to enhance reliability and validity. Aside from the significant loading of all items to their constructs met the recommended criteria of 0.40 in this research (Hair, Black, Babin, Anderson, & Tatham, 2006). When the factor loading was <0.3 , and item was deleted. This research use three questionnaires, include: Work Value Questionnaire, Quality of Work Life Questionnaire, and Turnover Intension Questionnaire. All questionnaires use five-point Likert scale was used, with anchors ranging from 5 to 1(5: always, 4: frequently, 3: occasionally, 2: seldom, 1: never). Cronbach's alpha was calculated to

determine the internal consistency, and the yielded a values were 0.934 for the work value questionnaire, 0.957 for the quality of work life questionnaire, and 0.816 for the turnover intension questionnaire. The results presented in Table 2 attest to the high internal consistency of the instrument in which all values were above the suggested level of 0.70 for scale robustness (Nunnally & Bernstein, 1994).

Results

The average variance extracted indicates what percentage of the variance of the

construct is explained by an individual item. In this study, all constructs demonstrated average variance extracted values of between 0.6171 and 0.8753 (see Table 2). All the questionnaires are higher than the benchmark of 0.5 recommended by Fornell and Larcker (1981). Fornell and Larcker (1981) suggested all constructs displayed a

higher composite reliability than the benchmark of 0.60. The internal consistency of the measurement model was assessed by computing the composite reliability; the coefficients ranged from 0.8905 to 0.9255, and are displayed for each of the variables under study in Table 2.

Table 1. General and job characteristics of the subjects(N=478)

variables	category	N	%
Age	≤ 20	0	0
	21-25	114	23.8
	26-30	225	47.1
	31-35	78	16.3
	36-40	34	7.1
	≥ 41	27	5.6
Education	≤Senior high school	3	0.6
	Junior College	205	42.9
	University	266	55.6
	≥Master	4	0.8
Work duration	≤ 1(year)	27	5.6
	1-3(year)	127	26.6
	3-5(year)	87	18.2
	5-10(year)	132	27.6
	11-15(year)	51	10.7
	15-20(year)	30	6.3
	≥ 20(year)	24	5.0

The initial model revealed a significant Chi-square-test, Chi-square(51) =484.45, p <0.001, reflecting inadequate model fit. While the p value of the chi-square result did not meet the recommended value as depicted in Table 3, this significant p value of 0.000 can be explained by the relatively large sample size employed in this study (478 respondents).

Unfortunately, Bagozzi and Yi (1988) indicated the statistical analysis of chi-square is sensitive to large sample sizes and will reject even a closely fitting model. This finding was supported by other fit indices: Root Mean Square Residual (RMR)=0.02, Standardized RMR (SRMR)=0.046, goodness-of-fit index (GFI)=0.86, adjusted goodness-of-fit index (AGFI)=0.78,

Table 2. Mean score work value, quality of work life, and turnover intension

Variables	Item	Mean	S.D	Cronbach's α	Average variance extracted	Composite reliability
Work Value	15	2.373	0.499	0.934		
Terminal Value	7	2.321	0.527	0.911	0.8031	0.8905
Instrumental Value	8	2.427	0.527	0.869		
Quality of Work Life	35	2.625	0.526	0.957		
Working Content	4	2.781	0.685	0.787		
Working Environment	6	2.715	0.603	0.853		
Growth and Achievement	8	2.519	0.570	0.895	0.8753	0.9255
Interpersonal Relations	4	2.365	0.574	0.818		
Welfare System	7	2.623	0.612	0.887		
Work and Family Relations	8	2.744	0.669	0.895		
Turnover Intension	4	3.047	0.469	0.816	0.6171	0.8655

normative fit index (NFI)=0.96, non-normative fit index (NNFI)=0.96, comparative fit index (CFI)=0.97. All the values were not supported the adequacy of the model. Although GFI and AGFI values exceeding 0.90 are preferable, the more liberal cutoff of 0.80 has been used for a good model fit (Hair et al., 2006). Table 3 shows that most indices indicated a reasonably high level of fitness for the structural model in this study.

The standardized solution estimated by the LISREL 8.72 program was used for interpreting the structural relation results. Path coefficients for each value from the models are shown in Fig. 2, which also confirms that the model explains a substantial portion of the variance in all the endogenous variables: 84.0 percent for quality of

work life and 72.0 percent for turnover intension. Table 4 presents the LISREL estimates of structural model coefficients. The path coefficients from work value to quality of work life was significant and positively ($\gamma_{11} = 0.84$, $t=16.08$). Work value was not significantly correlated with turnover intension ($\gamma_{21} = -0.07$, $t=-0.67$). Quality of work life was significantly and negatively correlated with turnover intension ($\beta_{21} = -0.65$, $t=-8.32$). Thus, work value affects turnover intension through quality of work life. All of the three causal paths are specified in the proposed model; two were found to be statistically significant for turnover intension. The direct effects of antecedents on the quality of work life (i.e.,

Table 3. Measures of model fit and reported values for structural model

Fit index	Recommended values	Model values	Model fit
Chi-square	$p \geq 0.05$	484.45(p=0.000)	Poor fit
Chi-square/degree of freedom	≤ 5	9.5 (df=51)	Poor fit
Root Mean Square Residual (RMR)	≤ 0.05	0.020	Good fit
Standardized RMR (SRMR)	≤ 0.05	0.046	Good fit
GFI(goodness of fit index)	≥ 0.9	0.86	Moderate fit
AGFI(adjusted goodness of fit index)	≥ 0.9	0.78	Moderate fit
NFI(normed fit index)	≥ 0.9	0.96	Good fit
NNFI(Non-normed fit index)	≥ 0.9	0.96	Good fit
CFI(Comparative fit index)	≥ 0.9	0.97	Good fit

Table 4. t and p values for indirect paths of the effects of the Work value on Turnover intention

Path	t	p
Work value → Quality of work life 0.84	16.08	0.03
Work value → Turnover intention 0.72	-0.67	0.08
Quality of work life → Turnover intention	-8.32	0.04
Terminal value ← Work value	22.35	0.02
Instrumental value ← Work value	26.09	0.02
Working content ← Quality of work life	--	--
Working environment ← Quality of work life	19.28	0.03
Growth and achievement ← Quality of work life	20.64	0.02
Interpersonal relations ← Quality of work life	17.98	0.03
Welfare system ← Quality of work life	20.51	0.03
Work and family relations ← Quality of work life	17.43	0.03

*p<0.05

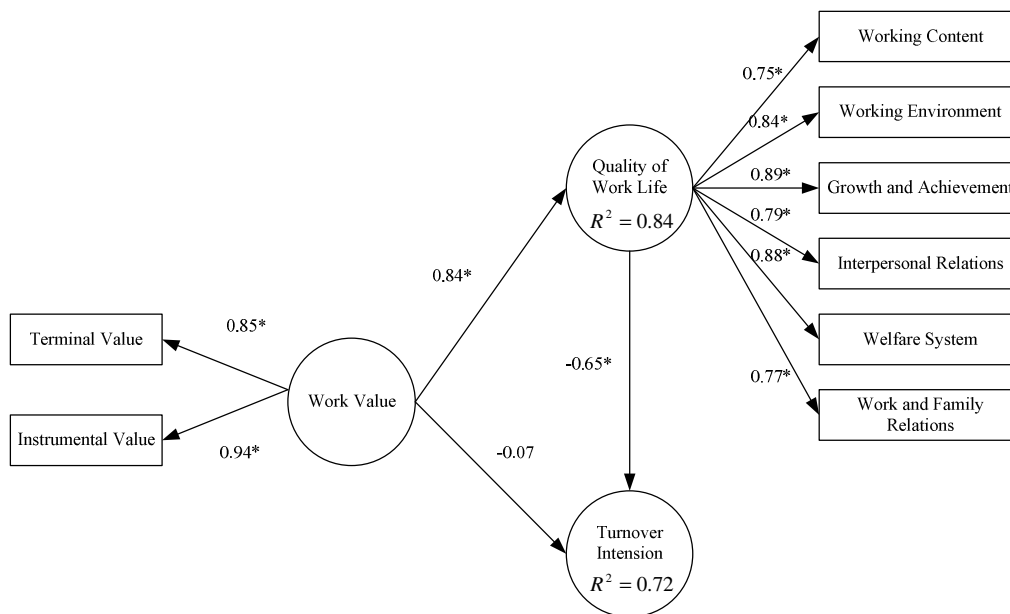


Figure. 2. Model of the relations among the work value, quality of work life, and turnover intention. All paths coefficient estimates are standardized and significant at the $p < 0.05$ level.

work value) was examined. Work value on quality of work life paths was positively significant. Therefore, H1 is supported. Work value on turnover intention paths was not positively significant. Therefore, H2 is not supported. The direct effects of antecedents on the turnover intention (i.e., quality of work life) was examined. Quality of work life paths was negatively significant. Therefore, H3 is supported.

Discussion

This study has investigated the relationships among work value, quality of work life, and turnover intention in nurses in Yunlin, Taiwan. The discussion has addressed one major issues. The path analysis showed a significant effect of work value on quality of work life and quality of work life on turnover intention. Path coefficients

for each value from the models are explains a substantial portion of the variance in all the endogenous variables: 84.0 percent for quality of work life and 72.0 percent for turnover intention.

Although generally positive work value has been found to enhance quality of work life, it is also possible to combine high quality of work life with feelings that in any circumstances would have invoked quality of work life, and negative quality of work life has been found to enhance turnover intention, it is also possible to combine high turnover intention with feelings that in any circumstances would have invoked turnover intention. An indirect negative effect of work value on turnover intention through quality of work life was also revealed in the finding.

Finally, although this research provides a comprehensive model for understanding of the process through which work value impacts the nurses. functioning, it allows only a tentative glance into its explanatory mechanisms. Further researches should focus on the impact of turnover intention on work value and reinforce interactions between the above mentioned three variables.

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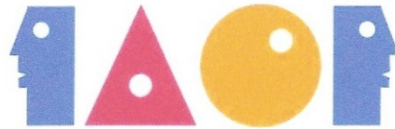
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Conclusions

The findings of this study show that work value plays an antecedent role to quality of work life, and quality of work life an antecedent role to turnover intention. This study suggests that work value is an important factor related to quality of work life, and human resource manager should be concerned with this issue.

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AN EMPIRICAL STUDY OF THE ORGANIZATIONAL CULTURE,
LEADERSHIP AND FIRM PERFORMANCE IN
A VIETNAM FAMILY BUSINESS

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Abstract

The study purpose explore the impact of transformational leadership on organizational culture, using the samples from seven industry sectors in Vietnam, and examined the moderating role of organizational size in the relationship between transformational leadership and organizational culture. The results showed that organizational size has moderating effects on the relationship between transformational leadership and organizational culture. Organizational size significantly contributed to the changing of organizational culture. As organization increase in size, commitment and harmony of organization decrease.

Keywords: Family firm, organizational culture, transformational leadership, organizational size

Introduction

The small and medium sized family firms play a vital role account for the development and growth of the economy. They occupy an overwhelming proportion in total number of the country's enterprises, for example, accounting for 97% and 87% of regular workforce and registered capital criteria in 2005. Moreover, they have contributed 39% of gross domestic product,

32% total of investment outlays in 2006 (Ho 2007), and about 85% total of corporate workforce in 2004 (Le *et al.* 2006). The small and medium sized enterprises also showed the important function in creating jobs, maintaining high mobility of the labor market, and narrowing development gaps among country's localities. The current study, based on the oriented culture samples, presents the empirical test to analyze the impact of family firm culture through its values on specific performance variables such as profitability,

survival, and group cohesion. In this sense, the institutional theory is used to build research model, since it allows us to understand why the values such as commitment and harmony flow from the family culture to that of the firm.

Many researchers studied extensively in size of firm, but still have a gap in firm size affect the psychological processes at the micro level (Park and Luo 2001; Shinkle and Kriaciunas 2010). They are interested in the role of organizational culture in small and medium enterprises in both practice and theory (Denison 1990; Schein 1992). However, these issues are not very concerned in Vietnam. The current study aims to investigate the factors exist in Vietnam small and medium family firm that determine business success. More specifically, this research determines the culture factor as a core of business success of family firms across firm size.

Literature Review

Many scholars expressed their works in the family firm. Rosenblatt *et al.* (1985) mentioned majority ownership, or control lies within the single family. Two or more extended family members influence the direction of business (Davis and Tagiruri 1985). Stern (1986) recommended the members of one or two families run and own the business. Family own business takes up 60% of equity in the business (Donckels and Frohlich 1991). They all agree that family business defined as a business owned and managed by a nuclear family. Consequently, family owned business might define as an enterprise with the significant ownership and control by members of a family or some families.

In Vietnam, according to Decree No. 56/2009/ND - CP dated 30/6/2009 of the Government, the number of employees regulated annual average of 10 people or less are

considered as micro enterprises, from 10 to less than 200 employees shall be considered as small enterprises, and from 200 to 300 workers to be treated as medium enterprises. Family - owned businesses have had a rich history in many economies throughout many generations, and in Vietnam, it could be considered as the foundation of establishing the initial business.

Institutional theory is an important element of the theoretical framework in order to explain the origin of flow of values and attitudes from owning family to firm. The family could be considered as an external institution of the type “stakeholder” (Oliver 1991). Moreover, family firms are dependent on the owned family for critical resources such as cultural elements, as values (DiMaggio and Powell 1983). Culture in family firm is a result of values, beliefs, and goals rooted in the family, its history, and present social relationships (Hall *et al.* 2001). In addition, Stinnet (1986) stated that essential conditions for a firm to achieve a strong culture could help it become more profitable. Chrisman *et al.* (2002) supported that the strong ties or social networks allow perceptions of values to be shared among the members of the family because of the frequent and intense contacts.

Commitment and harmony toward family business have been identified as the key desirable attributes to family firm performance. Specific values, such as commitment and harmony provide a family firm with a strong culture (Vallejo 2008). Meanwhile, the organizational culture is an important element for organizations to understand their own dynamic culture, so managers can capitalize on the insights generated by the cultural perspective to wield greater control over their organizations. Naicker (2008) stated that the culture of an organization has an important impact on its performance. Starting from these

arguments, we define commitment and harmony as the values used to build the research model for the analysis of culture in the family firm.

Transformational leadership theory provides the theoretical support for current research to explain how the transmission or diffusion of these cultural elements occurs. Leaders play an important role in defining organizational culture (Pettigrew 1979; Dyer 1985). The transformational leader motivates people to do more than others would originally expect to do by articulating a vision, providing an appropriate role model, fostering the acceptance of group goals, providing individualized support and intellectual stimulation, and expressing high performance expectations (Podsakoff *et al.* 1990). Past researches reveal that leaders described as charismatic, transformational or visionary have positive effects on their organizations and on their followers, both in terms of firm performance and levels of satisfaction, commitment and identification (Fiol *et al.* 1999; Vallejo 2009). Lubatkin *et al.* (2006) stated that the leaders of small and medium enterprises are ratified and direction their firm's strategies, as well as participate directly implementation every day.

Transformational leaderships are positively associated with organizational commitment in a variety of organizational settings and cultures (Lowe *et al.* 1996; Walumbwa and Lawler 2003). They are able to influence their followers by promoting higher levels of intrinsic value associated with goal accomplishment, emphasizing the linkages between follower effort and goal achievement, and by creating a higher level of personal commitment on the part of the leader and followers to a common vision, mission, and organizational goals (Shamir *et al.* 1993). Moreover, Transformational leaders influence their followers by encouraging

them to think critically by using novel approaches, involving followers in decision-making processes, inspiring loyalty, while recognizing and appreciating the different needs of each follower to develop his or her personal potential (Avolio 1999). Transformational leaders frequently change their organization's culture with a new vision and revision of its shared assumptions, values and norms (Bass 1985). Therefore, we predicted as the following:

Hypothesis 1: Transformational leadership of family firm will be positively related to organizational commitment.

The value of harmony comprises the qualities "appreciation," "spend time together" and "communication." One of the characteristic values of the family firm is atmosphere. Vallejo (2008) stated that the better human relationships within the business, the better working atmosphere. The simple structure and special personnel of family firm make them more participative and creative (Daily and Dollinger 1992). Moreover, trust is one of the most important factors of the family firm. It highly contributes to family firm's development and survival. The participation in the decision-making process, the existence of a stimulant-working atmosphere are necessary to improve harmony in organizations (Vallejo 2011). A transformational leadership can bring harmony to a situation that could be exacerbated by a quarrelsome organization. Thus, we formulate the following hypothesis:

Hypothesis 2: Transformational leadership of family firm will be positively related to organizational harmony

Commitment refers to the acceptance of the family's goals while cohesion refers to the formal union of family members in the

family or movement. Family firm commitment may enhance the family members' sense of responsibility for the business, leading them to instill processes that will protect the firm and benefit the organization. Indeed, many family members identify with the company are willing to work harder and reinvest part of their profits into the business to allow it to grow in the long term. Therefore, strong commitment and personal bonds are expected to reduce threats posed by adverse selection and moral hazard (McAfee and McMillan 1987). Cohesion comes from group members' commitment to work together to complete their shared tasks and accomplish their collective tasks or goals (Yukelson, Weinberg and Jackson 1984; Guzzo 1995). The bonds of unity develop from family members' concerted effort to achieve their common goals are considered indicative of group cohesion. Moreover, commitment derives from the relation of a family member's job to those of another in the family firm. It has been found that jobs are not integrated with the work activities of others tend to be associated with less favorable attitudes (Salancik 1977). Thus, we predicted as the following:

Hypothesis 3: Organizational commitment of family firm will be positively related to group cohesion.

The level harmony (trust, participation, and organizational climate) has a positive and significant influence on the family firm's cohesion (Ruiz, Vallejo and Martinez 2013). The family harmony is supported with some family characteristics such as motivation, commitment, loyalty, inspiration, willing to work long hours without compensation, high flexibility in work roles (Dyer 2006; Beehr, Drexler and Faulkner 1997). Lee (2006) found that family harmony is a positive and significant predictor of organizational commitment, work, and life satisfaction. Perceiving family harmony norms are noteworthy related to both

relationship conflict and family member impediment (Kid-well, Kellermanns and Eddleston 2012). Moreover, the family relationship directly influences the success of family business. Furthermore, strong family relationships are critical to the accomplishment of a family business. If family members cannot work together in harmony, succession will only be a imagine (Amundson 1997). Hence, harmony of the family is considered as the most life-sustaining resource to enhance family firms (Lee 2006). Increasing family harmony would increase the benefits of the family members in business life (Beehr, Drexler, and Faulkner 1997). Therefore, without harmony, family members will eventually splinter into separate individuals working towards their own personal agendas and not together toward a group goal. It is important for family members to see themselves as a part of the group working towards a goal for cohesiveness to exist. Therefore, we predicted as the following:

Hypothesis 4: Organizational harmony of family firm will be positively related to group cohesion.

Commitment and harmony of family firm's culture are positively related to profitability and survival (Denison 1984; Ogbonna and Harris 2000; Sorensen 2002). In particular, the family firm commitment is associated with satisfaction, direction, and duration of work effort and extra-role behaviors, so it contributes to the realization of a family firm's mission and goals (Zahra et al. 2008). Sirmon and Hitt (2003) expressed that strong family firm commitment may be a unique resource of family firms, which motivates family members to accomplish firm goals. Family members' commitment to the business can lead to "survivability capital" such as equity investments, monetary loans and free labor, which help to grow and to sustain the business during poor economic times. Family firm commitment benefits family firms (Zahra et al. 2008). Past research

has found that families display pro-organizational behaviors are more likely to report strong financial performance (Eddleston and Kellermanns 2007; Eddleston et al. 2008a). Moreover, family firm commitment positively influences a firm's strategic flexibility, so it has the ability to pursue new opportunities and respond to environmental threats (Zahra et al. 2008). In addition, the level of harmony (trust, participation, and organizational climate) has a positive and significant influence on the family firm's survival and profitability (Ruiz, Vallejo, and Martinez 2013). Therefore, family firm commitment and harmony may enhance family firm survival and profitability. Based on the samples from oriented culture of a family firm, we predicted as the following:

Hypothesis 5: Organizational commitment of family firm will be positively related to organizational survival.

Hypothesis 6: Organizational commitment of family firm will be positively related to organizational profitability.

Hypothesis 7: Organizational harmony of family firm will be positively related to organizational survival.

Hypothesis 8: Organizational harmony of family firm will be positively related to organizational profitability.

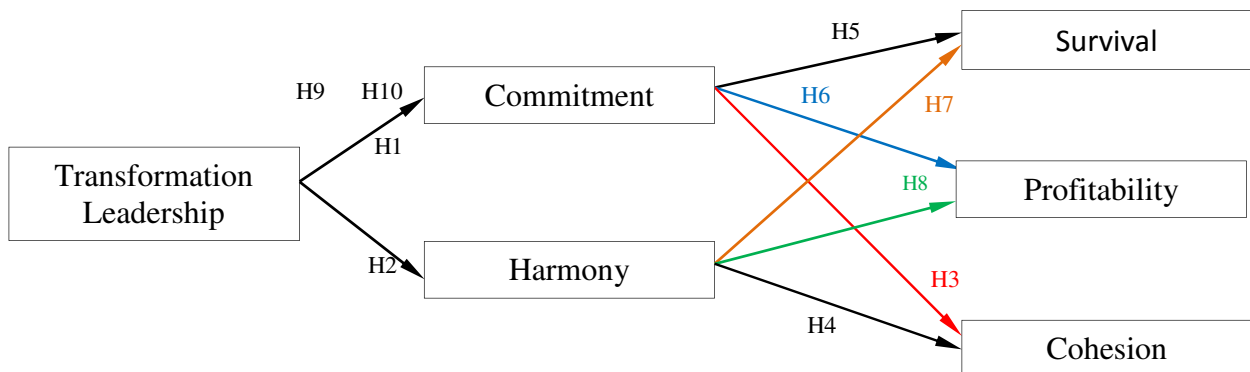


Figure 1: Research Model

The Moderating Effect Of Firm Size

Small firms usually have better internal communication processes than larger firms because their structures are simpler, less hierarchical, and less bureaucratic (Cordero 1991). In contrast, larger firms relatively are not as dependent on speed as a source of competitive advantage. They are more likely than smaller firms to possess complementary assets are. In

addition, small firms are more likely to compete, not as the firms with the newest specific technology, but as the firms that can best integrate new technologies with a broad array of other technologies. Thus, small firms are better suited to respond to new technologies faster; it is more critical that they do, so since they often lack of complementary assets and have a narrower knowledge base. Smaller firms will have faster learning speed than larger firms because of the reasons discussed above. Learning speed

enables small firms to develop the technological strength in order to exploit their competitive advantage of flexibility. In addition, learning speed is not as critical for larger firms, because they can develop technological strength by integrating a broader set of technologies. Firm size is a crucial factor, which may be helpful in enhancing certain the relationship between transformational leadership and organizational performance. However, there were few studies discussed the relationship between transformational leadership and organizational culture with the moderating effect of firm size.

In small family firms, less complex stakeholder structures have more managerial discretion. In contrast, more stakeholder group's leaders have more leadership constraints they face (Hambrick and Finkelstein 1987). By holding private firm, leaders of smaller family firms enjoy greater freedom from the kind of oversight and discipline imposed by the capital markets onto their publicly owned counterparts. Therefore, small family firms provide a particularly advantageous setting for transformational leaderships play a proximal role in enhancing, instilling individual commitment, establishing expectations and harmony more than medium family firms do. Leaders in small family firms are engaged in the implementation of the firm's strategies. They have opportunities to directly encourage and support novel thinking among all the firm's employees, so employees in a small family firm likely to look to the leader for clarification and reassurance more than medium family firms. The leaders in small family firms have closed relationship with their followers more than in larger firms. Therefore, when the size of firms increase, transformational leadership has less influence on transforming the needs, values of their followers, which may decrease their commitment to the firm. Thus, we propose the following hypothesis:

Hypothesis 9: Organizational sizes negatively moderate the relationship between transformational leadership and organizational commitment.

Hypothesis 10: Organizational sizes negatively moderate the relationship between transformational leadership and organizational harmony.

Methods

The data were collected in the winter season 2011 at three largest areas from Vietnam family own business. The sample design and the selection of sample units conducted along the following lines. (i) The family own business was first stratified by zone; (ii) Firm size will be further ranked by number of employees. The family firms were selected by the following constraints: (i) Small and medium family firms must be selected; (ii) At least ten people are full-time employment, and (iii) Firm age is more than three years.

The questionnaire included questions that covered a wide range of business matters (a) Location; (b) Name of the family owned business; (c) Name and gender of the principal owner; (d) Size of business enterprise; (e) Business industry. All questions and measures for establishing scales were informed by the extant literature.

Six-hundred questionnaires were distributed to the workers and CEOs in family firm at seven Vietnam industries. Only 379 of the questionnaires were returned (63.1%); small firm 191 (31.8%) and medium firm 188 (31.3%). Mean and standard deviation for small firms and medium firms were 1.58 (SD = 4.96), and 3.54 (SD = 5.00).

Measures

The research questionnaire was developed following standardized forward-backward translation procedure (Jone, Lee, Phillips, Zhang, and Jaceldo 2001). All of the items and scale were utilized in this study through the procedure of back - translation and were verified to achieve 0.70 or above inter-rater reliability value (Chen and Li 2011).

Commitments: the study focus on small and medium family firms in Eastern culture in three parts: *Identification:* employees working in family firms identify with the cultural values of their firm (Moscatello 1990). *Involvement:* In family firms, the employees are more involved (Moscatello 1990). *Loyalty:* degree of loyalty in family firms compared to non - family firms are more highly (Ward and Aronoff 1991). Scale to measure used 9 items extracted from the 17 items Organization Commitment Scale (Buchanan, 1974).

Harmonies: Three harmony elements were observed in order to optimize its measure. *Working environment / atmosphere:* Family firms have better working atmospheres, pointing out that they tend to be good places to work (Vallejo 2008, 2011). *Participation:* Family firms have much more flexible structure, which makes them more participative (Goffee and Scase 1980; Daily and Dollinger 1992). The personal involvement of the family members makes family firms more creative (Pervin 1997). *Trust:* Those organizations whose leader build a system of relations based on trust are more effective and more successful in the long run (Bennis and Goldsmith 1997; Shaw 1997). Trust as an important source of competitive advantage for the family firm, since it contributes to cutting transaction costs (Steier 2001).

Achieving a high degree of trust in relationships with non - family employees is

very important requisite for the family firm's performance and survival (LaChapelle and Barnes 1998). To measure *working atmosphere*, we used Fiedler's (1967) scale with 10 items.

We used Beehr's (1976) scale with 3 items to measure group cohesion; Carless *et al.* (2000) with 7-item to measure leadership; the scales of Galán and Leal (1988) with 3 and 5 items to measure profitability; the scale of DeMatos *et al.* (2009) with 3 items to measure survival.

Data analyses

Data were analyzed with an SEM (Structural Equation Modeling) moderation analyses (Edwards and Lambert 2007; Muller *et al.* 2005). A measurement model was specified first to achieve a uni-dimensional measurement of the latent constructs (Anderson and Gerbing 1988). The model fit for two conditions with the multiple groups SEM estimation evaluated size moderator effects (Edwards and Lambert 2007): a) Non-constrained model, allowing the direct effects parameters to vary as a function of firm size; and b) Constrained model, constraining the direct effects to be equal for small firms and medium firms. A chi-square significance test for the two models resulting in a deteriorated model fit for the second condition would be indicative of a size moderation effect. All SEM results were obtained with the AMOS computer software (Arbuckle 1999).

Results

Table 1. shows alpha reliabilities for small firms and medium firms. The Cronbach's alphas for all research variables were above 0.81. This reveals a high level of reliability. Table 2 shows descriptive statistics,

Table 1. Alpha reliabilities for small firm, medium firm, and all samples

Variables			Items	Cronbach's Alpha			
				Small (N=191)	Medium (N=188)	All samples	
Commitment (ct)	Identification (id)		3	.892	.858	.877	
	Loyalty (lo)		3	.898	.857	.878	
	Involvement (in)		3	.904	.839	.871	
Harmony (ha)	Atmosphere (at)		10	.931	.942	.937	
	Trust (tr)	Faith	Man-ager	3	.860	.812	.838
			Peer	3	.845	.841	.843
	Confi-dent		Man-ager	3	.828	.859	.844
			Peer	3	.841	.823	.830
	Participation (pa)		4	.922	.844	.886	
Leadership (tl)			7	.935	.914	.927	
Cohesion (co)			3	.884	.895	.889	
Survival (su)			3	.866	.914	.892	
Profitability (pr)			3	.876	.928	.903	

Table 2. Descriptive Statistics and correlation coefficients

	Small firm		Medium firm		Correlation										
	M	SD	M	SD	firm	pr	ld	co	id	lo	in	at	tr	pa	Su
firm	1.58	.49	3.54	.50	-	.33*	.29*	.42*	.54*	.56*	.54*	.58*	.53*	.46*	.59*
pr	4.58	1.37	5.01	1.21	.60*	-	.55*	.32*	.26*	.22*	.23*	.32*	.27*	.25*	.32*
ld	4.77	1.22	4.34	1.13	.37*	.47*	-	.09	.14*	.12	.05	.17*	.10	.142	.08
co	4.74	1.29	4.69	1.10	.29*	.41*	.55*	-	.47*	.47*	.47*	.42*	.43*	.31*	.65*
id	4.85	1.47	4.61	1.36	.33*	.32*	.21*	.40*	-	.77*	.77*	.34*	.27*	.18*	.54*
lo	4.57	1.44	4.45	1.39	.43*	.37*	.22*	.34*	.69*	-	.72*	.37*	.28*	.24*	.57*
in	4.65	1.41	4.53	1.45	.41*	.35*	.27*	.32*	.64*	.69*	-	.37*	.29*	.21*	.55*
at	4.83	1.12	4.89	1.20	.24*	.32*	.18*	.37*	.35*	.39*	.36*	-	.81*	.80*	.59*
tr	4.76	1.23	4.94	1.27	.21*	.33*	.22*	.41*	.41*	.43*	.44*	.75*	-	.82*	.51*
pa	4.83	1.31	4.93	1.23	.28*	.37*	.32*	.44*	.38*	.40*	.43*	.70*	.74*	-	.42*
su	4.81	1.36	4.95	1.52	.37*	.36*	.47*	.50*	.34*	.29*	.36*	.36*	.41*	.38*	-

Note: Correlation coefficients for the small firm are in the bottom-half; correlations for the medium firm are in the top-half; * $p < 0.05$ level; ** $p < 0.01$ level; *** $p < 0.001$ level.

Table 3. Model fit indices

Indices	Small firm (N=191)	Medium firm (N=188)	All samples (N=379)
Chi-square	263.8	286.5	286.2
TLI	.972	.966	.981
CFI	.976	.971	.984
RMSEA	.043	.050	.036

Note: Tucker-Lewis Index = TLI; Comparative Fit Index = CFI; and Root-Mean-Square Error of Approximation = RMSEA, (Hu and Bentler, 1999).

Table 4. Overview of model effects and size moderation tests

Sample	Model		Size moderation tests		
	Sig	95% CI	Constrained χ^2	Non-constrained χ^2	$\Delta\chi^2$
Small firms	.32***	(.133, .422)	271.371	263.761	7.6***
	.30***	(.124, .374)			
Medium firms	.13	(-.035, .305)	283.960	286.518	-2.6*
	.17*	(.009, .313)			
All samples	.29***	(.110, .328)	301.299	286.266	15.0***
	.24***	(.098, .297)			

Note: All chi-square values were significant at the $p < 0.001$ level; there were two d.f. for the $\Delta\chi^2$ test; * $p < 0.05$; *** $p < 0.001$; CI = Confidence Intervals.

Table 5. Final results

Hypothesis	Small firm	Medium firm	Hypothesis	Small firm	Medium firm
H1	High-Supported	Not-Supported	H6	High-Supported	Low-Supported
H2	High-Supported	Low-Supported	H7	High-Supported	High-Supported
H3	Low-Supported	High-Supported	H8	Supported	High-Supported
H4	High-Supported	High-Supported	H9	Supported	Supported
H5	Not-Supported	High-Supported	H10	Supported	Supported

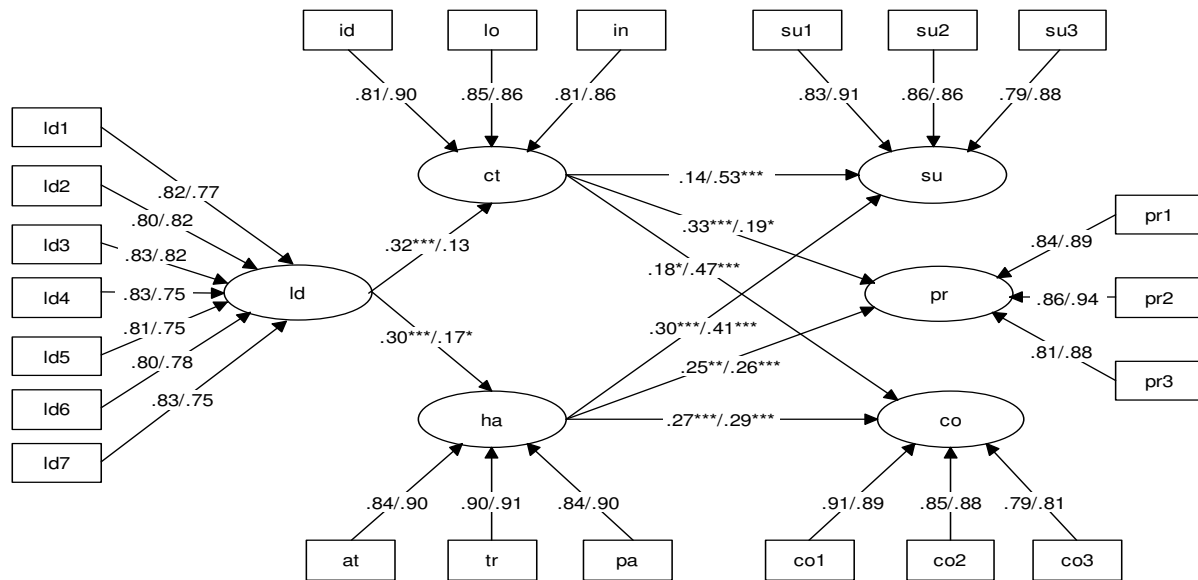


Figure 2. *Measurement model factor loadings and correlations among latent variables (small size/medium size).* All factor loadings were significant at the $p < .001$ levels; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. The indicators for model variables (transformational leadership = ld, commitment = ct; identification = id; loyalty = lo; involvement = in; harmony = ha; atmosphere = at; trust = tr; participation = pa; survival = su; profitability = pr; cohesion = co).

and correlation coefficients for small firms (N = 191) and medium firm (N = 188). In Table 3, Chi-square values were adequate for small firm (263.76 [196]) and medium firm (286.51 [196]), with acceptable measures of fit: Tucker-Lewis Index [TLI] = .972 and .966; Comparative Fit Index [CFI] = .976 and .971; and Root-Mean-Square Error of Approximation [RMSEA] = .043 and .050, (Hu and Bentler 1999). Figure 2 showed factor loadings and correlations among latent variables in the initial measurement model (small firm / medium firm), and the alteration of statistical indices when the family firm changing the size.

In principle, we believe that our failure to confirm the hypothesis concerning the positive relation between commitment and survival (Hypothesis 5) in small family firm while it is positive significant in medium family firm may due to the characteristics of oriented culture in the family firm. When the number of employees of firm are not too many,

they are biased in emotion rather than in the rule, and profit. The relationship between them is based on the close emotional relationship of family members. Therefore, it may appear of intermediate variables to explain this situation (Vallejo, 2011).

The findings demonstrated the transformation leader factors significantly influence small and medium family firms' survival, profitability, and cohesion across cultures and industries (see Table 5). The results stated that transformational leadership had a positive effect on outcome variables in Vietnam, which supports the universality of transformational leadership, as argued by Dorfman and Howell (1997). It also expressed firm size had linked to the relationship between transformational leadership and organizational culture. Therefore, firm size has an important role on the impact of transformational leadership to orient culture. These findings may allow us to conclude that

the larger employee the lower organization commitment and organizational harmony.

The fluctuation of model indices between two kind of firms occurred related to the changing of the firm size, which may directly influence organizational culture as a moderating variable. These results suggested that when increasing the number of employees to an extent will be likely reduced the relationship between transformational leadership and organizational harmony, as well as reducing the correlation between transformational leadership and organizational commitment.

Moderation tests for size are shown in Table 4. for the model that were non-constrained (allowing the effect to vary by size) and constrained (the effect was set equal for small and medium). The 95 percent bootstrapped confidence intervals imply that the effects of transformational leadership on organizational culture (commitment and harmony) were significant in all cases for the small firm and only significant through harmony from organizational leadership for medium firm. These confidence intervals are symmetric regarding the 95 percent of a *t* distribution; thus, they do not include zero when a two-tailed *t*-test is significant at the .05 levels (Shrout and Bolger 2002). Moreover, the difference test ($\Delta\chi^2$) showed that the effect of transformational leadership to organizational commitment was significant in both small and full size samples, except medium sample. These outcomes support for the conclusion that size moderated the effects of transformational leadership to organizational culture.

Discussion and Theoretical Implications

The finding in the present study indicated that size moderates the influence of transformational leadership on organizational culture. The outcomes suggest that

small firm was much more influential than medium firm by the effects of transformational leadership on organizational culture. There is substantial evidence indicating that small firm in Vietnam still maintains the family culture in the process of running business, simple in management structure, and proactive and flexible in price. These things are their most important protective factor against a difficult situation of doing business.

The research on small and medium family firm in Eastern culture proposed other view for the managers when using it as a tool to help them accomplish better levels of performance in small and medium family firm, in the whole of financial measure (profitability), and non-financial measure (survival and group cohesion). This is compatible with the work of Dikoklli et al. (2009), which reported managers typically used a set of performance measures to evaluate the effectiveness and efficiency of their business operations.

Values based management was considered in different point of view for small and medium family firm's culture when we tested the effect of management on firm performance under the moderator variable of firm size. Two models showed the fluctuation of firm size, in which commitment and harmony had caused by survival, cohesion, and profitability. Therefore, the manager can use the proposed model as a tool to implement 'values-based-management' to take advantage of the positive points.

The study suggests the new sight for both managers and employees through the perspective of Value Based Management in small and medium family firm. These insight give them more angle of views to concentrate on critical things, creates structures of corporate culture and governance, and share

value in place of work. Exploring small and medium family firm, within the growing number of employees, offers solid principles and a logic for building an ongoing ownership culture under the perspective of Value Based Management. It helps to create an environment respects the dignity of all forms of productive work, such as creating structures of corporate governance and management based on share value.

The tested model of organizational culture in family firms, with the moderating of firm size, allows us to affirm that transformational leadership has positively and significantly influences the degree of organizational commitment, organizational harmony in both kinds of firms (except Hypothesis 1 in medium firm). The degree of organizational commitment significantly positive influence on the level of survival, profitability and cohesion among organizational members (except Hypothesis 5 in small firm). Otherwise, the degree of harmony significant positive influence on the level of survival, profitability, and cohesion. Therefore, the organizational culture of family firms may be seen as a key factor of competitiveness.

Contribution and Future Research

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The study provides empirical evidence that the proposed model of leadership style and created organizational culture may be a useful tool for the owners of Vietnamese family SEMs to help them achieve higher levels of performance in their firms. Contributes to the scientific debate in the effect of firm size to the relationship between organizational culture and transformational leadership in family SMEs in an oriental culture.

In the future, research will need to investigate the possible existence of intermediate variables in the relationship between commitment and survival, commitment and cohesion, harmony and profitability in order to reveal the factors between them, and include in improved model.

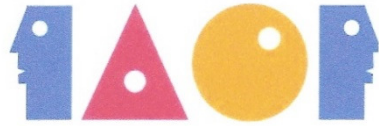
Limitation

Only adopted transformational leadership perspectives, not in other kind of leadership perspective. The results may not be generalizable beyond other Asian (e.g., Japan) or Western countries (e.g., U.S., Germany) owing different national culture.

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IMPACT OF LEISURE FARM RESOURCE BASE ON ORGANIZATIONAL COMMITMENT AND PERFORMANCE

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Abstract

A leisure farm must use its natural resources efficiently to ensure good customer leisure experiences and good employee performance. This study discusses how resource-based (RB) leisure farms mold employee organizational commitment (OC) and organization performance (OP). This study collects 350 valid samples. Following regression, this study found: (1) RB positively and significantly influences OC and OP (2) OC positively and significantly influences] on OP (3) OC only partially mediates RB and OP. Thus, employees of a resource-based leisure farm have higher organizational commitment and better organization performance. Leisure farms should plan effectively and use their visible and invisible resources to enhance organizational commitment and organization performance. Additionally, leisure farms should cultivate employee commitment to promote organizational performance.

Key words: Leisure farm, resource-based view, organizational commitment, organization performance

Acknowledgments: The authors would like to thank the National Science Council of the Republic of China, Taiwan for financially supporting this research. Ted Knoy is appreciated for his editorial assistance.

Introduction

Leisure farms have developed over the past two decades and enjoy numerous advantages in the macro environment of Taiwan (Chen, 2004). Since Taiwan joined the World Trade Organization (WTO) in 2002, its local industries have faced huge challenges (Duan, 2007). Traditional farms try transferred their focus from production volume to service quality (Chang, 2005) to market themselves to best advantage. Meanwhile, leisure farms combine resources from different fields, including visible, invisible, personal or organizational resources, to satisfy different customer needs (Wu, 1996). Leisure farm resources can not only satisfy the desired countryside life of consumers, but in the process can simultaneously benefit providers. Consequently this study discusses how leisure farms apply resources to increase management efficiency via the Resource-Based View (RBV) (Wernerfelt, 1984).

Employees are the most important component of a business and are very important role to maintain the service quality of a leisure farm. Additionally, because leisure farms advocate the concept of “experiencing”, they should provide employees with faultless experience management to teach them to implement experience service. Organizational commitment is an internal norm that encourages organizational members to promote organizational objectives and benefits. Moreover, if organizational members believe in and personally

identify with organizational objectives and values, their performance will improve] (Steers, 1977 ; Wu, Lin & Fu, 2006). In conclusion, through RBV, a business helps employees understand and identify with its mission to enhance their centripetal force. This is the third motivation of this study.

Regarding the above motivations, given a rapidly changing environment, the main purpose of this study is to fully understand how to pursue sustainable development for farmers and Taiwanese agriculture. This study thus took Taiwanese leisure farms and their employees to discuss how multi resources influence organizational commitment and organizational performance of farm employees.

Literature Review

Resource-Based View (RBV)

The core concept of Resource-Based Theory is long established. The concept of RBV follows the thought of strategic management which can be traced back to the concept of “special ability” developed by Selznick (1957), Chandler (1962), Ansoff (1965), Andrews (1971), Rumelt (1974), etc. Penrose (1959) proposed an integrated concept whereby a corporate with superior resources and can earn revenue through its superior resources and efficient use of its special abilities.

Wernerfelt (1984) adopted the theory of Penrose (1959) and proposed that a

corporate can store and accumulate its permanent and sustainable competitive advantages through proper resource use and efficient improvement of management. Barney (1986) thought the economic performance of a corporate not only results from market competition but also from its internal and external resources. In 1991, Grant integrated various aspects of the literature to develop Resource-Based theory and then established the status of this theory.

The resources that leisure farms use generally include natural and man-made resources (Cheng & Chen, 1996). This study thus adopts the theory of Wu (1996) to discuss how leisure farm resources and abilities impact organizational members. That is, this investigation applies the concept of RBV to analyze how a leisure farm could efficiently use its resources and enhance its management to achieve its unique competitive advantages.

Organizational Commitment (OC)

Organizational commitment has been enthusiastically discussed by scholars involved in organizational theory. The reasons for emphasizing OC include: (1) OC can predict employee turnover rate; (2) Employees with higher OC have better performance; (3) OC can indicate organizational performance (Mo, 2002). Chen (2002) also said that OC is superior to employee work satisfaction for predicting likelihood of an employee leaving.

Porter, Crampon & Smith (1976) considered OC a symbol of an employee recognizing and joining an organization. Blau & Boal (1987) also took OC to mean employee recognition of his organization and its objectives, and the strength of employee desire to belong to their organization. Restated, OC is the degree to which an individual recognizes the organization for which they work. Robbins (1991) proposed that OC is the strength of the loyalty, recognition and participation of an employee in an organization. Stephen (1992) thought OC reflects the perspective of a person toward their organization and its objectives in terms of loyalty, recognition and involvement. Wu, Lin & Fu (2006) defined OC as an attitude that helps a member believe and recognize the objectives and values of their organization, such as expending additional effort to achieve benefits for their organization, and enthusiastically wishing to belong to the organization and help it achieve its goals.

Numerous thoughts and theories exist with regard to the definition of OC. Most scholars use a single aspect to define OC. A general thought that defines OC is the aspect of the attitude (Spector, 2002; Jaramillo et al., 2005; Schwepker, 2001). Meanwhile, Meyer & Allen (1991) believed multiple aspects of OC should exist. Theories following M & A define OC using three aspects: attachment of affections, recognized cost of leaving the organization, and obligation to continue to work for the organization (Tsai, 2000). That is, the

three aspects are: affection commitment, sustainable commitment and canonical commitment.

This study uses the theory of Wu, Lin & Fu (2006) to define OC and uses the three aspects proposed by Meyer & Allen (1991) – affection commitment means an employee has affection attachment towards his organization, recognizes organizational objectives and transforms those objectives into internal values; sustainable commitment means the employment relationship is based on material benefits rather than affections; canonical commitment means an employee wishes to stay with the organization and contributes to the organization based on obligation but not personal benefits.

Organization Performance (OP)

To survive, an organization must consider both performance and efficiency. “Performance” means the achievement of the goal. Hoy & Miskel (1987) considered OP to be the degree to which an organization achieves its goal, which is expected by an organization. An efficient organization must cater to the needs of its members, and from this perspective OP should emphasize “humanity” ((Zammuto, 1982). OP thus describes the degree to which an organization aims to benefit participants or individual members (Keely, 1984). Schein (1985) argued that OP should be assessed based on the ability of the organization to

adapt, survive and grow. Chiu (1998) considered OP to be the ability of an organization to achieve its goals and adapt to the environment. OP encourages all members to cooperate together to achieve organizational objectives.

Regarding the theoretical model of OP, Cameron (1984) developed four models, namely the goal, system resource, internal process, and participant satisfaction models. To integrate different theories, in 1983, Quinn & Rohrbaugh devised the competitive value structure of OP to categorize different indicators into the four aspects of interpersonal relationship, open system, rational goal and internal process.

Hypothesis Proposition

Wu, Lin & Fu (2006) defined OC as an attitude that helps a member believe and recognize organizational objectives and values, pay extra effort to achieve organization benefits, and enthusiastically desire to be a part of their organization and assist it to achieve its goals. Thus, when an organization owns good resources and supports its employees to achieve goals using organizational resources, employees like to contribute to that organization. This study thus proposes hypothesis 1.

H1: Resource base is positively related with OC.

Resources influence organizational competitive advantage. Both visible and

invisible properties are the most important organizational resources. Hofer & Schende (1978) claimed that if resources are considered the basis of competitive advantage, organizational resources can be a good fit, and a business can differentiate itself from competitors. Barney (1986) also proposed that a business in a imperfectly competitive market can build long-term and sustainable competitive advantage through accumulating resources and abilities. Thus organizational performance is improved when an organization can enhance its resource base. This study thus proposes hypothesis 2.

H2: Resource base is positively related with OP.

Some investigations have confirmed that organizational commitment influences organization performance. For example, Sheldon (1971) proposed that the commitment of organization members can not only indicate organizational performance but can also predict employee work performance. Only when organizational members recognize the organization and make an effort on its behalf can the organization perform well. The strength of member commitment influences member willingness to achieve organizational goals, as well as their work satisfaction and organi-

zational performance (Steers, 1977). Additionally, Mowday, Porter & Steers (1982) proposed if an employee invests in an organization they will contribute to organizational productivity. Organizational commitment can predict employee performance, absences, turnover, and can indicate organizational performance (Meyer, Allen & Smith, 1993). Therefore, this study proposes hypothesis 3.

H3: Organizational commitment is positively related with organization performance.

Regarding what was discussed in above, this study establishes OC as an intermediary variable to examine the relationship between resource base and OP. If OC exerts an intermediary effect, OC influences OP, and the influence of resources on OP decreases. This study thus proposes hypothesis 4.

Hypothesis 4: Resource base influences OP through OC.

Research Design

Conceptual model

Figure 1. shows the conceptual model used in this investigation.

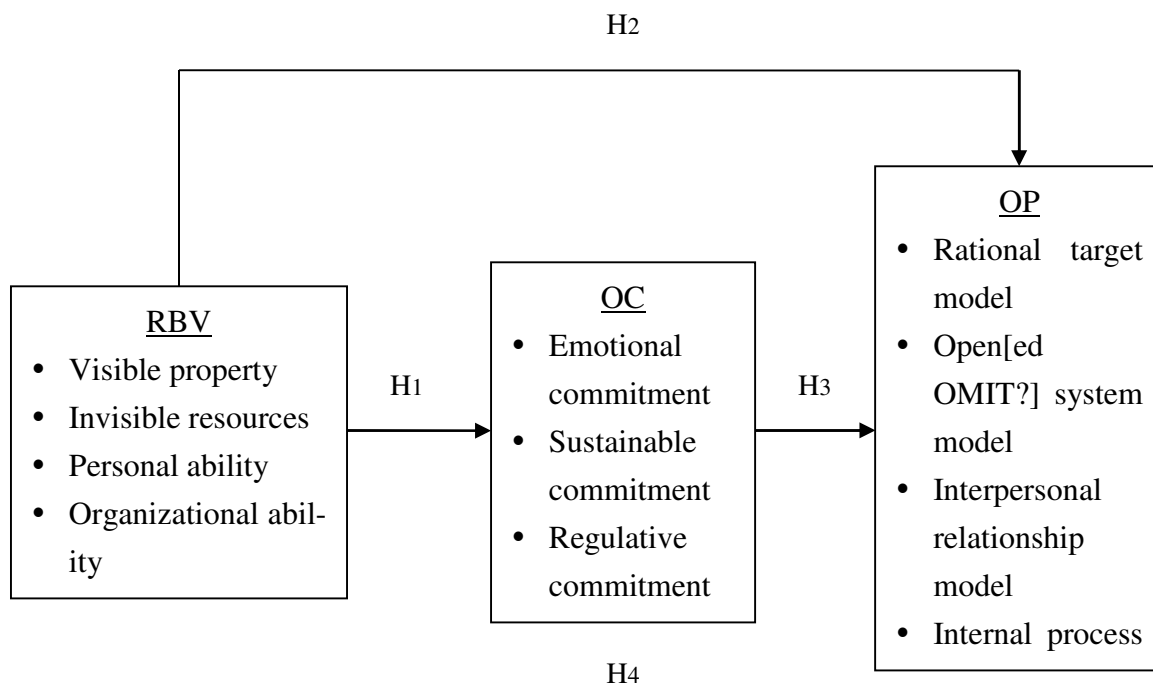


Figure 1. Conceptual Model

Definition of variables

Table 1. lists the definitions of all the variables.

Results

This study sampled employees of 21 leisure farms legally operating in Taiwan, and collected 350 valid questionnaires.

Reliability

Cronbach's α of each dimension ranges from 0.7 to 0.98.

Correlation

This study analyzed the correlations between variables using Pearson correlation analysis. The coefficients in Table 2 show that correlations between variables are significant.

Hypothesis validation

This study applied hierarchical regression analysis to validate Hypotheses 1 to 4. This study then followed the four steps of hierarchical regression analysis to validate mediating effect (Frazier, Tix & Barron, 2004). Hierarchical regression analysis includes three models. First, the independent variables must influence the intervening variables. As shown in Table 2, Model M1 simulates the results of the OC regression

Table 1. Variable definition

Variable	Factor	Definition	Reference:
RBV	Visible properties	This property can be found on financial reports, and includes concrete and financial properties.	Wu (1996), Chen (2006)
	Invisible resources	This factor is not shown in financial reports, and includes intelligent property, brand/reputation, license, contract or database.	
	Personal ability	Key personnel with innovation, professional, managerial or organizational abilities that provide them with a competitive advantage.	
	Organizational ability	Management abilities: operational skills, innovation, organizational culture and organizational learning	
OC	Emotional commitment	Employee affection and attachment to the organization	Meyer & Allen (1991), Tsai (1991)
	Sustainable commitment	Remain with the organization because of material benefits	
	Regulative commitment	Viewing loyalty as an obligation	
OP	Rational target model	Setting goals, work performance	

	Opened system model	Innovation and adaptation, Support, and growth	Quinn & Rohrbaugh (1983), Jiang(1993)
	People relationship model	Condensing morale, participation and opening up	
	Internal process model	Information management, stable control	

Table 2. Correlation Results

	RBV	OC	OP	Average	SD
RBV	1			3.8023	.47329
OC	.639*** .000	1		3.5837	.61653
OP	.575*** .000	.587*** .000	1	3.6137	.57546

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

analysis. The results of adding the independent variable of resource base into Model M1 demonstrate that the independent variable significantly and positively affected the intervening variable of OC ($\beta=0.639$, $p<0.001$), fulfilling the first condition of the mediating effect analysis step and supporting Hypothesis 1. Second, the independent variables must influence the dependent variables. Model M2 shows the OP regression analysis results. The results of adding the resource base independent variable into M2 demonstrate that resource base positively ($\beta=0.575$ $p<0.001$) influences the dependent variable of OP, supporting Hypothesis 2. Finally, this study added the intervening variable of OC into

M3, where the intervening variable must influence the dependent variable, and the independent variable exerts a smaller effect on the dependent variable. As Model M3 shows, the intervening variable of job satisfaction significantly and positively ($\beta=0.654$, $p<0.001$) affected the dependent variable of OP, thus supporting Hypothesis 3. When validating the mediating effects, Table 3. Hierarchical Regression Results emotional labor significantly and positively affected OP, but decreased the effect of the independent variable of resource base ($\beta=0.157$, $p<0.001$) once OC was added as an intervening variable. Consequently, the condition of Step 3 was obtained, partially supporting Hypothesis 4.

	M1: dependent variable =OC			M2: dependent variable =OP			M3: dependent variable =OP		
	β	Standardized β	t		β	Standardized β	t		β
constant	.420			.954			.697		
RB	.8	.639	15.488** *	.700	.575	13.122***	.191	.157	3.498***
OC							.611	.654	14.548***

RB-Resource Base
OC-Organizational Commitment
OP-organizational Performance

M1: justified $R^2=0.406$ ($F=239.893$, $p<0.001$)
M2: justified $R^2=0.329$ ($F=172.195$, $p<0.001$)
M3: justified $R^2=0.582$ ($F=244.043$, $p<0.001$)

***Significant at $p<0.001$

Table 3. Hierarchical Regression Results

Conclusions and Contributions

Leisure farms can not only satisfy the need of customers yearning for a rural lifestyle, but can also let farm operators profit by offering products and services. This study aims to clarify the influence of resource base on organizational commitment and performance. The analytical results suggest that the individual factors of various respondents differ for resource base and organization performance. Simultaneously, significant correlations and effects existed among the three variables, and Hypotheses 1-3 were strongly supported.

Therefore, employee organizational commitment and performance increase with the resources of a leisure farm. Second, the organizational performance of employees increases with organizational commitment. Regarding mediating effects, this study found organizational commitment to only partially mediate resource base and organization performance, and thus Hypothesis 4 was partially supported.

Theoretical contributions

Although numerous studies have examined leisure farms, most focused on

consumers rather than employees. Additionally, most previous studies on management strategies stressed the importance of cooperating resources to organizational performance, while this investigation found organizational commitment to also be a key influence on organizational performance. Moreover, this investigation validates the influence of resource base on organizational performance through organizational commitment

Practical contributions

This study makes the following practical suggestions based on its findings. First, leisure farms should plan well and use their visible and invisible resources to

enhance organizational commitment and performance. Second, leisure farms should nurture employee commitment to promote organizational performance.

Limitations and suggestions

Most of the study sample came from southern Taiwan and thus future studies should extend the sample range to northern, central and eastern Taiwan. Because some of the questionnaires were distributed by mail this study suffered from a lack of face-to-face explanation by researchers to respondents, and in future studies questionnaires should be distributed by hand to avoid research bias.

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INTEGRATING THE CONCEPT OF CUSTOMER VALUE INTO ISD PROJECTS: AN ACTION RESEARCH ON ISD PROJECTS FOR FUSION CUISINE RESTAURANTS

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Abstract

The applications of information systems (IS) within organizational operations are at least five decades. However, the mismatch between business-related and IS-related requirements, i.e. “the requirement gap”, continues to prevail within contemporary IS development (ISD) projects. Also, the lack of an agreement upon the IS role for organizational operations is one of the major obstacles trouble IS practitioners. Therefore, a business needs to adopt a suitable ISD approach to bridge “the requirement gap” and to define a unified role for IS while implementing IS in its operational operations. In the context of catering and hospitality industries, the premium goal of IS applications for companies is to integrate business processes and to provide valuable information to customers, thus delivering better customer value. That is, a service-oriented business (e.g. fusion cuisine restaurants) are required to combine the concept of customer value with IS methodologies to develop a customer-centric IS, thus configuring all requirements and IS components to produce customer value. This study adopts the action research method, which is done in cooperation between the researcher and the IS practitioners, to develop a suitable model of ISD in fusion cuisine restaurants (FCR). The researcher and IS practitioners are collaborated to organize a development team, which comprises FCR’ key members, researchers, MIS program undergraduate students, and IS practitioners from IS vendors. With the assistance of such a team, a “work system” methodology, a customer-centric ISD suggested by (Alter, 2008), was adopted. During the ISD process, the development team utilized such an approach to conduct business requirement analysis, interconnect requirement components and systems architecture, design data flow and functionality, and formulate an integrated relational database.

Keywords: Information systems development; customer value; action research; customer-centric ISD.

Introduction

The application of information system within organizational operations has been more than 50 years. However, mismatch between the business requirements and the IS requirements within ISD projects is still unresolved. Generally speaking, ISD roughly contains two aspects, i.e. requirements analysis and IS construction. The first aspect is related to retrieve requirements of users from different functions, and to then adopt 'business process modeling' approaches to depict and combine all these requirements. As for the second aspect, it requires IS practitioners utilizing the 'system analysis and design' (SA/SD) methodologies to transform all retrieved requirements into IS-related requirements and architectures. Such a transformation helps IS practitioners develop functional components, construct data model and design user interfaces (Humphrey, 1995; Kruchten, 2003). However, information technology (IT) practitioners are not always knowledgeable about business contexts while soliciting various requirements from different organizational levels and functions. Therefore, business executives often complain that IT practitioners lack business knowledge that they grandly claim to have. On the other hand, IT practitioners utilize a number of modeling terminologies about SA/SD to depict and integrate all retrieved requirements.

Such modeling terminologies usually trouble organizational members from different business functions and fields. Thus, business executives have difficulties in adopting ISD terminologies to help IT practitioners model and transform requirements in use (Jackson & Twaddle, 1997; Jacobson, Ericsson, & Jacobson, 1994). Consequently, they are often unsatisfied with the applications of system architectures within business processes. Moreover, IS academics have defined the role of IS very broadly (Huber, Piercy, & McKeown,

2008; Lyytinen & Newman, 2008). Lacking a unified role for IS has caused a long standing debate between both business and IS fields. Hence, organizations face a challenge that defines a unified role for IS, and to bridge 'the requirement gap' while developing their IS projects.

Within the context of service-oriented industries, a company should concentrate on developing IS-related applications that deliver valuable information to its customers (Carvalho, 2000). To sustain its competitiveness in this demanding era, it also acknowledges that it needs to make its IS and operations more customer-centric to accommodate changing customers' expectations (Liang & Tanniru, 2007). That is, it should develop a customer-centric IS to integrate all organizational processes and activities that could deliver and enhance customer value (Fragidis & Tarabanis, 2011; Minghetti, 2003).

Therefore, there is a need for a service-oriented company to adopt a suitable ISD approach that possibly combines the concept of "customer value" with it. In addition, an organization also needs to make sustained efforts to promote user involvement, thus enhancing mutual communication between critical users and IT practitioners. However, most service-oriented companies are small- and-medium enterprises (SMEs), which generally fall short of relevant staffs, expertise or resources that commit to sustained efforts to improve user involvement. Therefore, a service-oriented SME needs to identify a suitable ISD approach to formulate a steering team, which is helpful to development of an adequate customer-centric IS.

For the purpose described above, this study undertakes the 'action research' method, which is done in cooperation between the researcher and the IS practitioners, to identify a suitable ISD approach for service-oriented companies like FCR. The

action research method has currently become an important qualitative research approach in the field of IS research (D. E. Avison, Lau, Myers, & Nielsen, 1999; Lau, 1997). It introduces an alternative research method which combines outsider (theoretical) with insider (practical) perspectives to study an organizational phenomenon. Therefore, researchers are required to directly intervening in an organizational development process to create organizational change, and simultaneously observe the impact of the change, thereby broadening knowledge or expertise in organizational management. Therefore, this study decided to select an IS vendor, which specializes in implementing IS projects for FCR, to conduct IS action research projects.

Researchers in this study directly intervened in three IS projects for FCRs to get involved in the practical ISD processes, thereby attempting to collaborate with practitioners to identify an adequate development team for typical service-oriented SMEs. Such a team utilized the “work system” approach, a customer-centric ISD approach suggested by Alter (2008), to analyze business requirements, construct system architecture and components, design data flow, and formulate an integrated relational database for non-franchise FCRs. With the assistance of such a team, a service-oriented company like FCRs is capable to tackle troublesome or difficulties topics within ISD, especially those related to “the requirements gap”. Finally, we take down practical processes and experiences in different development aspects of ISD, and further describe lessons learned.

Conceptual Background and Literature Review

The requirement gap within ISD

For ensuing IS applications that meet business demands, organizations need to identify and suitable ISD methods to implement their IS projects, such as Structural Analysis (Yourdon, 1989) and Rational Unified Process (Kruchten, 2003). Most of these methodologies include two main steps, including requirement elicitation and system modeling. The former formalizes the requirements solicitation process to minimize errors and misunderstanding of requirements, while the latter adopts best practice techniques to the analysis and design process (Nabende, Ahimbisibwe, & Lubega, 2009). Requirement elicitation first retrieves demands from various organizational levels and functions, next undertakes business process modeling or redesign, and finally substantiates requirement specifications. System construction first systematically transforms and refines the specification, then analyzes data flow and functional components, and finally design system architecture and database.

However, in the ISD process, the business requirements are generally not aligned with the IS system requirements. On one hand, IS professionals are not familiar with specific organizational environment and the lack of business operational knowledge. On the other hand, business executives are usually without information systems literacy, which refers to the understanding understand the broader organization, management, and information technology dimensions of systems and their power to provide solutions. They cannot use IS terminology and modeling tools to specify and depict their requirements. Within the practical IS development, organization personnels can't use the current system and analysis method to analyze organizational requirements without the help of information technology practitioners (Erickson & Siau, 2007). Therefore, mismatch between business requirement and IS requirements

prevail. That is, the requirement gaps are builded up (Ågerfalk, Goldkuhl, & Cronholm, 1999). Therefore, it's essential for the organization to revise the IS development methodologies to reduce the gap of the requirements of organization and IS during the construction of IS.

Customer value of information system development

The purpose of the IS development generally integrates the links related to organizational operation processes between all departments to meet the needs of internal operations and emphasizes the value of customers by improving the quality of products and services. However, in the traditional IS development, methodologies only consider the improvement of IS quality but not the value of customers. Hence, the customer value becomes a popular research topic (Alter, 2008; Brocke, Uebernickel, & Brenner, 2009; Tuunanen, Myers, & Cassab, 2010).

The customer value comes from the theory of the marketing research. It is originally defined as the business values of customers' expectation from products or services provided by companies (Kotler, 2000). The most cited concept is the perceived value that customer perceives or experiences after they have used products or services focal companies offers (Bettman, Luce, & Payne, 1998) of the most concept has been used. Customers usually perceive or experience different values because of their respective personalities, requirements, preferences or budgets (Ravald & Grönroos, 1996). Integrating customer value into IS development can be seen that organizations provide and develop IS products or services with accessibility, attractability and acceptabilities to IS customers (inner and outer users), thereby enhancing customer value (Kujala & Väänänen Vainio - Mattila, 2009).

Modified methodologies of ISD: The "work system"

In order to integrate customer value into the IS development process, the research use the framework of work system suggested by . The structure of the work system treats the IS of the organization as a work system which can manipulate information by provided products or services to internal or external customers and keep close to the customers' needs. The major components of the work system as follow:

- Customer: Customers include the internal and external customers, i.e. direct users and indirect users affected by IS applications. Hence, ISD in the customer field should focus on not only direct but also indirect effects of IS applications.
- Products and services: work system provides variety products and services to customers. These products include physical products, information products, services, non-physical products (for example: fun, peace and calm), and socialize products (for example: arrangement, agreement, and organization).
- Process and activity: The process and activity of work system not only includes all well structured job processes of organizational circumstances but also includes relying on artful processes which are operated by experienced organizational personnel's skills, experiences, and judgements of order and contents.
- Participator: Participators are those who do not work on automatic jobs in the work system. Therefore, participators are not users of the information system. In the practical processes of the IS development, participators are

the key members who mainly affect the IS processes are successful or not. Hence, the participants are more important than users in the work system.

- Information: Participants collect data to work on the work system. These include codified and uncoded information.
- Technology: Technologies in the work system include information technology, generalized technology, and customized technology and tools because information technology are not the only technology in the work system affects the IS development.
- Basic facilities: Basic facilities are resources used in the structure of work system. These kind of resources may extend out of control of the organization or be shared by other work systems.
- Environment: The environment includes the organization, cultures, competitions, technologies and laws.
- Strategy: The strategy includes the operation strategy in the work system and pass the value on to customers.

Research Design and Method

Research Method

The methodology used in this study was action research, which emphasizes the collaboration of researchers and practitioners involved. Unlike the case study, which attempts to study organizational phenomena without researchers' intervention, the action research requires the investigators directly getting involved in a planned organizational change, and simultaneously studying the impact of this change (Baburoglu & Ravn, 1992). The

intervention aspect of action research means that it is an especially interesting and relevant method for the area of information systems development. The action research method is in the environments that currently need to solve problems and it also under the reasonable research framework which is acceptable by the researcher and actual users. Both researchers and practitioners cooperate to get change and feedback and also combine the theory and practice together and use multiple perspectives to undertake the research. Owing to the researcher directly steps in to the research the action research method is the proper and remarkable research tools in the ISD (D. Avison, Baskerville, & Myers, 2007).

Origin of Research

In the beginning of year 2013, a technical company initiated a industry-academic cooperation project to assist catering restaurants to implement IS. It seeks to partner with an academic institution to collectively perform this project within the central area of Taiwan. The particular industry-academic cooperation project emphasizes to implement the customer-centric IS into the catering restaurants. The researchers of this study decide to collocate their distinguished education project with the monographic study to work with the company. One of two main goals of the collocation is to let students have valuable experiences on the implementation of ISD, such as requirements analysis, organizational processes analysis, data modeling, and the practical processes of user-interface modeling. The other goal is to integrate the customer value into the ISD project by the cooperation of the educational institution and the technical company.

In general, the technical company needs to analyze organizational requirements from all participators at the time to implement the ISD. Then, according to the integrated organizational requirements, the company starts to design the IS functions. The practitioners of the company define all requirements from participators and by using requirements analysis method of system analysis to integrate related flowchart and to describe related requirements. Following the defined requirements, the practitioners build data models, system functions, the users' interface designs, and modeling. However, in the stage of requirements analysis, the employees of the restaurant usually complaint about the IT practitioners do not clearly know the organizational environments and the oprational processes.

In other word, the organizational employees think the IT practitioners lack organizational know- ledge. On the other hand, the IT practitioners consider that users have no IS operating and data flow senses and it's hard to communicate with users. The IT practitioners think users lack IT knowledge. The knowledge gap between the IT practitioners and the restaurant employees causes the inconsistence between organizational proess require- ments and IS requirements (Ågerfalk et al., 1999). Therefore, the organization needs to efficiently transfer the IT and the organ- ization operational knowledge is essential while the IS implementation takes in place to avoid the inconsistence. See Figure 1.

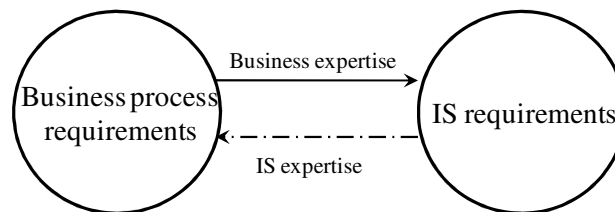


Figure 2. Knowledge Transfer within IS projects

For the organization operational knowledge transferring purpose, IT practitioners require the key members's assistance to realize the organization operational knowledge, such as original function activities and catering porcesses of the catering restaurant in the system requirements analyzing stage. In the IT knowledge transferring, the technical company provides series training lessons to key members of the restaurant to improve their IS knowledge and skills.

catering restaurants have flexible and nonstandard operations, therefore, information practitioners requirre more time to communicate with users and to define the organizational requirements. Also, the catering restaurants have no IT personnel, they not only need the assistance from technical company during the ISD process, but also the follow up on-hand training and after implementation operations. These are the tough problems that the technical company have to solved.

Nevertheless, the catering restaurants are small businesses which have more limitations, their financial and human resources can't compete with larger businesses or franchised restaurants. And the

The researchers and the IS vendor collaborate to costruct a suitable IS operating model for the catering restaurants to tackle problems and difficulties described above. With the assistance of academic

institutions, the small catering restaurants and the IS implementing company tried to formulate an IS development team. Such a team comprise the researchers of this study, key members of FCRs, MIS undergraduate students, and IT practitioners from the IS vendors. See Figure 2.

This study adopted the suggestion of Alter (2008) to integrate an customer value work system pattern. First of all, the study found all the participators of the catering restaurants and then set customer value as the center to analyze every components of work system (Table 1).

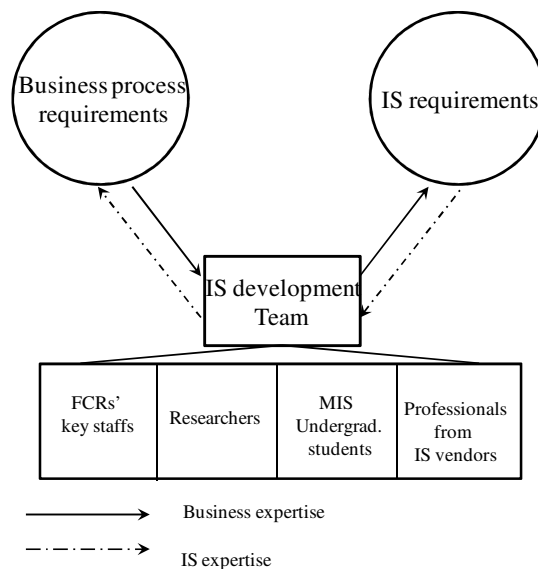


Figure 3. The IS development team for FCRs and its role in ISD
Illustrations and main results

Following the method, the study chose three catering restaurants (fusion cuisine restaurants FCR) as the practical businesses. All these three restaurants are originality restaurants. As the work system described above, the catering restaurant team were organized by key members of the restaurants, the researchers, MIS students, and the IS practitioners from IS vendors. The Illustrative operation and main results consisted of organizational requirements analysis, system architecture, and data flow analysis and database system.

Organization requirements

In the initiate stage of the ISD, key members of the restaurants must recognize the customer-centric ISD and develop the customers' requirements satisfied products and services to establish customer centered processes and activities and to integrate organizations requirements.

Thus, organization through differentiated participators provided superior products and services views of the organizational requirements (Table 2). ISD team suggested to integrate and to digitize all restaurants operations and activities in order to let customers efficiently and accurately enjoy meals, such as using tablets or iPads to reserve seats, to search menus and related information, to preorder dishes and to pay the bills. This

Table 1. Customer-centric work system dimension (adapted from Alter (2008))

Components of work system	Dimension
Customer	recognize and completely reply customers'/diners' needs; provide customers with satisfied dining experience
Products and services	Produce customized products and services
Process and activity	Personalized or customized processes and services; apply customers data to maximize customers' benefits
Participator	IS practitioners recognize and emphasize customers' needs and preferences
Information	Integrate customer-related information to maximize customers' benefits
Technology	Any technologies applied must completely fulfill customers' needs, standard, terms, convenience, and taste
Basic facilities	Basic facilities can't be incompatible with customers' requirements in any aspect
Environment	Operational environments must consist with custom-centric system
Strategy	Products and services must conform to the organizational strategy

Table 2. IS requirements analysis of participators

Participators	Requirements
Customers/diners	<ul style="list-style-type: none"> • Using tablets/iPads reserve seats, preorder dishes, search menu and related information • Efficiently and accurately pay bills
Manager	<ul style="list-style-type: none"> • Maintain employees' and customers' information • Maintain menu information • Provide sales status and reports • Provide materials inventory status and reports
Storage Keeper	<ul style="list-style-type: none"> • Record stocktaking • Provide stock information to suppliers • Maintain suppliers' information
Chef	<ul style="list-style-type: none"> • Provide order conditions • Update delivery of orders
Crew	<ul style="list-style-type: none"> • Process order information • Simplify pay bills processes
Cashier	<ul style="list-style-type: none"> • Efficiently complete the processes of payments

arrangement not only benefited the customers but also benefited the background operations of the restaurants. The manager could handle the information of customers, menu and employees and further more manager can generate consuming habit, food stocking information and reports. The stockmen could concurrently record stocktaking, provide the information to suppliers, and update suppliers' information. The chefs clearly knew the situations of orders. Waiters/waitresses updated order, gave customers' feedback to chefs and reduced the time consuming of payments at any time. Cahiers could efficiently complete the process of payments. In conclusion, restaurants could effectively and efficiently handle routine operations and provide dishes to favor customers in the future.

System architecture

Some of the scholars suggest that organizations need to build up the IS system architecture right after the integration of IS requirements. The IS system architecture provides the complete roadmap of the system constructions later on. The organization creates the main components of IS, defines the functions of each components and the interaction and link between components (Nunamaker, Minder, & Purdin, 1990). Thus, in the stage of this study, ISD team needed to integrate all participants requirements and to generate the catering restaurants system architecture. See Figure 3.

In the system architecture, one server set to generate whole database and website applications, to link all participants system applications, and to connect all applicational components with local, wireless, internet network. In the user interfaces, waiters/waitresses keyed in order data and print out the bill, chefs followed up and

update the order by checking the screens, customers could reserve, order and search information by tablets, the manager and cashier, and stockmen could search and update information through internet.

Analysis of data flow and relational database

After finishing system architecture, the study moved further to analyze operating process and data flow of each components and to scheme out the integrated database system. Analyzing and designing Data flowchart needed time consuming and they were disordered and confused, therefore the job acquired key users and system vendors to progress more cooperation and communication. Through researchers led MIS students to observe the processes, to analyze processes and to perform compact communication and revision, They finally utilized the system architecture, dataflow chart and functionality architecture. The entire reservation and order process included reservation process, order process, delivery process, and payment process. See Figure 4.

In order to link all dataflow chart, the database of the catering restaurants must be rearrange to integrate all data, billing statements, display of screens, and reports. The ISD team selected the Microsoft SQL Server to create the database system of the catering restaurants. For planning the catering database, the team used the Entity-Relationship Diagram as a tool to manage data. The steps of the database scheme were follow: first, collected all forms and data (include orders, table data, reservation data, dishes data, food stock data, etc.), then found the entities from the forms, got the relational-matrix between entities, drew out the entity-relationship diagram, and finally transferred to the complete relational data model of the catering restaurants. See Figure 5.

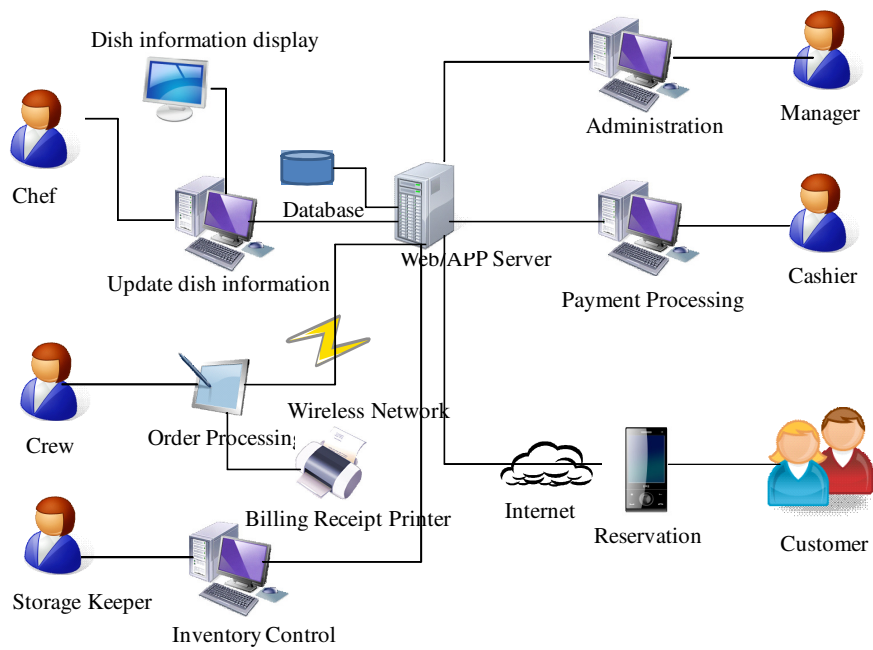


Figure 4. System architecture for a FCRs' IS

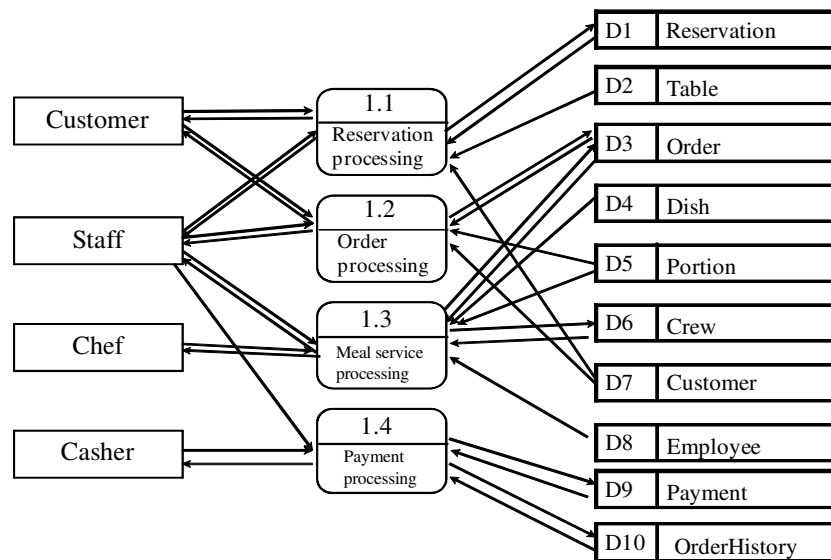


Figure 5. A Key data flow diagram of FCRs' IS

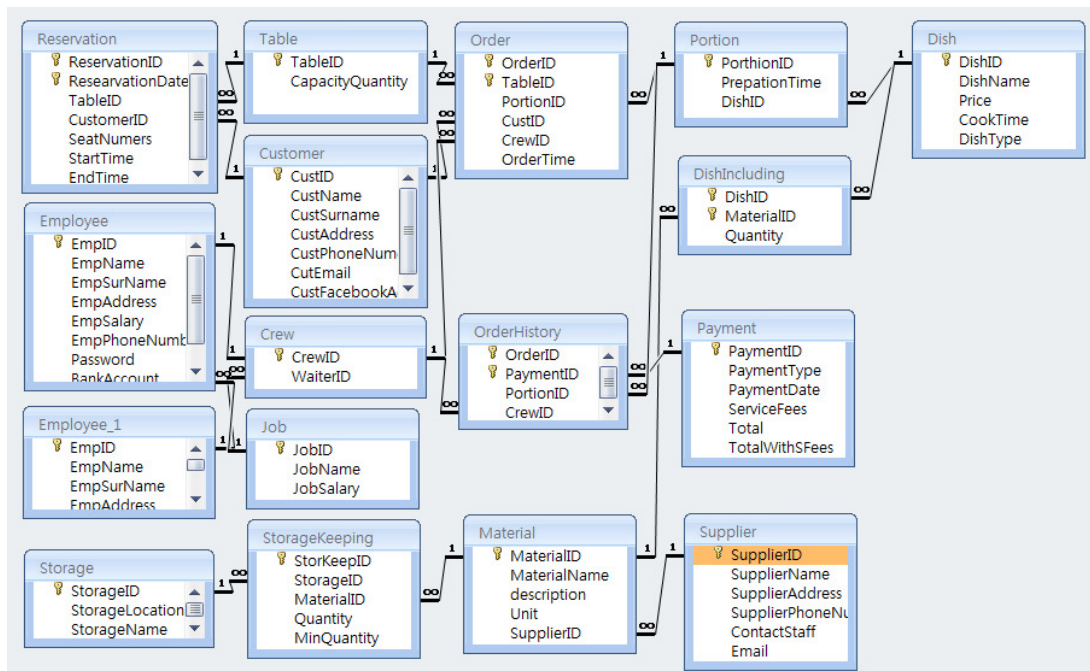


Figure 6. Relational database and tables for FCRs' IS

Conclusion and Lessons learned

This study chose the action research method with the cooperation of the catering restaurants, IS vendor and educational institution to integrate customer value work system model into ISD model. During the research, the researchers led the MIS program students to participate the ISD project of the action research. After the researchers actually involved and surveyed the catering restaurants, the experiences and lessons on different stages of this study were shown on the Table 3.

Organizational requirements analysis

The main job of the first stage was organizational requirements analysis. The key matter was to archive and transfer the requirements of all IS participants of the catering restaurant. In the operating

processes, the practitioners of the IS vendor guided the researchers and the MIS students practically realize the daily operations of the catering restaurants. During the processes, the manager, stockmen, waiters/waitresses, cashier, and customers who would be the educational professionals to show their actual works and requirements and to progress the professional knowledge transfer. In this stage, the researchers found out that there was a knowledge gap between the IS practitioners and the key members of the catering restaurants. The researchers explained that the customer-centric design was the essence of the "work system" model to the MIS students. By the bridge of the MIS students, the knowledge gap was decreased and the IS practitioners and key members of the catering restaurants smoothly interacted, communicates, and defines the detail requirements of the organizational processes.

Table 3. Key matters and results of the major stages of ISD

Stages	Stage I	Stage II	Stage III
Main task	Business requirements analysis	System architecture establishment	Data flow design
Key aspect	Identifying and retrieving of user' requirements	developing and integrating system functional components and system architecture	transforming users' requirements into IS applications and the relational database
Knowledge transfer	Business processes knowledge transfer	ITknowledge transfer	Integrating organization process and IT knowledge
Researchers	Consultants	Researchers	Researchers
Key members of FCRs	Educators/instructors	Learners	change agents
MIS program students	Learners/coordinators	Learners/coordinators	Coordinators/instructors
IT practitioners from the IS vendor	Learners	Educator/instructor	Instructors/trainers

System architecture

Integration of the system architecture was the major job of the second stage. The key matter of this stage was to integrate the components of the organizational process requirements. It was essential that the key users of the catering restaurants to understand some technical concepts, such as the information technologies and knowledge of different components link, the applications of relative technologies and limitations in the operational processes. At this stage, the practitioners of the vendor took the place of knowledge transfer. They provided available systems and technologies according to all requirements, such as database, web pages design, wireless network and ERP system, etc. They explained and found the suitable technologies, IS applications, database management system for the catering

restaurants. The owners of the catering restaurants by the assistant of the researchers and MIS students found the proper IS applications within their financial resource limitations.

Data flow analysis and database design

The main job of third stage was data flow analysis and database design. The key matters were system components, users interfaces, database design. In this stage, the organization requirements analysis must connect with the integrated system architecture. In the operational processes, the organizational requirements were transferred to practical system design. Hence, the communications with actual users were frequently performed. The key members of the catering restaurants must understand concepts and terms of organizational process, data flow, and database. They also knew the actual design situa-

tions. By the interpretation of the MIS students, the key users realized better about the IS assistance to transfer organization requirements to actual daily operations. Also, they recognized how to focus organization requirements on customer value.

The MIS students experienced all the ISD processes by the research project.

They learned organizational operation knowledge. By accompany with the IS practitioners, MIS students went through all processes of system development in this project, they improved the IS analysis, design, and implement knowledge and abilities, therefore, they had exceptional competence in the future.

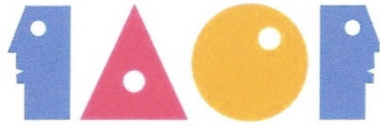
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HOW TO SUCCESSFULLY CONVERT TO ICD-10-CM/PCS? THE EXPERIENCE OF HOSPITALS IN TAIWAN

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Abstract

This study was a trial project for the introduction of ICD-10-CM/PCS commissioned by governmental medical and healthcare departments. The subjects of the study were employees in hospitals, including doctors, nurses, medical technicians, and administrators. Primarily, this study constructed the procedures and models for converting ICD-9-CM to the ICD-10-CM/PCS disease classification system. Quality control methods were used to jointly evaluate the problems and obstacles based on the four items of people, objects, facilities, and methodology, in order to find the optimal solution to gradually establish the ICD-10-CM/PCS information system, as well as to propose the resource integration and accommodation measures needed to introduce the system.

Keywords: International classification of disease version 10, International classification of disease version 9, Quality Control Circle, Coding

Introduction

The National Health Insurance program of Taiwan currently uses the 2001 edition of the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) as the basis for disease encoding for insurance reporting. ICD-9-CM was developed by the United States in 1979 based on ICD-9 (WHO, 2013). Even though revisions continue to be updated with the times, continued advancement in medical technology has been limited by its encoding

structure, making it unable to fully and accurately reflect new diseases, medical technologies, or treatments.

Since the WHO promulgated ICD-10 in 1994, it has gradually been applied by various countries (Finn Gjertsen et al., 2013) in areas such as classifications of cause of death or clinical disease diagnostic codes. In addition, treatment codes are developed based on clinical usage needs in different countries. Examples include the United States' International Statistical Classification of Disease and Related Health Problems,

Tenth Revision, Clinical Modification/ International Statistical Classification of Disease and Related Health Problems, Tenth Revision, Procedure Coding System (ICD- 10-CM/PCS); Australia's ICD-10-AM/ACH; and Canada's ICD-10-CA (Jan DiSantostefano, 2009; Carolyn De Coster et al., 2006; Walker et al., 2012). In order to connect with international trends in health and medical care, and to benefit data comparisons across countries, Taiwan began to promote the introduction of ICD-10 in 2001. Starting in 2009, the cause of death statistics published by the Ministry of Health and Welfare applied ICD-10. Starting in 2012, the International Classification of Functioning, Disability, and Health (ICF) applied ICD-10 for disease codes. The National Health Insurance Administration began a five-year plan for the implementation of ICD-10-CM/PCS in 2010, announcing that starting in 2015 ICD-10-CM/PCS would be comprehensively used for declarations (Ministry of Health and Welfare, 2013).

When corporations introduce new technology for mandatory use, at the start of the introduction employees will be concerned about increasing their workload to some extent. This is particularly true for users with less computer literacy, because they often need to spend time to learn it; thus, they are also more likely to have work anxiety. If such anxiety cannot be suitably relieved, or if they cannot get help from group members, they may have poor learning effects that in turn block the functioning of new technology (Hsu et al., 2006). Conversions from classification of disease type ICD-9-CM to ICD-10-CM/PCS implicate interdepartmental business in hospitals. In terms of personnel, it involves medical clinics, patient history departments, disease classification departments, insurance declaration departments, and information departments. In terms of procedure, support from the information system is required throughout the medical care and administrative management procedures for smooth data production and management,

from the selection of the front-end inpatient disease codes and treatment codes, to the back-end classification of disease types and health insurance declaration work. Thus, whether the conversion and introduction of a classification system of disease types is successful is based on the executive decisions of the hospital leadership, as well as the understanding, adherence, and implementation ability of hospital employees, especially doctors.

Patient safety has always been an issue emphasized by hospitals and clinics, and the elevation of healthcare quality also represents a guarantee for patient care. Quality control circle activities are tools most commonly used by the medical industry to elevate healthcare quality. The healthcare system applies the quality control circle to elevate healthcare environment safety and increase healthcare quality. A quality control circle is a work procedure formed by lower level employees that gives the employees autonomous power. Listening to their views allows existing conditions to be improved. Lower level employees have the most understanding of the problems in the procedures, and the assistance of methods and images can be used to discover and resolve problems, as well as promote bottom-up management to improve healthcare quality at hospitals.

The main purpose of this study was to use the quality control circle method to explore hospital employee learning attitudes about the introduction of ICD-10, as well as the influence produced by the introduction of the new information system.

Information on the case hospital

The case hospital in this study places great emphasis on total quality management. It uses diverse quality management methods, including an indicator monitoring system, quality control circle activities, a case proposition system, and three-level auditing of

standard operating procedures. Starting in 1998, it has promoted hospital-wide quality control circle activities. These have now been in place for 15 years, and in each term there have been at least 19 circles for quality management. In the period of promoting the quality control circle, the case hospital received numerous gold, silver, and bronze awards from the Corporate Synergy Development Center, the Taiwan Joint Commission on Hospital Accreditation, and the Association of Pioneer Quality Control Research. In addition, the case hospital has been invited to various academic associations to share its quality control experiences. The case hospital has closely worked with health authorities and has arranged various healthcare plans for government health departments. Examples include the trial project for salary by person at the National Health Insurance Bureau, the regional integration model, the family doctor integrated care project, the project for elevating the quality of cancer treatment at National Health Insurance Bureau hospitals, and the Cultural Affairs Council of the Executive Yuan's project for community development. These examples show that the case hospital has abundant experience in promoting and executing projects.

Strategies for the case hospital in introducing the ICD-10 system

1. Support from senior leadership and top-down promotion of policy

Changes in work will affect work content and change work rules and result in changes in work techniques and methods, thus making it important for employees to adjust their accustomed habits in dealing with issues (Robbins, 1993). The case hospital made announcements in hospital-wide meetings, ordered hospital employees to actively participate, and publically announced the promotion of measures.

2. High degree of accommodation for hospital policy, and good communication and coordination between departments

The administrative and medical department personnel had a high degree of accommodation for hospital policy, the integrated work was easy to promote, and the existing hospital commissions conducted horizontal coordination, in which regular meetings for promotion and educational training were conducted in parallel.

3. The information system could add and modify program functions based on user needs

The information office of the case hospital is responsible for information issues, especially in regards to the Hospital Information System (HIS) and the Electronic Medical Record System (EMR). The software engineers in the relevant systems had an average of more than 10 years of experience, and their understanding of the practical needs and programming in health insurance declarations, disease classification, and inpatient order systems were interconnected, fast, and mobile, and they conformed to clinical and management needs.

4. Structural micro-adjustments were made on existing operating procedures to reduce the impact on clinical medical services

The clinical medical personnel input disease codes online for the inpatient medical order system and followed the hints, alerts, or control functions of the information system, which helped the personnel become familiar with the encoding concepts, frameworks, and systems. In addition, in each quarter the attending physicians, resident doctors, and nurse practitioners participated in a diagnosis related groups (DRGs) case encoding discussion meeting, which was held by the medical affairs department. The

participants shared cases to discuss the encoding concepts, thus giving them an overall understanding for the structure of disease codes and the relationships among patient history content, disease codes, and health insurance declarations. Therefore, they had an easier time understanding the conversion of the encoding system (ICD-9 to ICD-10). After the actual implementation, they could continue to collect clinical needs, conduct administrative work and plan to accommodate the information system, in preparation for parallel developments in different departments.

Implementation subjects at the case hospital

The research subjects in this study were employees of the case hospital, including the president, the medical affairs director, case history reviewers, disease classification personnel, information personnel, attending physicians, resident doctors, and nurse practitioners.

Implementation procedures at the case Hospital

In order to achieve the smooth conversion of the classification of disease types from ICD-9-CM to ICD-10-CM/PCS, this study was divided into four parts for training. Changes made to the departments were based on the problems that could be encountered in the people, objects, equipment, and methods, as well as the planned direction of implementation. Table 1., at the end of this article, describes the directions for accommodation by the departments at the case hospital.

Dimensions affected by reform

1. Education and training by personnel

Educational and training courses were given at the hospital, and eligible lecturers in the departments focused on the hospital's disease classification group, insurance group,

and medical fee collection section to conduct a regular weekly education and training course for two months. Next, ICD-10-CM/PCS promotional education and training was implemented for the attending physicians, nurses, and nurse practitioners (NP). Furthermore, for the departments of preliminary introduction, which were obstetrics and gynecology, orthopedics, neurosurgery, and neurology, based on their different characteristics, ICD-10-CM/PCS patient case history writing education and training courses were conducted. Other than education and training in the hospital, disease classification, case history review, and insurance submission personnel engaged in the ICD-10-CM/PCS external education and training course for one year. The course was held by the Taiwan Medical and Health Information Management Association, the Taiwan Case History Management Association, and the Central Taiwan Disease Classification Reading Group. In addition, the hospital sent disease classification, case history review and insurance submission personnel for certification tests. In order to promote the continued familiarity of employees with ICD-10-CM/PCS business, the hospital continued its quarterly DRGs case encoding discussion meetings and continued arranging for education and training relating to ICD-10-CM/PCS cases and relevant issues.

The disease classification personnel focused on the departments of neurology, neurosurgery, orthopedics, and obstetrics and gynecology, for ICD-10-CM/PCS encoding work of discharged cases in two months, and conduct case cross-review. Questions are submitted to the disease classification consensus meeting for discussion. The disease classification consensus is used as the teaching cases. The hospital's trained case history reviewers participated in case history ICD-10-CM/PCS encoding to create a trial compilation of two months of case histories (from orthopedics, neurology, neurosurgery, and obstetrics and gynecology), which was then reviewed by disease classification personnel

who gave feedback to the personnel trained by the hospital after the review.

The case hospital established a section on the hospital website with the completed ICD-10-CM/PCS teaching case materials, which was regularly updated to provide a real-time learning channel for personnel in the hospital. In addition, the hospital purchased ICD-10-CM/PCS reference books to be used by medical personnel at any time.

2. Case history modification and design

The disease classification personnel focused on neurology, neurosurgery, orthopedics, and obstetrics and gynecology departments to conduct discharge case history ICD-10-CM/PCS encoding and find issues that tended to be overlooked when writing patient case histories. The group produced ICD-10-CM/PCS patient case history writing/encoding issues worthy of note. At the same time, in the hospital information system, the surgical record system added columns titled Operative-Approach and Device, in order to provide automatic correlated code search functions. Hospital administrative procedures were used to update surgical record formats, and hospital rules were modified to implement personnel work regulations.

3. Modification and design of the information system

For the information system, they referred to the ICD-10-CM/PCS data promulgated by the National Health Insurance Bureau, which was converted to the hospital's HIS disease classification system, to establish the ICD-10-CM/PCS basic data maintenance file, which included multiple search screens and a single maintenance screen. In addition, ICD-10-CM/PCS encoding hints, control, and reporting functions were added for the hospital's HIS disease classification system, which included the following:

- (1) List of diseases that have not been classified.
- (2) Dis the 20th "discharge disease classification main file maintenance _diagnostic code/treatment code column 20", input column: diagnostic code, treatment code, and cause of death codes can only be saved when there is data, no column shall be left blank.
- (3) Dis-> the 20th (discharge disease classification main file maintenance ICD-10-CM/PCS) case diagnosis and treatment content downloaded to a Microsoft Excel document, to allow statistical and review work by disease classification personnel.
- (4) Addition of gender and invalid code hints and controlled information needs, as well as completion of the addition of ICD-9-CM and ICD-10-CM/PCS correspondence search system for the inpatient doctor order DRG system.

4. Satisfaction measurement

Focusing on the four clinical departments of neurology, neurosurgery, orthopedics, and obstetrics and gynecology, the attending physicians received a survey on their satisfaction with the project implementation, in areas such as the benefit of ICD-10-CM/PCS education and training, the addition of an ICD-10-CM/PCS search function to the physician order system, correspondence files of ICD-9-CM and ICD-10-CM/PCS, and the addition of an ICD-10-CM/PCS column on the surgical record form. The results indicated a satisfaction level of 83~90%. See Table 2. and Figure 1. at the end of this article).

Discussion and Conclusion

1. Selection of theme

This study primarily explored the effect of introducing the new ICD-10 system on the

case hospital. When selecting the scope of the theme, the case hospital selected its neurology, neurosurgery, orthopedics, and obstetrics and gynecology departments as the priority for introduction, since these four departments had more patients and the doctors were more accommodating. In order to reduce the impact brought by changes of the new information system, the case hospital gradually introduced the new system. The successful experiences of the four departments would inspire greater confidence about future planning for the comprehensive introduction to other departments.

2. *Setting targets*

The disease classification personnel not only conducted trials for ICD-10-CM/PCS encoding of inpatient cases but also attempted to compile cases in other departments for two months, in order to help understand the improvements needed for encoding, the information system, and patient case history writing. The case hospital promoted the issues in trial compilation cases, including collecting the needs for clinical medicine with regard to the information system, and issues in writing patient case histories at medical meetings or departmental meetings, and added them into patient case history writing norms.

3. *Clarification of issues*

Clarification is conducted in the four items of people, objects, equipment, and methods, allowing for the holistic evaluation of the dimensions that need to be considered in the introduction process. This study will continue to collect problems or needs in subsequent executions based on the four dimensions of the quality control circle.

4. *Establishment of plans*

In order to conform to the operational habits of the clinical medical personnel,

when establishing the plans, their suggestions were first solicited, which allowed the clinical personnel to have a high degree of acceptance. Some information functions were not fully replaced or tested during the trial period because the ICD-10 system was not fully implemented. In the future, the case hospital can focus on existing obstacles to improvement.

5. *Implementation of optimal measures*

Adding new functions in the information system provided great help to the introduction process in collecting the usage opinions of the clinical medical personnel for functional improvement.

The case hospital has developed the model and procedures for converting the classification of disease types from ICD-9-CM to ICD-10-CM/PCS. Even though the departments of introduction are only neurology, neurosurgery, orthopedics, and obstetrics and gynecology, it has completed the basic framework needed for comprehension conversion at the case hospital in the future, including education and training, information systems, patient case history writing, and disease classification, which will help the parallel progression in other departments in the hospital. As the hospital introduced ICD-10 and new learning frameworks, the case hospital used quality control circle (QCC) tools to interact with the hospital context, and obstacles became helpful in promoting the hospital's reform of case history encoding. The hospital used quality control circles and learning-based organizations to introduce activities to manipulate the dimensions, including communication mechanisms, education training, professional teams, and knowledge sharing and transfer. The new medical information system was also used to support the employees and smoothly convert them from the ICD-9 to the ICD-10 disease classification system. This study

expressed the dynamic evolution of the reform process and could be a reference for other hospitals that intend to introduce the ICD-10 disease classification system.

Acknowledgements

The authors would like to thank the Ministry of Health and Welfare, the 2011 special contract hospital ICD-10-CM/PCS small-scale pilot program, and Cheng Ching Hospital for their grants in support of this study.

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Table 1. Plans, countermeasures, feasible countermeasures

Item	Focus	Plan	Determination of obstacles	Method of overcoming obstacles
Person	Education and training courses at the hospital	Education and training courses within departments that focus on disease classification, insurance, and medical fees	Only one senior teacher in the hospital	Disease classification personnel attend symposia
		Education and training courses for clinical personnel in the entire hospital for ICD-10-CM/PCS promotion	Clinical personnel are busy and the attendance rate may be low	Use electronic bulletin boards to announce matters
		Collection of ICD-10-CM/PCS cases and production of encoding teaching plans	The hospital has not conducted ICD-10 encoding, and there is no data for making teaching plans	Refer to symposium data from academic associations outside the hospital, first conduct in-hospital case encoding and then incorporate hospital cases
	Participation in education and training courses outside the hospital	Participation in symposia held by academic associations	Expenditures from leaves and costs	Leave days and funding offered by the hospital
	Training non-disease classification personnel in the hospital	Participation in ICD-10CM/PCS encoding work	Disease classification certification can't be easily received	Encourage colleagues to practice encoding by themselves during non-work hours
Object	1.Purchasing ICD-10-CM/PCS books 2.Download electronic search tools	Application to the hospital for the purchase of ICD-10-CM/PCS reference books	High unit prices of books	Fill out the hospital's annual suggested book purchase sheet, and note the purchase reasons

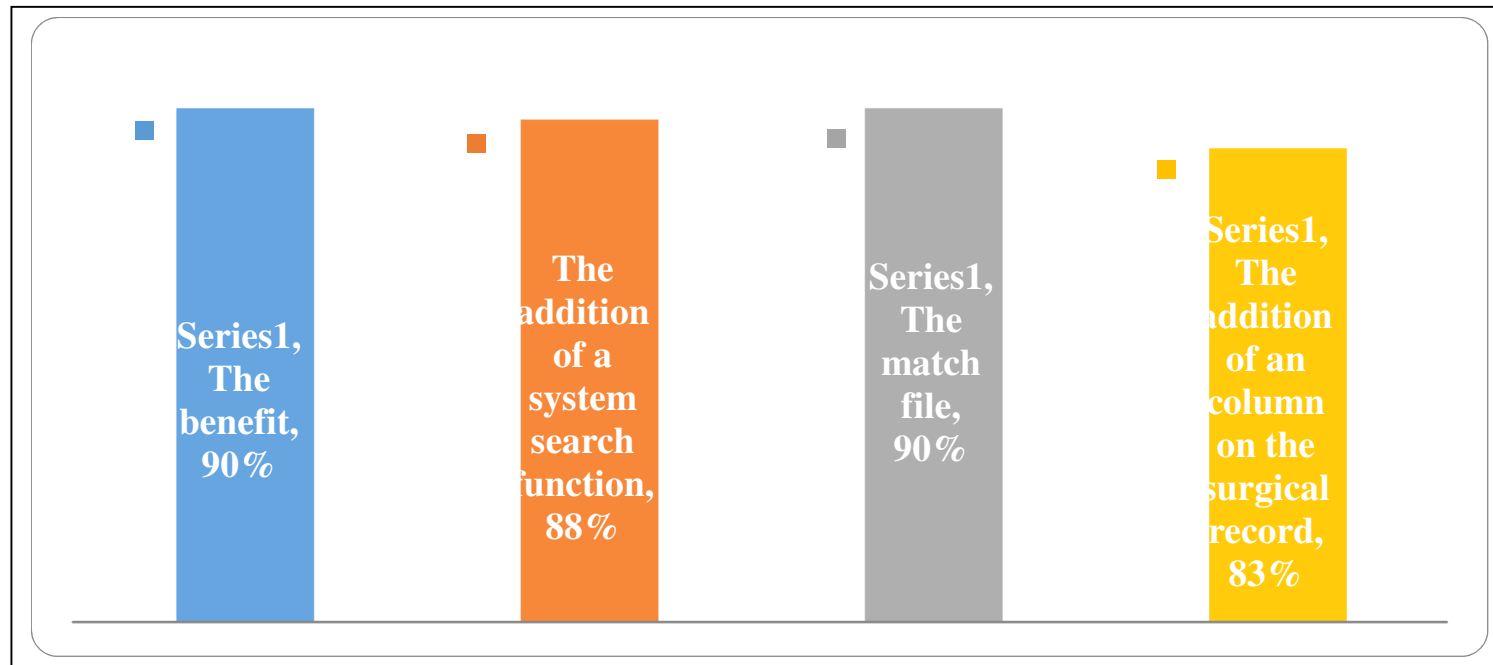
	ICD-10-CM/PCS search system for the doctor order system	Use of an information need sheet to establish a search function	The outside search program may not be able to be converted to in-hospital HIS	The information office uses external plug-ins and provide links
	Modification of case history writing standards	Production of the issues of notes for making ICD-10-CM/PCS case history writing/encoding	The hospital has not yet used ICD-10 encoding, and it is not known what the data should show	Ask disease classification personnel to help with evaluating the corresponding case history content necessary for ICD-10 encoding
		Case writing standards that specify the content that needs to be written	Needs to be passed by the case history committee	Explain the rationale and necessity of the amendments to the case history committee
		Addition of columns on the surgical record form that correspond to ICD-10-CM/PCS encoding	Requires consent from surgical attending physicians and needs to be passed by the case history committee	Explain the rationale and necessity of the amendments to the attending physicians and case history committee
Equipment	Construction of ICD-9-CM and ICD-10-CM/PCS correspondence search and selection functions	Addition of ICD-9-CM and ICD-10-CM/PCS correspondence search system to the hospital order system	Information office has many forms on information needs and requires scheduling	Information office personnel assist in priority scheduling, and give temporary wages for overtime
Method	Constructing health insurance declaration formatting and disease classification formatting	Constructing health insurance declaration formatting and disease classification formatting that conform to ICD-10CM/PCS	Information office has many forms on information needs and requires scheduling	Accommodate the National Health Insurance Bureau's announcement that media formats would be changed to XML in July 2012, and incorporate information programming priority scheduling

Table 2. Tangible achievements of members

Evaluation item		Self-scoring standards										Before event		After event	
		1	2	3	4	5	6	7	8	9	10	Total	Mean	Total	Mean
A	Realization of team spirit	Uninterested	Self	Negotiation	Cooperation	Leadership						89	5.24	134	7.88
B	Elevation of service quality	Negative	Decent	Progression	Partial	Comprehensive						84	4.94	143	8.41
C	Usage of improvement methods	Learning	Production	Understanding	Familiar	Instruction						72	4.24	118	6.94
D	Active participation	Ignore	Hesitation	Supervision	Responsible	Enthusiasm						83	4.88	129	7.58
E	Explanatory ability	Does not understand	Cognition	Judgment	Clarification	Decisive						75	4.41	124	7.29

Notes: 1. There were 17 people in the circle, and they used various evaluation items for self-evaluation.
2. The highest number of points per person per item was 10 points and the lowest was 1 point, with a total of 170 points.

Figure 1. Satisfaction survey for doctor usage



A STUDY OF THE PRACTICAL AND THEORETICAL
APPLICATIONS OF SECOND-ORDER CUSTOMER
PERCEIVED VALUE ANALYSIS MODEL

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Abstract

In recent years, service encounter related issues derived from extensions of the service theater theory have received special attention, making them almost the mainstream core for exploring customer satisfaction and customer value in service marketing. Although criticisms for customer value and customer satisfaction traditionally measured through service quality can be partially overcome, as far as the methodology for service encounter is concerned, operationalization and the establishment of empirical quantitative models remain considerably difficult. In view of this, based on the service encounter viewpoint in this paper, a review on customer value, the main influential factors contributing to customer value, and the customer value classification were first conducted. Then, the customer evaluation factors were adopted to serve as the exogenous factors for measuring customer value. Finally, the value classification was linked to construct the second-order customer perceived value analysis model. This model provides feasible solutions for the current plight of taking both the practical and theoretic application into account and provides the respective service industries with a customer value survey model they can follow, thereby accumulating the empirical results of different service industries.

Keywords: customer value, customer perceived value, service encounter, service value classification, confirmatory factor analysis

Research Motivation and Problem Background

Over the past, the academia had its theoretical basis primarily built on the “expectation-disconfirmation” model when measuring customer satisfaction, most of which directly measure satisfaction based on the consistency between consumers’ expected quality before making a purchase and their perceived quality after making one (Oliver, 1980) [30]. However, the use of service quality for measuring customer satisfaction received criticisms from many scholars, as they believed some problems were yet to be solved.

First of all, past research studies mostly covered the impact of the overall service quality dimension on customer satisfaction, while ignoring the individual service quality dimensions. Garvin (1987) [8] pointed out in his research that managers could choose one or several dimensions from the service quality dimension as the quality focus instead of focusing on all the quality dimensions. Flanagan & Frederick (1993) [1] further pointed out that strategies for measuring customer satisfaction must contribute to enterprises’ listing of products based on customer demand, the priority for service quality improvement, links with the actual quality improvement activities, and so on.

Secondly, since the 1980s, scholars first had the idea that the two constructs of service quality and satisfaction are not

equal and advocated that customer satisfaction depends on the perceived quality relative to the price, or the ratio of interest relative to the paying cost (Zeithaml, 1988) [37]. Although this viewpoint has not been further clarified, it implicitly pinpoints customer value as the antecedent of customer satisfaction. Later, Fornell (1992) [6] put forth the satisfaction measurement model (Swedish model) and Storbacka et al. (1996) [19] put forward “perceived value-relationship profitability model.” In their research, customer value or customer perceived value was clearly deemed as the antecedents and mediating variables for customer satisfaction. They generally believe that the enhancement of customer value or customer perceived value will lead to increased customer satisfaction, thus the increased customer loyalty and profits; conversely, if the opposite were true, “complaints” or even reduced loyalty and profits may result. Although the two models above deem customer value as the antecedent and mediating variable for customer satisfaction, dissociation from service quality and other variables as observation variables is still not possible in practice while the framework directly or indirectly generates an impact on customer satisfaction through “customer value.”

In addition, Parasuraman, Zeithaml & Berry (1988) [3] selected five servicing industries as the research subjects for empirical studies. After a two-stage variable deletion process, the SERVQUAL scale made up of 22 questions in five dimensions was

developed, which became one of the most cited service quality measurement scales in the academia. Carman (1990) [15] subsequently engaged in empirical studies using four different types of service industries based on the P.Z.B research results. The SERVQUAL scale was developed, and conclusions drawn from SERVQUAL with considerable stability were obtained. In this research, the service quality dimensions of the four different service industries were not entirely consistent, and the five service equality dimensions of P.Z.B. somewhat varied. He suggested that the subject and rhetoric be adjusted according to industry. Obviously, either SERVQUAL scale or the SERVQUAL scale may not be applicable to all service industries. Even though scholars recommended that the subject and rhetoric in the questionnaire items be adjusted as to service industry in practice, how to go about making adjustments remains unclear.

Finally, the dimensions for measuring customer satisfaction through service quality proposed by the scholars showed a great degree of variation. Chronologically, a number of scholars proposed dimensions for measuring service quality, including the earlier five dimensions of technique, psychology, time, contract, and morality put forth by Juran, Gryna and Brigham (1974) [16] and the seven dimensions of safety, consistency, attitude, integrity, adjustability, convenience, and instantaneousness advocated by Sasser, Olsen & Wyckoff (1978) [38]. By the 1980s, three scholars, namely, Parasuraman, Zeithaml & Berry

(1985) [2] chose four service industries for their research, and ten service quality dimensions were put forward. In 1988, the abovementioned three scholars further selected five service industries as the research subjects for empirical studies and the SERVQUAL scale consisting of 22 questions in five dimensions were developed (Parasuraman et al., 1988) [3].

In the 1990s, Rust and Oliver (1994) [31] proposed three dimensions: service and quality, service environment, and service delivery; Dabholkar, Thorpe & Rentz (1996) [25] proposed five dimensions: entity, reliability, staff interaction, problem solving, and policy. Although the service quality dimensions proposed by the many aforementioned scholars vary, based on the measurement dimension names proposed by the scholars and whether or not the dimensions had specific attributes or abstract measurement weights, the dimensions were classified into constitutive dimensions and abstract dimensions, the former includes: time, contract, technique, physical facilities, environment, enterprise, service products, service processes, service staff, customers, etc.; the latter includes: trust (reliability), responsiveness (policy, instantaneousness), safety, assurance (attitude, competence, courtesy, communication, understanding), integrity, empathy (adjustability, problem solving), proximity (convenience), tangibility, innovativeness, etc.

In short, the service encounter related issues extended from the Service Theater

Theory have received special attention in recent years. The related researches have contributed positively in resolving the above-mentioned individual enterprises' listing of products based on customers' demands, the priority of service quality improvement, and links with the actual quality improvement activities. On the other hand, customer delivered value and customer value package related theories provide more comprehensive factors affecting customer value and effectively overcome problems that arise from investigating customer satisfaction through the service quality dimension.

Theoretically, regardless of whether the cognitive scripts, service blueprint method, service cycle, or critical incident technique is used, when applied in the adjustment of different questionnaire items for different service industries, positive outcomes are produced. However, one drawback is that it is more difficult to operate using these methods, establish empirical and quantitative models, and accumulate the empirical results of individual service industries. In order to resolve the plight faced, first, this paper included a review of customer value and the main influential factors based on the theater theory, service encounter, customer delivered value, and customer value package related theories. Subsequently, a more comprehensive set of customer evaluation factors were adopted to serve as the exogenic variables for measuring customer value. After that, the customer value classification was reviewed, and links

were made with the customer evaluation factors and value classification, thereby constructing the two-stage customer perceived value analysis model.

Literature Review

Customer Value and the Main Influential Factors

In the field of marketing research, customer value is generally deemed as an important factor contributing to enterprises' leading edge and firmly secured leading status in the market, which will be one of the focuses of concern to enterprises in the future. Despite the continuous increase in literatures pertaining to researches on customer value, scholars still hold different viewpoints regarding their definitions of customer value. From the perspective of expected value, some believe customer value is the collection of interests customers expect to obtain from specific products or services; others define customer value from the perspective of perceived value. To them, consumers' faith, attitude, and product experience constitute customer value.

Zeithaml (1988) [37] divided value perceived by consumers into four aspects and defined perceived value as the customer's overall evaluation of a product after perceiving, accepting, and giving. This value is defined as the gap between the customer's perceived giving and receiving. Additionally, he believed that the customer's perceived attitude toward giving

and receiving is a subjective attitude that affects the consumer's overall evaluation of a product. Later, a number of scholars put forth advocacies similar to Zeithaml's. From the perspective of perceived value, they believe that customer value is the replacement between giving and receiving (Monroe 1991 [18], Heard 1994 [12], Woodruff 1997 [29], Gronroos 1997 [7], Bovet et al.,2000 [9], and Kotler 2003 [28]) and the subjective perception of experience and attitude (Holbrook 1999[20]) .

Gronroos (1997) [7] added the viewpoint of customer relationship and put forth two equations of customer perceived value, one of which is the addition of the concept of relational cost. It is said that the customer's perceived value is the ratio of "core product+ added service" and "price + relational cost). He believes that from the perspective of relationship, the customer's perceived value changes with time. In particular, price is a short-term viewpoint, while relational cost is the cost as lapses during the development of enterprise-customer relations. In continuation to the viewpoint of Gronroos, Sirdeshmukh et al. (2002) [10] also proposed a similar view. He defined customer value as the consumer's perception of the cost gap between benefits gained and what he has to give in order to maintain relationships with service suppliers. In addition to the above concept of "the replacement between giving and receiving", Woodruff (1997) [29] put forth another perspective regarding customer value. He emphasized that consumers perceive customer

value differently in the different stages of consumption, and he believed that the subjective perception of customer value is produced by the customer based on the product attribute, performance, and results during the consumption process.

Besides the scholars' divergent views on the definition of customer value, the influential factors selected when measuring customer value all showed a certain degree of disparities, whether it was service encounter, customer delivered value, customer value package, or customer evaluation. Grove & Fisk (1983) [33] believed that interactions between service providers and receivers in service encounter show many resemblances with the Theater Theory of Goffman (1959) [11] as far as the behavioral aspect is concerned. Hence, the theory was introduced to interpret the interactive process of service encounter; Grove & Fisk adopted "staff", "physical facilities", and "procedures" in their research on service encounter conducted in 1992 and replaced the "audience/actors", "scene", and "performance" concepts in the original theater theory. Later on, Grove, Fisk, & Dorch (1998) [35] further adopted the research framework proposed by Grove & Fisk (1992) [34] to examine different customer groups regarding the effects of physical facilities, staff, customers, and overall service performance on customer satisfaction. The empirical results show that the four factors produced a significantly positive impact on customer satisfaction, while

the different customer groups showed different levels of concern for the four factors above.

Kotler (1992) [27] believed that “customer delivered value” is the gap between the overall customer value (including products, services, staff, image, and other values) and the overall customer costs (currency, time, effort, psychology, and other costs). Frederick and Salter (1995) [14] later proposed the concept of customer value package. He pointed out that price, product quality, service quality, innovation, and image are the five key factors contributing to customers’ perceived value. Sato (2000) [36] also put forth seven customer evaluation dimensions from the perspective of service encounter, including environmental factors, aesthetics factors, staff factors, processes factors, information factors, products and services factors, and price factors. The summary of the influential factors contributing to customer value proposed by the scholars is as shown in Table 1.

In this study, the seven customer evaluation factors put forth by Sato (2000) [36] are considered the most complete. Thus they were adopted as the first-order dimension (exogenous variables) for measuring customer value.

The Classification of Customer Value

From the perspective of personal shopping value Babin et al.(1994) [4],, in order to enable follow-up researchers to

gain an insight into the essence of customer value and provide a different research direction, a number of scholars have proposed different classifications of customer value, including hedonic benefit and utilitarian benefit; Chandon et al. (2000) [26] subsequently made hedonic benefit and utilitarian benefit a part of customer value; he believed that the former is the presentation of personal values, including entertainment, exploration, and other personal values, while the latter is the presentation of personal values, including thriftiness, quality, and convenience. Sheth et al.(1991) [17] mentioned five types of customer value, including functional value, emotional value, social value, knowledge value, and situational value.

Sweeney & Soutar (2001) [13] conducted a research on consumers of durable goods based on the value classification proposed by Sheth et al.(1991) [17] and developed the perceived value scale (PERVAL). Additionally, he classified customer value into four types: emotional value, social value, functional value (price), and functional value (quality).

In addition, in recent years, the study of customer value from the perspective of service encounter has become another important trend. Service encounter is the main factor contributing to the creation of the moment of truth during the process of service delivery (Bitner et al., 2000) [23]. In the moment of truth, whenever a customer is in contact with an enterprise, the service

Table 1. Factors Affecting Customer Value

	Theater theory	Service encounter	Customer delivered value	Customer value package	Customer evaluation
Factors affecting customer value	Audience /actors	Servicing staff/customers/other customers	Staff		Staff
	Scene	Physical facilities			Physical environment /aesthetics
	Performance	Procedures/overall service performance	Product services	Product service	Processes/ information/ product services
			Currency, time, effort, psychology, and other costs	Price	Price
			Image	Image	
				Innovation	

quality provided by the enterprise will determine the customer's impression of the enterprise. Thus, service encounter has an impact on customers' perception of service quality, which in turn affects their perception of value. Operators may even deliver services that meet customers' needs through it. From the perspective of service encounter, classifications of customer value remain insufficient. Below is a brief review of literatures related to customer value classifications mentioned in the service encounter theory. The recommended classification was then put forth in this study.

Surprenant & Solomon (1987) [5] believed that service encounter is the "two-way interaction between the customer and service provider during the service delivery process." This definition is focused on personal interaction. However, through the intervention of information service in servicing, the influence of the non-interpersonal factor related service encounter becomes increasingly important (Bitner, Brown, & Meuter, 2000[23]; Meuter et al., 2000 [24]). Researches of this type have expanded service encounter in all aspects of services, including the physical facilities without any personal interactions and other factors.

Therefore, service encounter should not be limited to personal interactions, online services just to name one. Customers may complete services through self-service technology. Thus, it is only by understanding the impact of technology and physical facilities on customers can customer satisfaction and reasons for dissatisfaction be more comprehensively grasped (Bitner, Brown, & Meuter, 2000) [23]. Hence, value classifications based on interpersonal contact, non-interpersonal contact,

interactive contact, and non-interactive contact can be summarized, as shown in Table 2. The value produced from value of personal interaction, value of technology interaction, environmental contact, and aesthetic factors (refer to Table 1) is known as value of peripheral environment. On the other hand, product, service, and price (also refer to Table 1.) are known as functional values. The classification of customer value is compiled as follows:

Table 2. The Classification of Service Encounter and Customer Value

	Interpersonal contact	Non-interpersonal contact
Interactive contact	Value of personal interaction	Value of technology interaction
Non-interactive contact		Value of peripheral environment/value of function

The Proposition of Customer Perceived Value Analysis Model

As for the measurement of customer perceived value, Sato (2000) [36] proposed seven customer evaluation factors as the exogenous factors for measuring customer value. Customer perceived value is used to measure all the evaluation dimensions provided by the customer that comes in contact with the service industry or individual enterprises, including seven factors: “environmental factors”, “aesthetics factors”, “information factors”, “staff factors”, “products and services factors”, “processes factors”, and “price factors”, as well as the degree of the customer’s actual perception.

According to the theory of consumer behaviors, Fishbein model is one of the multi-attribute models for the formation of attitudes. It mainly explains consumers’ attitude toward product brand alternatives based on their belief of product attributes and the weights of the attributes (Fishbein 1967) [21]. When used to measure satisfaction, Latour & Peat(1979) [32] developed the satisfaction theory that validates consumers’ ability to recognize hidden product attributes and form expectations for the attributes. In other words, consumers give importance weights for every attribute, and their judgment will form attitudes.

Fishbein (1967) [21] believes that the attitude is determined by faith. This model hypothesizes that attitude is constituted by the weights and beliefs of various attributes. When applied in the measurement of customer perceived value, equation (1) can be written as:

$$V_o = \sum_{i=1}^N \sum_{j=1}^n B_i W_{ij} \quad (1)$$

Amongst them, V_o is a particular consumer's perceived value of the product or service provider "o"; B_i is the faith for a particular product provider's attribute (evaluation factor) i ; W_{ij} are the weights adopted by the service provider attribute i

; N is the number of attributes ; n is the number of weights. In this study, assuming each consumer gives every attribute a subjective and implicit measurement weight, this weight may be a common abstract dimension for measuring service quality using reliability, responsiveness, trust, and innovation. That is, the customer's perceived value of the product or service provider is obtained by adding up the customer's faith toward the intrinsic attributes of the product or service provider taken into consideration, as well as the weights of the attributes identified.

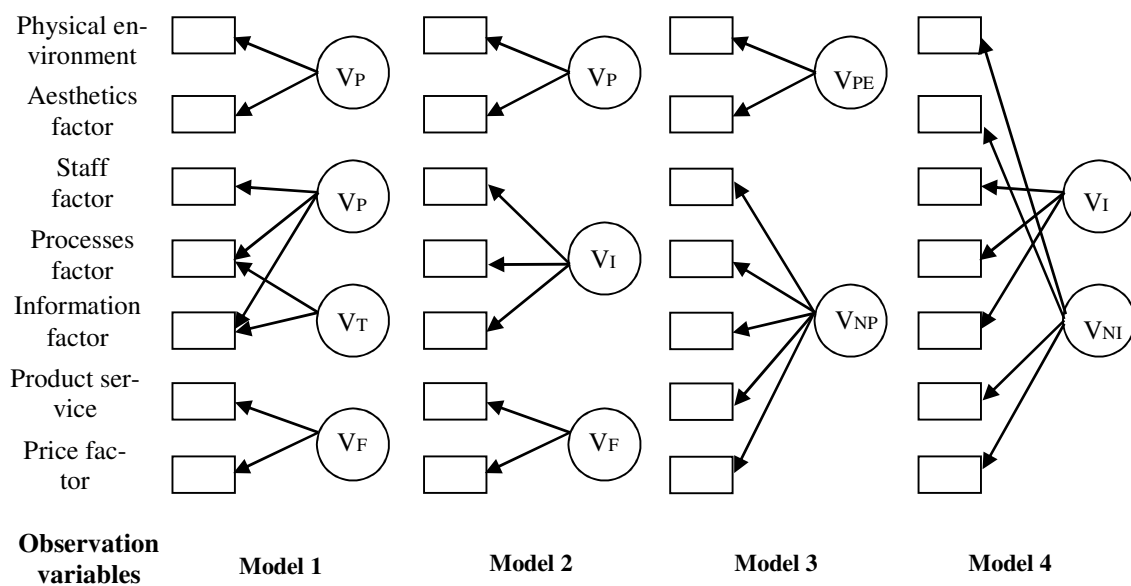


Figure 1. First-order Hypothetical Model

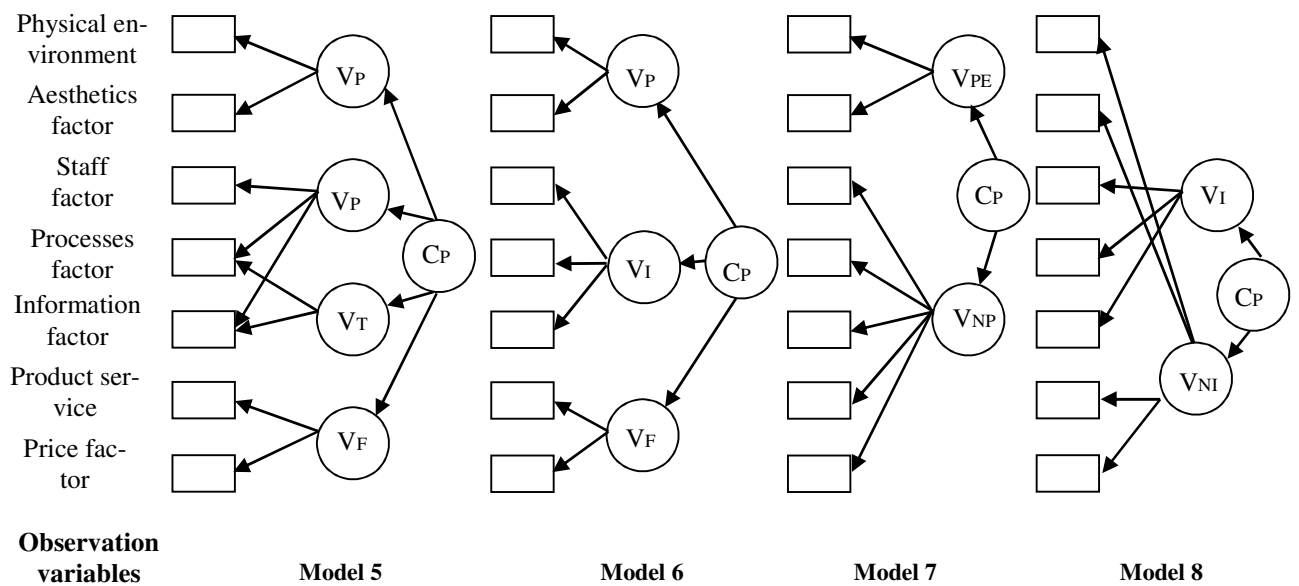


Figure 2. Second-order Hypothetical Model

Note: Meanings of English abbreviations in Fig. 1 and Fig. 2:

- VPE:** Value of peripheral environment **VPI:** Value of personal interaction
VTI: Value of technology interaction **VF:** Value of function
VI: Value of interaction **VNPE:** Value of non-peripheral environment
VNI: Value of non-interaction **CPV:** Customer perceived value

Confirmatory factor analysis is often used to examine the potential factors behind a set of similar measurement variables. It can be also used to examine the influence of a particular potential factor. The first-order factors that have higher levels of common factors behind are called second-order factors (customer perceived value). Examination through the theoretical concept model using composition of the observation variables is known as factorial validity. As past researches on the factor validity verifications of value dimensions targeting value classification dimensions and the influential factors of customer value remain scarce, this

study deemed that links should be established between the evaluation factors and value classifications to engage in first-order confirmatory factor analysis. Further, the evaluation factors, value classification factors, and customer perceived value were linked to engage in the second-order confirmatory factor validity verification. The proposition of this study is as follows: Proposition 1: Individual industries should adopt the second-order confirmatory factor validity analysis to examine the factor validity of individual service industries or enterprise

customers' value dimensions, so as to confirm the best combination of the customer perceived value analysis model.

The feasible first-order and second-order customer value theory model hypotheses in this study are as follows (Figure. 1 and Figure. 2): the 4-factor model (model 1), 3-factor model (model 2), the first 2-factor models (model 2), and the second 2-factor model (model 4). Researchers may collect empirical data targeting individual service industries or enterprises. Through the same competing models with the same observation variables above, testing was conducted based on the factor structures of the first-order and second-order theoretical model under different assumptions, thereby verifying the best combination and accumulating empirical results from different service industries.

Conclusion

The second-order customer perceived value analysis model proposed in this study can resolve the plight of the service encounter theory being more difficult to operate and lead to the establishment of

the empirical quantified models. In addition, the customer value procedures can be provided for the different service industries as a reference. In terms of empirical study, the combined use of the cognitive scripts, service cycle (refer to Sato 2000) [36], and critical incident technique (refer to Bitner, Booms, & Tetreault, 1990) [22] may be adopted to serve as a reference for the customer perception scale. Additionally, through the second-order confirmatory factor analysis, the factor validity of the individual service industries or enterprises' customer value dimensions can be examined. This way, not only the advantages of quantitative research can be retained, but also the empirical and quantified results can be accumulated. Under the premise of the establishment of factor validity, this study advocates that the confirmed best combination be also adopted and the customer satisfaction (Sweden) model of Fornell (1992) [6] and the "perceived value relationship profitability model" of Storbacka et al. (1996) [19] be amended, so as to serve as a theoretical basis for empirical cases of individual service industries, or enterprises', perceived value, satisfaction, relationship, and profitability.

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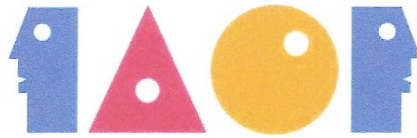
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CUSTOMER EXPERTISE, AFFECTIVE COMMITMENT, CUSTOMER
PARTICIPATION, AND LOYALTY IN B & B SERVICES

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Abstract

This study aims to identify the factors that contribute to customer expertise, affective commitment, customer participation, and loyalty in B & B tourism. The author proposes a model, in which customer expertise and affective commitment are assumed to increase the extent to which customer participation in the service delivery. Furthermore, customer participation may increase loyalty. From the results, the major findings of this study are as the following: Firstly, customer expertise and affective commitment, relate positively to customer participation. Secondly, customer participation enhances loyalty. Thus, the findings provide managers in the B & B services with valuable insights that firms can increase their competitive advantage through enhancing customer participation.

Keywords: customer expertise, affective commitment, customer participation, loyalty.

Introduction

With regard to tourism, in order to make travel-related decisions, customers make use of travel sites and on-line communities to obtain practical information. Through knowledge from themselves and from social communities, customers are taking an initiative to communicate with service providers. These changes correspond to what Prahalad and Ramaswamy stated (2000) “the market has become a platform where consumers actively participate in value creation”. In other words, the marketing philosophy is transformed from “market to” to “market with” (Vargo & Lusch, 2004). Under the concept of “market to”, consumers are passive receivers of value. They are segmented and then enticed to purchase the products that producers design for them. In this case, the roles of buyers and sellers are clear-cut. In contrast, the notion of “market with” means that consumers go along with the firms to create value (Lusch, Vargo, & O'Brien, 2007).

Customers are more capable, willing and motivated to exercise power to get involved in the service. In contrast, firms play the role as facilitators of value creation, rather than producers of standardized value (Payne, Storbacka, & Frow, 2008). Some empirical researches have identified the benefits that customer participation bring about for consumers and firms. When customers take part in the process of decision-making, they gain more control of the service creation and delivery. Hence, the service quality is better and customers obtain more customized service (Xie, Bagozzi, & Troye, 2008). For the firms, their productivity increases and their customers prone to be more satisfied, when they perceive more value from their service encounters during participation (Sharma & Patterson, 1999). Based on these findings, many researchers support the view that firms should embrace the concept of customer participation, because it is the means to

achieve competitive advantage (Prahalad & Ramaswamy, 2004) and the next frontier in competitive effectiveness (Bendapudi & Leone, 2003).

As for the factors that enhance customer participation, prior studies showed that the extent to which customers participate in the service delivery depends on the resources that customers have. In terms of value creation, customer participation offers greater opportunities for services that require high degrees of customer contact and high interdependence between customers and service providers for favorable outcomes (Auh et al., 2007; Sharma & Patterson, 1999). B & B tourism is a service that emphasizes the human touch attributes and requires frequent interpersonal interaction. It serves as an appropriate context to explore the role of customer participation.

Based on the discussion above, research direction focuses on under which circumstances customers would be motivated to engage in service delivery. However, while reviewing related literature, we found some gaps. First, there is limited empirical research for the factors that contribute to customer participation. So far most of the research concerning customer participation focuses on the effects that it brings about, like service quality (Ennew & Binks, 1999), satisfaction (Bendapudi & Leone, 2003; Chan, Yim, & Lam, 2010; Wu, 2011) and loyalty (Ennew & Binks, 1999). Little attention is paid to the factors that enhance customer participation. Furthermore, most of the works that address its antecedents provide only theoretical review (Lusch et al., 2007; Payne et al., 2008). Empirical support is rarely explored (Wu, 2011). Second, in the tourism literature, customer participation is less associated with service relationship. The concept of relationship marketing was not introduced to tourism literature till 1996. Thus the theoretical and empirical literature development concerning

relationship marketing is quite limited (Yuksel, Yuksel, & Bilim, 2010).

Since there has been little work that addresses firm-customer relationships from the perspective of customer participation (Ennew & Binks, 1999; Wu, 2011). According to Li and Petrick (2008), relationship marketing and customer as value co-creator are two paradigms that need to be more researched. Therefore, in this study we combine customer participation and relationship marketing together and then examine the factors that enhance customer participation and how customer participation affects customer loyalty.

Literature Review and Development of Hypotheses

Customer Participation

Customer participation emphasizes the participative role of consumers in the service context. Dabholkar (1990) defined customer participation as "the degree to which the customer is involved in producing and delivering the service". According to Lengnick-Hall, Claycomb and Inks (2000), customer participation means "engaging customers as active participants in the organizations' work". Under this concept empowered consumers take part in the design, execution and delivery of the service (Ertitnur, 2008). Customer's role as active participants requires mental and physical efforts and involvement (Cermak, File, & Prince, 1994). Namely, customers need to be physically present to get the service or provide information as a prerequisite. Increasingly, customers engage themselves in value creation, either by serving themselves, cooperating with service providers or with other customers (tourists in the same travel group).

Customer participation is essential to the services that are complex, long term,

or both. In these services it has the characteristics that it takes customers long time to wait for the result and the service outcome is highly uncertain. In addition, the service offer is typically customized. In this study, we mainly focus on the relationships between customers, and assess how customer participation interacts with its antecedents and decedents from the perspective of the B & B service. Indeed, customers can understand their thoughts and feelings, and can further communicate with them through the interaction. Ruan's research (2002) on the relevant factors of the customer interaction in play situations concluded that there are at least seven functions in customers' play interaction. Therefore, in the B & B tourism industry, front-line employees or managers provide customers with travelling information and jointly choose the travelling tour that best suits customers' needs. Both customers and service providers have to make conscious efforts to interact with each other to ensure that the service is appropriately delivered.

Through participation, customers are able to reduce uncertainty and avoid service failure, when the service is long term in nature and is perceived high-risk. In the literature review customer participation is widely accepted to be an important factor that enhances service quality (Ennew & Binks, 1999), because perceived quality is significantly influenced by the interaction between customers and service providers. Thus, customer participation becomes the indicator for an effective relationship and perceived service quality. Besides, successful relationships furthermore contribute to satisfaction, loyalty and retention.

Customers obtain timely service with better price but gain greater control of service quality with satisfaction. For firms, customer participation raises productivity (Fitzsimmons, 1985), efficiency (Jones, 1990), service performance (Mills, Chase,

& Margulies, 1983), and contribute to service quality and satisfaction. The engagement of customers in the service process benefits not only themselves but the service providers. Both parties experience win-win situation through reciprocal cooperation, which enhances the relationship. Bendapudi and Leone (2003) pointed out that the process of customer involvement is “the next frontier of competitive effectiveness”. The firms that provide customers with service co-production opportunities and resources are able to improve competitive advantage (Lusch et al., 2007).

Customer Expertise

Customer expertise refers to “the ability to perform product-related tasks successfully” (Alba & Hutchinson, 1987). Customers who are able to make useful and timely contributions to service ensure the quality of service (Schneider & Bowen, 1995). Sharma and Patterson (1999) defined customer expertise as customer’s background knowledge about the performance of a product and the general understanding of how similar brands perform on average. This suggests that a customer shapes his expertise not only from the service provider he is dealing with, but from other relationships or resources. It suggests that expertise gained is not firm-specific, but market-based.

An experienced customer may develop some norms that he expects a service provider should perform, based on the experience in the past or resources he obtains from other channels. He is able to see beyond the functional service quality dimensions, like staff’s friendliness and empathy, and therefore, focus on the core technical attributes, such as appropriateness of the tour recommended. Namely, when an expert customer is more capable, he develops his own evaluative criteria to detect various attributes of a service offering and make his purchase decision based on the attributes

that most relate to his situation (Bell, Auh, & Smalley, 2005).

As customers become more experienced, their expertise is simultaneously enhanced. Consequently, they are capable to evaluate the information provided and draw conclusions about service provider’s performance in comparison with other alternatives (Bell et al., 2005). To avoid poor service quality and service failure, customers will want to influence the outcome of the service and this influence is highly related to the individual’s ability (Abeles, 2003). Therefore, customers with expertise are able to assess the service provider’s performance and perceive less risk when making decisions. Since customers are capable of distinguishing whether the service provided are proper or not, they are more confident in deciding taking an active role in the service delivery. Thus, the following hypothesis is proposed:

H1: Customer expertise relates positively to customer participation.

Affective Commitment

Affective commitment refers to the sense of liking, emotional attachment and belongingness. Individuals with affective attachment show a favorable attitude toward the relationship and want to stay in it. The critical feature of this dimension of commitment lies in that the customers stay in the relationship, because they want to (Cichy, Cha, & Kim, 2009). This self-driven desire motivates thus the customers to contribute meaningfully to maintain durable associations with their partners.

According to Meyer and Herscovitch (2001) when a customer decides to stick to a relationship out of his own will, he tends to demonstrate favorable behavior towards the relationship party voluntarily. In comparison, calculative commitment is based on instrumental reasons. Namely the

force that binds a customer to a service provider lies in economic motives, like switching costs and sacrifice. The customer is compelled to choose the collaboration partner out of economic need and is left with limited alternatives. Compared with affective and calculative commitment, normative commitment derives from social pressure. The customer feels obliged to attach to the service provider. Among the three dimensions of commitment, affective commitment is far more likely to arouse customer participation in the delivery of service.

Consequently, the focus of this study is primarily on affective commitment. It represents a situation in which customers demonstrate an affective and emotional attachment to the relationship with the service providers. When individuals have high affective commitment, they may perceive themselves as part of the company (Iun & Huang, 2007) and therefore are prompted to actively take part in behavior that helps the firm to achieve its goals (Mayer & Schoorman, 1992). Empirically Morgan and Hunt (1994) demonstrated that commitment had a positive effect on cooperation between buyer and supplier in the B2B setting. The same result also held true in the customer-service firm relationship, namely, B2C setting. The findings of Kim, Ok, and Gwinner (2010) supported the view that affective commitment enhanced the customers' cooperative behavior. Thus, the following hypothesis is proposed:

H2: Affective commitment relates positively to customer participation.

Customer Loyalty

Beatty, Homer and Kahle (1988) pointed out that when a customer is highly involved in the service delivery, he tends to contribute some of his time to do service-related information search. Once he is satisfied with the service, he will repatronize

and hence form loyalty. As the frequency of repurchasing intensifies, the chance of searching for alternatives decreases. In the tourism context, many believe that novelty and experience seeking is the main motive for travelling, which leads to the tendency of switching brands, like visiting different destinations, restaurants and hotels (Galloway & Lopez, 1999; Lee & Crompton, 1992). However some researchers argued that relaxation seekers demonstrate a different attitude. They show a higher propensity of repeated visit (Fyall, Callod, & Edwards, 2003). In addition, the novelty-seeking mentality may not hold true for all other businesses in the B & B tourism industry. Thus, we hypothesize that:

H3: Customer participation relates positively with customer loyalty.

Methodology

Quantitative Data Collection

Participants.

This study conducted a convenience survey with a structured questionnaire. The questionnaires were distributed to a sample of 300 customers who received B & B services and yielded 237 finished questionnaires. Out of these, 216 were usable.

Measuring Tools.

The measurement instrument was designed based on various previous studies. All the questionnaire items were measured on a five point scale. Respondents were asked to indicate their level of agreement toward each statement, from 1 (strongly disagree) to 5 (strongly agree).

Customer expertise.

We consider customer expertise as a customer's prior knowledge and skill to assess product performance. This construct

measures a customer's market-based expertise instead of expertise with a specific travel agency. We used a four-item scale developed by Sharma and Patterson (2000).

Affective commitment.

We define affective commitment as emotional attachment to the service provider and showing of favorable attitude toward the relationship. This construct measures the extent to which a customer feels identified with the service provider. We used a four-item scale by Meyer and Allen (1984).

Customer participation.

We define customer participation as "the degree to which the customer is involved in producing and delivering the service". We measure customer participation according to the three items that Bettencourt (1997) proposed with regard to Customer Voluntary Performance Scale on the basis of cooperation and participation.

Customer loyalty.

Customer loyalty is defined as customer's intention and commitment to stay with the service provider. We adopt a four-item scale from Behavioral Intentions Scale by Boulding et al. (1993) and loyalty dimension of the Behavioral Intentions Scale by Zeithaml, Berry and Parsuraman (1996).

Purification and Reliability of Measurement Variables

To purify the measurement scales and to identify their dimensionality, principal components reliability test with Varimax rotation was applied to condense the collected data into certain factors. After reliability test, we used item-to-total correlation and internal consistency analysis

(Cronbach's alpha) to confirm the reliability of each research factor. According to Robinson and Shaver (1973) if α is greater than .7, the variable has high reliability, and if α is smaller than .3, it implies that there is low reliability. The reliability of four latent variables was investigated by calculating Cronbach's alpha. The range of the values was between .84 and .92, which indicated all measures were quite reliable.

Structural Equation Model

In order to find out the relationship in the whole research model in this study, a structure equation model (SEM) was used. The criteria of Chi-square, GFI, AGFI, CFI, RMR, and RSEMA were used to evaluate the overall goodness of fit of the model. According to Hair et al. (2010), the value of overall fit of a hypothesized model can be regarded as appropriately significant when each criteria Chi-square is small (p value $>.05$), and fit indices such as the ratio of Chi-square to degrees of freedom (Chi-square/d.f. ≤ 2); goodness of fit index (GFI $>.9$), and adjusted goodness of fit index (AGFI $>.9$); root mean square residual (RMR $<.1$), and root mean square error of approximation (RMSEA $<.08$) are all fulfilled. The result of confirmatory factor analysis (CFA) produced evidence of an acceptable fit of the model (Chi-square = 462.92; $df = 284$; $p = .00$; Chi-square/ $df = 1.63$; RMR = .04; GFI = .91; AGFI = .90; RMSEA = .08). Parameter estimates of the final model were inspected and no problematic occasions were found. And the correlations between latent variables ranged from .41 to .56 (see Table 1.).

Results

Quantitative Data Analysis

Table 1. Correlation matrix and discriminant validity analysis of latent variables

Constructs	M	SD	1	2	3	4
1. Customer expertise	3.72	0.55	0.84			
2. Affective commitment	3.63	0.40	0.56**	0.85		
3. Customer participation	3.81	0.42	0.47**	0.51**	0.89	
4. Customer loyalty	3.96	0.53	0.43**	0.41**	0.45**	0.86

M: Means, SD: Standard deviations, * $p < 0.05$, ** $p < 0.01$, $n=216$

The square roots of average variance extracted (AVE) are given on the diagonal.

The correlation coefficients of constructs are given under the diagonal.

Returned valid questionnaires are female (48.3%) and male (51.7%), mostly range from 31 to 40 years old (37.5%), next are 21 to 30 years old (29.8%). Next, in the average monthly income, the highest percentage is NTD 40,000 to 50,000 (38.7%), followed by NTD 40,000 to 50,000 (30.5%). As for the occupation, the top one is Armed services, civil servant and educator (27.6%), followed by the business (20.9%), student for 12.5%, and manufacturing for 10.1%. To the education degree, university is most (45.5%), followed by college (24.8%), the high school is accounted for 16.6%.

Assumption Tests

The hypotheses in this study were tested by using Structural Equation Modeling. The resulting measurement model has X^2/df equal to 1.63 and all values in the model reflect acceptable fit of the data. For finalized model, standardized path coefficients and significance are as below: First, we find support for H1-H2. Antecedents of customer participation, including customer expertise ($\beta=0.32$, t -value=3.27, $p=.001 < .01$), and affective commitment ($\beta=0.27$, t -value=1.94, $p=.001 < .01$), both positively relate to customer participation. Regarding the decedents of customer participation, the hypotheses H3 is also confirmed. Customer loyalty ($\beta=0.45$, t -value=5.17, $p=.001 < .01$) was found to be positively related to customer participation.

Conclusion and Future Research

Our results provide empirical support for the conceptual framework that incorporates task clarity, ability, motivation as facilitating factors for effective customer participation. The analysis shows that customer loyalty can be enhanced by encouraging customers to participate in service. In addition, this study offers an insight on the antecedents that promote customer participation. Our study benefits the existing marketing literature concerning customer participation in that it examines some factors that contribute to customer's participative role in the service delivery. It serves as the empirical support for the S-D logic proposed by Vargo and Lusch (2004).

Moreover, in the world of "customers are the king", managers in the B & B services should understand the important role of customers in the service delivery and moreover to motivate them to keep good relationship with the firms of B & B services. Customer participation is a double-edged sword (Chan et al., 2010).

Therefore, it is significant for managers to understand how to make use of customer participation to bring competitiveness for the firm.

At last, we believe this study provides valuable insights into the customer's participative role in the service delivery as value co-creator. As customers become more knowledgeable and demanding due to

experience-seeking and modern technology, managers should map the whole experience

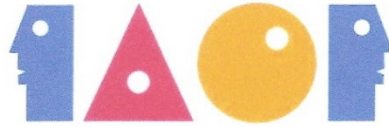
process and open up more opportunities to include customer participation into B & B service delivery.

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NOSTALGIA, PERCEIVED VALUE, SATISFACTION, AND LOYALTY OF CRUISE TRAVEL

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Abstract

This study aims to explore the causal relationships among nostalgia, perceived value, satisfaction, and loyalty. The author proposes a model, in which nostalgia is assumed to have positive impact on perceived value. Furthermore, perceived value may increase satisfaction and loyalty. Finally, satisfaction could increase customers' loyalty. From the literature review, the major findings of this study revealed that nostalgia has a positive effect on the perceived value of cruise tours, and that perceived value is a multi-dimensional construct that also has a positive influence on satisfaction and loyalty. Meanwhile, satisfaction has a positive effect on loyalty. These results hence will provide potential guidelines for the railway industry in tourist planning, and enable decision-makers to formulate appropriate marketing strategies.

Keywords: nostalgia, perceived value, satisfaction, loyalty, cruise travel.

Introduction

For tourists or consumers, local

cultural industries provide not only a travel destination but also a cultural experience that may entail emotional qualities such as nostalgia. Schmitt (1999) defined marketing experience as providing consumers with sensory

stimuli, emotional experiences, and thought-provoking activities, all to retain the value of the last memory. Although the use of cultural, nostalgia, and emotional experiences in tourism have been discussed in previous literature (Sweeney and Soutar, 2001; Babin and Attaway, 2000; Holbrook, 1999), there appears to be no literature that examines the role of affective factors in railway tourism marketing.

According to previous researches on marketing science, the main objective is to achieve passenger satisfaction and loyalty, as well as better service quality, which will keep the operator at a competitive position in the domain of passenger transportation (Kotler, 2003). Although several literatures discuss how service quality affects passengers' loyalty in passenger transportation, such as airline, bus, and railway passenger services (Chen, 2008; Wen et al., 2005; Nathanail, 2008), there is limited research about how the psychological level influences loyalty.

Furthermore, customers' value perceptions have attracted growing attention from academics and practitioners (Petrick, 2003; Holbrook, 1999). Moreover, customers' value perceptions seem to drive their future behaviors such as re-purchase intent and word-of-mouth referrals (Brady and Cronin, 2001; Cronin et al., 2000). If value perceptions are important for consumer behavior theory and practice, then the next logical task is to explore its antecedents and consequences in a variety of consumption settings. This study focuses on the experiential services of cruise travel. Research in consumer behavior demonstrates that affective responses to consumption objects influence consumers' post-purchase intentions (Wirtz, Mattila, and Tan, 2001). Duman and Mattila (2005) also pointed out that consumers' af-

fective responses are directly related to perceived value in highly experiential service settings such as cruising.

Since satisfaction is largely based on consumers' affective responses to marketing stimuli (Oliver, 1997), this study focuses on how affective factors influence cruise passengers' perceived value and indirectly influence passengers' satisfaction and loyalty. Based on the described above, the objective of this study is to develop a model to integrate nostalgia, perceived value, satisfaction, and loyalty in cruise travels.

Literature Review

Nostalgia

Nostalgia is defined as a longing for the past, yearning for yesterday, or a fondness for possessions and activities associated with days gone by, also is a powerful construct that has direct and significant influence on consumer behavior (Holbrook and Schindler, 1996; Thelen et al., 2006). Nostalgia can also be described as a preference toward objects from when one was younger or from times about which one has learned vicariously, perhaps through socialization or the media (Fairley, 2003). Nostalgia is capable of eliciting a variety of emotional responses, including warmth, joy, gratitude, affection, and innocence, mixed with bittersweet emotions such as sadness and a sense of loss (Holak and Havlena, 1998; Muehling and Sprott, 2004). Therefore, we conceptualize nostalgia as an affective response produced by reflection of things associated with the past.

Perceived Value

Perceived value is an extremely important concept in marketing, and many authors have dealt with it in recent years (Snoj et al., 2004). From the customers' use of

value, Zeithaml's (1988) analysis defined perceived value as the consumers' overall assessment of the utility of a product based on perceptions of what is received and what is given. This definition is consistent with that of other researchers who have described value as a cognitive trade-off (Dodds et al., 1991). Moreover, according to different authors, customer perceived value is a multidimensional concept and is conceptualized as a customer's perceived net trade-off received from all relevant benefits and costs or sacrifices delivered by a product or service or supplier and its use (Slater and Narver, 2000; Snoj et al., 2004; Ulaga and Chacour, 2001).

It is also recognized as an important factor in the marketing of products and services (Yu et al., 2005). In fact, perceived value is the essential result of marketing activities and is a first order element in relationship marketing (Oh, 2003). However, many previous researches have unanimously confirmed the context-dependent nature of perceived value (Francis and White, 2004; Holbrook, 1994; Mathwick et al., 2001; Woodall, 2003). That is, the construction of value differs between objects, individuals, and circumstances.

Wildschut, Arndt, and Routledge (2006) mentioned that nostalgia is a happiness related emotion. Nostalgia also appears to link positive affective reactions described in the emotion scales as joy, happiness, and pleasure with connections to others involving affection, warm-heartedness, love, and sentimentality (Holak and William, 1998). Wildschut et al. (2006) found that like love, nostalgia bolsters social bonds; that, like pride, nostalgia increases positive self-regard; and that, like joy, nostalgia generates positive affect. For this reason, nostalgia is regarded as an affective response; when passengers feel nostalgia, they can gain the benefit of a positive emotional state. Thus,

Proposition 1: Nostalgia has a positive effect on perceived value.

Satisfaction

Customer satisfaction is defined as a customer's overall judgment on disconfirmation between expected and perceived service performances (Anderson and Sullivan, 1993; Ramaswamy, 1996). Baker and Crompton (2000) also defined satisfaction as an experiential quality attained after the tour experience. Spreng, Mackenzie, and Olshavsky (1996) insist that the satisfaction of the tourist is the result of experienced quality. Furthermore, satisfaction is a positive, affective reaction resulting from a favorable appraisal of a shopping or consumption experience (Babin and Griffin, 1998).

Satisfaction is primarily an affective evaluative response (Oliver, 1992; Patterson and Spreng, 1997). Emotions are associated with intense states of arousal that lead to focused attention on specific targets and may impact ongoing behavior. Allen et al. (1992) also demonstrated that emotions act as a better predictor of behavior than do cognitive evaluations, while in line with this discussion, Strandvik and Liljander (1994), and Spreng et al. (1993) argued that perceived value should be a direct antecedent of satisfaction. Thus,

Proposition 2: Perceived value has a positive effect on satisfaction.

Loyalty

Customer loyalty is defined as the feeling of commitment or affection for a particular product or service. Olsen and Johnson (2003) defined loyalty as repeated purchasing or relative volume of same brand purchasing. According to Oliver (1999), loyalty is a

deeply held commitment to re-buy or re-patronize a preferred product or service consistently in the future; loyalty is having a component related to both repeated purchase and attitudinal commitment (Jacoby and Chesnut, 1978). Loyalty in marketing consists of a consumer commitment to repurchase a brand and can be demonstrated by repeated buying of a product or services or other positive behaviors such as word of mouth advocacy (Buttle, 1998; Dick and Basu, 1994; Velazquez, Saura and Molina, 2011).

Harrison and Shaw (2004) found that repurchasing willingness is relevant to consumers' satisfaction; therefore, perceived value is an essential factor to the level of satisfaction. The concepts of perceived value and satisfaction are mostly similar and easily confused when discussed. It has been argued that satisfaction and perceived value are two complementary yet distinct constructs (Eggert and Ulaga, 2002). Eggert and Ulaga (2002) demonstrated that customer satisfaction should be conceptualized and measured as an affective construct, while customer perceived value is best conceptualized as a cognitive variable. Therefore, some researchers determined that loyalty has positive association with perceived value (Dodds et al., 1991; Grewal, Monroe and Krishnan, 1998). According to the results of previous studies, perceived value has been found to be a powerful predictor of loyalty. Therefore,

Proposition 3: Perceived value has a positive effect on loyalty.

According to Petrick and Backman (2002), consumer satisfaction and perceived value is relevant to loyalty; Anderson and Sullivan (1993) mentioned that loyalty is positively affected by consumer satisfaction. Baker and Crompton (2000) also pointed a higher level of satisfaction increases the tourist loyalty and repurchasing willingness; so

customer satisfaction becomes a mediating variable of repurchase willingness (Olsen and Johnson, 2003). Kotler (2003) indicated that satisfaction, referring to the level of satisfaction or dissatisfaction, is contributed by the expectation of the product. Therefore, the definition of satisfaction in this research is defined as the difference between customer expectation and the achievement of the product. Customer loyalty is influenced by customer satisfaction (Bitner, 1990; Hui et al., 2007). Therefore,

Proposition 4: Satisfaction has a positive effect on loyalty.

Conclusion

From the theoretical standpoint, this study makes some contribution to tourism literature by providing insights on the factors that affect loyalty. First, this study proposes nostalgia influence perceived value. Based on the result, the affective factor has an important role in affecting perceived value. Furthermore, this study supports the positive relationship between perceived value and passenger satisfaction, which corresponds with the research contributed by Chang et al. (2009). Finally, passenger satisfaction positively influences passenger loyalty in cruise travel. This study also finds that perceived value has a very strong influence on loyalty, and the result is consistent with the research contributed by Chang et al. (2009).

In addition, some managerial implications are provided as follows: First, the role of perceived value must not be overlooked because it might mediate the nostalgia on satisfaction and loyalty in our study. The TRA managers should learn how to cultivate passengers' perceived value in order to affect passengers' behavioral intentions. Second, according to the research results, nostalgia in railway tourism marketing is quite important.

Finally, since nostalgia exerts influence on perceived value, TRA managers should therefore give attention to designing more nostalgic routes to attract this segment of passengers for first-time or repeat passengers.

At last, the model in this study can be applied to other recreational tourism to vali-

date its usefulness. Furthermore, in-depth interviews of parent-child tourists' experiences can be employed. Moreover, a quantitative research approach will gain more insights into how parent-child tourists perceive cruise travels and lead to results different from that of the qualitative research approach.

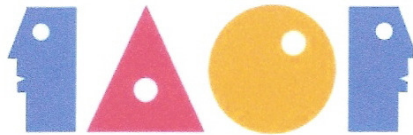
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TOURISTS' PERCEPTIONS OF TOUR GUIDES IN VISITING TAIWAN

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Abstract

It is evident that tour guides plays a vital role in linking the tourists with their destination. They bridge the gap brought by cultural differences and language barrier, which apparently hinders the ability of tourists to enjoy their experience. In this regard, the objective of this study is to examine the qualities that a great tour manager needs to possess in order to offer excellent travel experience. Several studies reveal that the role of a tour guide is critical in achieving the overall tourism experience. To affirm this hypothesis, the research used fifteen case studies to scrutinize the experience of Mainland China tourists in Taiwan. Among the good qualities identified from the cases studies that a tour manager should possess include

but not limited to professionalism, knowledgeable, enthusiastic about the job, a sense of responsibility and patience. The manager also needs to be humorous, have the ability to handle emergency, and be attentive to guests.

Keywords: Tour Guide, Tourist Perception, Travel Experience, Travel Quality, Tourism Bureau, Taiwan (R.O.C)

Introduction

Background of the Study

Over the past few years, there has been a rapid growth in outbound tours among the Asian countries. According to Wang, Jao, Chan, & Chung (2010), the dramatic growth as well as the rising income levels in the regions is fuelling this increase. Outbound travel in this region mainly comprise of group package tour or all-inclusive travel. Apparently, Asian tourists are the leaders in this type of packages much more than their western tourist counterparts (Wong & Lee, 2012). Novice explorers and thus the need of a tour guide characterize this organized mass tour. The service industry particularly in tourism is highly dependent on contact employees, who are familiar with the destination and thus highly influence the service quality as perceived by customers (Wang, Hsieh, & Chen, 2002). In this regard, international and local tourism industries at many destinations are increasingly recognizing the role played by tour guides.

Tour guides plays an essential role in linking the host destination and its visitors.

Tour guiding profession is the core of the tourism industry, and helps to make the industry attractive and profitable. According to Ap & Wong (2001), the guides are the front-line employees, who bear the responsibility of overall impression and satisfaction of the services offered at any destination. Although the form and condition of destinations are essential, it is the quality of service offered that defines customer experience. To achieve these tremendous results, tour guiding can be viewed in three broad perspectives. From the tourist perspective, the guides serve as pathfinders, tour leaders, as well as mentors. From the investors' perspectives, they serve as spokespersons that represent the image and reputation of the company. Lastly, from the viewpoint of host destination, tour guides are interpreters that assist to deduce sense of the culture and heritage of the destination (Mak, Wong, & Chang, 2011).

The functions of a tour guide make tour guiding to assume various definitions. Nonetheless, there is an internationally accepted definition provided by the International Association of Tour Managers and the European Federation of Tourist Guide Association. It defines a tour guide is a person who "guide groups or individual visitors

from abroad or from the home country around the monument, sites and museums of a city or region; to interpret in an inspiring and entertaining manner, in language of the visitor's choice, the culture and natural heritage and environment" (Ap & Wong, 2001). From the definition, it is clear that the guides have the ability to transform the tourists' visit from just a tour to an experience. This major discovery is what the Taiwan government is relying on to attract tons of tourists in to the country, particularly from the mainland China.

Problem Statement

Cultural differences as well as language barrier are key components that may hinder the inspiration and entertainment of a tourist when visiting a particular destination. This is particularly devastating when visiting a destination like Taiwan, which is cupped with rich and diverse culture and heritage. Nonetheless, it seems that the influence of a great tour manager can overturn things. The influence usually improves the tourists' experience, feelings, and attitude toward the destination, during their travel time and thereafter. Using related case studies, the research will examine the qualities possessed by great tour managers, which agencies and travel business related industry understand and utilize to ensure there is quality travel experience. This not only assists in expanding the market but also promoting the culture and heritage of the destination.

Objective of the Study

The major objective of this study is to examine the qualities that a great tour manager needs to possess in order to offer excellent travel experience. To be able to achieve this objective, the following specific objectives will guide the study:

- To search for the balance between commercial needs of tour operators and their experiential desires.
- To understand how the various forms of tourism determines the quality of a tour operator.
- To determine ways to reduce the response time taken by tour operators to deal with tourists' complaints.

Research Questions

1. What really matters of a great tour manager for offering an excellent travel experience?
2. Are good qualities in tour management naturally acquired or learned at school?
3. What knowledge and professional attitude do a great tour manager needs to possess?

4. What are the physical characteristics that a good tour operator needs to have?

Significance of the Study

Identifying the qualities of a great tour manager will increase the quality of services offered to tourist visiting a particular destination. To start with, travels agencies and other investors will have a benchmark of the kind of tour leader to put in the front line. Using their knowledge and experience, the tour operators will be able to meet the demands of the customers, which will not only give the tourists the value for their money but also leave them satisfied. The result will be increased number of tourist visiting a particular region, thus improving the economic, as well as the social well-being of communities living there.

Review of Literature

There is a plethora of management mechanism all over the world with the aim to guide, regulate, monitor, and even control a business. Hu & Wall (2013) posit that, these mechanisms extend to the tourism industry, where tour guides, and their performances are managed. Nonetheless, it is good to note that there are great variations across the world in terms of strategies that are employed, as well as the required standards and qualification of a tour guide. Apparently, there are variations among countries on the requirements that a tour guide

need to have. In North America for instance, training experience is not necessary and virtually anyone with an operating license can be a tour guide. This is not the case in other cities, where one must have training in order to be a tour guide (Wong & Lee, 2012).

Tour guide training is critical in the improvement of the guides' standards of services as well as their product knowledge. Carmody, (2013) suggested that professional bodies in the hospitality industry should develop a mechanism that would support tour guides. The role of the bodies toward the guides would be to instigate training, certification, licensing, and award programs for the members. This is the underlying premise of a sound tourism industry. According to Baum (2007), good human resource management, particularly training is always adopted since they deliver bottom line profitability. He want further to suggest that how people are recruited, managed, educated, valued and rewarded, as well as how they are supported largely determines their ability to deliver quality service.

The role of tour guides

Reisinger & Steiner (2006) describe tour guides as information givers, a source of knowledge, surrogate parent, pathfinders, leaders, cultural brokers, and entertainers. On the other hand, Chang & Tang (2011) assert that the guides assist the tourists to understand the places they visit. Nonetheless, insists that the primary role of a tour guide is to provide information, which is the

number one drive for professional status. In this regard, the information is passed from the guide to the tourist can break or make a tour. From these roles, tour guides performs four major functions namely instrumental, social, interactionary, and communicative. In addition, Reisinger divides the guides into four categories, each focusing on the specific function. The four categories comprises of originals, animators, tour leader, and professionals.

Tour leaders, according to Chowdhary & Prakash (2008) are a subcategory of tour guides, whose role is to inform tour participants, in this case the tourists, the broad travel-related knowledge of a particular area. Traditionally, tour leaders were referred to as people who manage a group movement over a multiday tour, with the duty of escorting rather informing. Nonetheless, this of late has changes with tour leaders assuming a more informative role (Chang & Tang, 2011). Chowdhary & Prakash, (2008) add that tour leaders are also responsible to ensure that all the activities listed in the travel itinerary are executed. In this regard, the leaders are expected to act as mediators, and maintain good relations with all group members in order to perform their duties with minimal resistance.

According to Reisinger and Steiner (2006), originals are the pathfinders, who functions are primarily instrumental. As their name suggests, their role is to select a route, break the path, and make it accessible

so that the tourists can reach their destinations. They ensure that the tourists are safe to and from their destination. On the other hand, the animators perform a more subtle function of socializing and interacting with tourists, being friendly, listening to them, and respecting their preferences. From their function, it is evident that an animators need to possess certain characters in order to interact freely with the tourists. They also need to have a wide knowledge of their destination as well as be easy going.

The last subcategory of the tour guides is the professionals, who have immense knowledge in their area of expertise. They perform the communication function, which entails transferring detailed information as well as interpreting experiences, attractions and sites to tourists. Professionals according to Reisinger & Steiner (2006), have advanced training in tour guiding and are specialize in specific areas of tourism such as ecotourism or marine tourism. In this regard, they act as mentors, with four distinct functions. One is selecting the itinerary that suits their clientele in terms of what to see, and what to experience. Their second function is disseminating the correct and precise information to the tourist. This is not a problem to them due to their vast knowledge in their respective fields. They also interpret what the tourists see, explaining to clients the causative action of the experience. Lastly, professionals fabricate information, where they present fake information as though it were genuine. The aim

of this is not to cheat the customers but to entertain them.

Professional tour guides are of great importance particularly when guiding tourist in areas that are considered sensitive or benign. Among such forms of tourism that are rapidly advancing are nature based tourism and ecotourism. These form places more emphasis on the negative impact on the natural environment and degradation of the natural habitats of the flora and fauna (Randall & Rollins, 2009). In this regard, asserts that tour guides can play a vital role by educating their customers through interpretation and modeling environmentally appropriate behaviors. According to Yamada (2011), the guide not only provide information but also develop and understanding and appreciation of resources and help manage the tourists' impact on resources. He went further to suppose that the interpretation of natural surroundings, local culture, and cultural heritage be provided to customers as well as explaining appropriate behaviors while visiting natural areas, living creatures, and cultural heritage sites (Yamada, 2011).

Whether a professional or an original guide is handling a customer, perception is critical in presenting the destination to a tourist. Naturally, tour guides are cultural brokers operation at the site of tourist destination. They are supposed to be the interface between the host destination and its visitors (Bryon, 2012). It is also evident that working as a tour guide can at times be stressing, and it is upon the guide to know

how to manage the stress. In this regard, they are supposed to understand the image of the destination and be able to communicate and interpret the same to the customers with ease. Apparently, tourist perceptions are more susceptible to unofficial images than official one projected by the tour agencies. As a result, the way a tour guide behaves in their first encounter with the customer will largely influence satisfaction level of the customer (Larsen & Meged, 2013).

Methodology

Research Design

This study was conducted using descriptive methodology, where data was gathered at a particular point in time with the aim of investigating the prevailing conditions. According to (Key, 1997), this design is useful in obtaining an overall picture of the respondents' opinion at that time. Collective case studies were used, which are a holistic and in-depth investigation of specific areas in the subject being studied. The choice of this research design was that the researcher needed to have a glimpse of the real world situation in regard to tour guiding. Case studies are often used to bring out details from the viewpoint of participants using various sources of data. A total of 15 cases were used in this study, all drawn from the webpage Executive Information system, Tourism Bureau, Taiwan (R.O.C). They are under a special section titled "The Experience of Mainland China Tourists".

Target Population

The target population for this study was the tour manager fraternity in Taiwan particularly those who had an experience with the mainland China tourist. This is a large population bearing in mind that millions of tourists from China visit Taiwan each year. Such tourists are attracted by various attractions ranging from culture to historical sites, museum to business, and exploration to sport. This demonstrates how huge the target population was for this study.

Sampling

Since it was hard to create a sampling frame for the target population, the sampling technique that was used was non-probabilistic in nature. In this regard, the research used the tourists' responses from internet to form the case studies. This was effective as the tourists had first hand contact with the tour operators. Both stratified and random sampling was used in the selection of the website to be used for the study. Stratified sampling ensured that only credible websites had the probability of being selected. Random sampling on the other hand ensured that all the websites had an equal chance of being selected. On the other hand, the choice of 15 case studies was optimum sample size in relation the study.

Research Instrument

Case study was the only instrument that was used to collect data for this study. It

entailed in-depth study of characters of tour operators in Taiwan. The subject of inquiry for the cases was the “the good qualities of a tour operator that needed in order to offer excellent services”. 15 case studies were used, and their selection was based on the quality of information they had in relation to this research. Each case was used to unveil the qualities that a good tour guides, which through collection of writing were posted by tourists from the Mainland China. The tourists had already done their travel experience and willingly had opted to share what they felt about the Taiwan local tour managers.

Validity & Reliability

Validity entails the assessment of accuracy, correctness, truthfulness, and meaningfulness of the instrument used in the study. In this research, it is true that cases studies were valid since they are a replica of exactly what happens in the real world. In this regard, the case studies were able to obtain what they were supposed to measure. Reliability on the other hand demonstrates the degree of consistency in the study. It is the dependability of the instrument used in the study in order to obtain the information. By the mere fact that the website where the case studies were obtained was credible, the case studies are reliable. Additionally, the tourists expressed their sincere feeling about the tour managers without being coerced to do so.

Findings

In order to offer excellent services, there are qualities that a great tour manager needs to possess. This is demonstrated from the case studies as well as from previous research. While most of the qualities apply to a number of tour managers, some are tailored for specific type of tour managers depending on the type of work they do. From the case studies, there a number of qualities pinpointed by the tourists that they feel made tour managers in Taiwan offer excellent services.

Out of the 15 case studies used, 7 revealed that tour manager's knowledge was critical in offering excellent travel experience. This encompassed the knowledge of the destination, the products, the surrounding amenities, as well as the other factors that makes the tour interesting. According to Mordue (2009), the knowledge of a destination enables the tour manager to plan for the tour, as he is aware of the best places to take the tourists. Knowledge also enables the tour managers to interpret the destination's attractions as well as culture.

The case studies also indicated that professionalism was another quality that good tour managers need to possess. In six out of the fifteen cases, the tourists were thrilled by the professionalism demonstrated by the tour managers. In one case for instance, the tourists were thrilled by how the tour manager organized the tour, preparing everything for the trip from posters to maps, maps to stories. Ap & Wong (2001) posit that, professionalism entails making tourist

happy, providing them with updated and accurate information, as well as meeting and exceeding customers' expectation. Passion for the job is another quality that the tourists on the case studies identified. In six of the case studies, the tourists identified that the tour managers were happy to serve and this increased their experience. This is affirmed by Grosspietsch (2004), who posit that if the tour manager shows the passion for the job, it is likely that the perception of the tourists toward the destination will change, eventually enjoying their travel.

The study also revealed that a good tour manager should have patience when dealing with tourists. Patience ranked among the best qualities, particularly when dealing with new customers, who are not accustomed to the culture of their destination. In almost all the cases, tour managers took their time to explain to the guests about the new place as well as listening to them. In one of the cases, the guests attests to the fact that the tour guide tried to attend to everyone's plea and tried all he could to come to an understanding when he failed to satisfy them. According to Chang & Tang (2011), patience plays a major role particularly in an unease situation. It enables the tour manager to play calm and not let personal emotion interfere with the work.

A sense of humor is another quality from the case study that the tourists were happy with. Most of them expressed their gratitude on how their trips were humorous, where the guides introduced the sceneries

with a humorous style. Apparently, most the guest agreed that the tour managers always had a smile in their face, not only when dealing with them but also when dealing with the locals. This enabled the tourists to feel comfortable in their entire journey, asking questions which they do not understand. In addition, this assists the tour managers to communicate sensitive information without looking offensive. One of the clients in the case study explained how the tour manager was able to tell her how to behave when encountering certain dangers during the travel.

A sense of responsibility is another quality of a good manager that the tourists were happy about in their Taiwan visit. This is cultivated by the fact that most international tourists have no knowledge of the country of their visit. In that case, tourists need guides and someone who will always be there in case they need any help. This is evident from the case studies as many tourists express their gratitude on the way the guides were willing to assist them. In one of the case, a tour manager went out of his way in assisting a tourist find his lost cousin, whom he has not seen for about ten years. The tourist explains how the guide made numerous calls and even contacted some of his local friends in the quest to please the customer. This sense of responsibility not only makes the tourists feel they are cared for, it also makes them feel safe.

Another quality of good tour managers that enable them offer excellent travel

experience the ability to handle emergencies. This was clearly demonstrated in the case studies. Apparently, travel is a risky phenomenon and sometimes the nature of the tour such as rock climbing makes the experience more risky. This calls for caution and the ability to handle emergencies. In one of the cases, a tourist hurt herself and started bleeding on the right eye and forehead. Nonetheless, the tour manager was able to address the situation swiftly. This not only pleased the other visitors but also enabled the tour manager earn respect and more business.

Conclusion

In their quest to attract more customers as well as reap bountifully from the ever-growing tourism industry, companies are searching for key aspects that would satisfy tourists. This is the case facing Taiwan as it continues to host group tourists from the Mainland China. The best thing about Taiwan companies is that they know the potential in tour managers in enhancing tourist experience while visiting a particular destination. Nonetheless, what really matters are the qualities that such a tour manager should possess in order to offer excellent travel experience. Several studies indicate that the role of tour guides is critical in linking the tourists with their destination. Tour guides serves as a source of knowledge, pathfinders, leaders, cultural brokers, entertainers, and surrogate parents to the tourist. In this regard, they must have superior qualities in

order to be able to execute their duties effectively and efficiently.

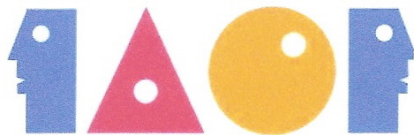
To understand better the qualities of a great tour guide, it is good to understand the various subcategories of guide. Each subcategory has its unique features and thus the guide is expected to have the quality suitable for their role. The subcategories include originals, animators, tour leader, and the professionals. In all the categories, what really matters is that a customer's expectations are met and exceeded. In this regard, the case study revealed a number of qualities for a great manager. First, the guide

should be knowledgeable of what is happening in the surrounding. He should also act professionally by planning, organizing, and executing all the aspects of a tour. Equally, the guides should be patient with the tourists, who take their time to learn several things in their new environment. Good guides also have a sense of humor, which usually aid in creating a comfortable environment for everyone. Other qualities include having a sense of responsibility, ability to handle emergencies, and being creative.

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ANALYSING INNOVATION POLICY DIMENSIONS AND CONTEXTS: IN
THE EMPIRICAL CASES OF TAIWAN AND SINGAPORE

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Abstract

Taiwan and Singapore are both relatively small countries that have transformed into successful, competitive economies and leaders in high-tech industries. National innovation systems are important in their development of a country's economic performance. This research explores the practice of the innovation policies of Taiwan and Singapore, and focuses on supply side, environment side and demand side. In a comparative analysis of innovation performance between these two countries, Taiwanese public institutes take an active role in innovation/R&D and focus their policies on specific industries, a top-down approach, while the Singapore Government promotes innovation by public enterprises establishments.

Keywords: Innovation policy, national innovation systems, comparative analysis, Taiwan, Singapore

Introduction

As small countries within the "Asian Tiger" economies, Taiwan and Singapore have both been recognized for performing economic miracles. In recent decades, as economic activities in both nations

have grown more knowledge intensive, increasing attention has been paid to the economic role of innovation. The ability to innovate will gain greater prominence in driving future economic growth, so the national governments of both Taiwan and Singapore have accelerated policy efforts

aimed at strengthening their national innovation systems. These efforts include the introduction of broad measures to improve performance in areas such as research and development, education, entrepreneurial activity, and knowledge flow; all of which are key determinants for innovative activity (Merges and Nelson, 1990).

Innovation as a driver of growth theory is derived from the economic theory of creative destruction advanced by Joseph Schumpeter (1942), which states that long-term economic growth is generated by the creation of the new, and the displacement of the old, in a capitalist society. As nations achieve higher levels of gross domestic product per person, the main source of this change becomes innovation..

Recognizing the relationship between innovation and economic performance, we can then separately explore how genuine innovation-related factors drive the competitiveness of these two small, but relatively fast-growing, economies. This paper is devoted to the task of assessing and analyzing the innovation policies of Taiwan and Singapore, highlighting their specific strengths and weaknesses, and their effectiveness in the specific economic and institutional context in which they operate, with a core focus on national innovation systems. The existing literature related to these systems primarily emphasizes the active role played by government policy and specific institutions, including the university system (Nelson and Rosenberg, 1994), the extent of intellectual policy protection (Merges and Nelson, 1990), and the evolution of the industrial research and development (R&D) organization (Mowery, 1984).

Literature Review

Innovation Policy

Traditional innovation policy has often focused on promoting science and technological policies, which have typically believed in the science push effect in the radical innovation process. The new innovation environment then sets new demands for regional innovation policies and strategies. Therefore, innovation cannot be viewed as a property of science- or technology-based firms; it is the basis of competitiveness in all types of economic activities (Pekkarinen and Harmaajorpi, 2006). The following discussion portrays how national innovation policy can be evaluated using various approaches.

Numerous system perspectives on innovation performance have been used to examine the classification and role of innovation policies. Rothwell and Zegveld (1981) developed a comprehensive classification system for innovation policy employment, in which they grouped innovation policy tools into supply-side, demand-side, and environmental-side. Supply-side tools are those that provide the basic resources for innovation, such as provision of financial, manpower and technology assistance, including educational institutions or universities, trained technicians, information networks, and technical advice. In addition, they include direct innovation by government-owned agencies and state industries, as well as research directly supported by government funds, such as research grants. Environmental-side tools regulate the operating environment of firms, and include the means by which the government impacts the financial aspect of innovation. This classification also includes not only the legal environment in which firms operate, but also the legal environment for innovation. Demand-side tools have an effect on the stimulation of invention by the demand for new products and services created by public spending and public services. These also include the stimulation or suppression of innovation by regulation of demand from overseas,

and the ability of overseas competitors to operate in the national market.

This paper uses the policy analysis denotations originally derived from Rothwell and Zegveld (1981) as a guideline in facilitating a more insightful national innovation policy assessment. The reason we chose this framework as an analysis base is that it rests on the premise that understanding the links between the policy actors involved in innovation is the key to improving technology performance (Shyu and Chiu, 2002). Furthermore, it is more feasible and applicable than other indicator systems, from the perspective of comparability and comprehensiveness.

However, we believe that the policy field of promoting network and entrepreneurship on the supply side may be a missing link in the innovation policy assessment framework first proposed by Rothwell and Zegveld (1981). Frenken (2000) contended that successful innovation depends on complementary competencies in networks of producers, users, and governmental bodies. Moreover, networks have become understood as important organizational forms for coordinating the efforts of heterogeneous actors without restricting their individual goals. More specifically, technological incubators have assumed a growing role in R&D research and innovation management, and their importance has not escaped the attention of researchers (Lumpkin and Ireland, 1988; Mian, 1996). Science parks, such as technology incubators, are property-based initiatives designed to provide a conducive environment in which high-tech businesses can be established and can develop (Roper, 2000). Venture capital funds provide not only capital, but also management assistance; once the enterprise has become a success, they sell off their holding in the company to make a profit. Support of this is somewhat beneficial for entrepreneurship promotion (Tsai and Wang, 2005).

Importantly, inter-firm collaboration and inter-organizational learning are central to the innovation process (Roper, 2000).

In consideration of the discussion above, the revised innovation policy assessment model of general roles for each grouping is depicted in Table 1.

National Innovation Systems

The concept of national innovation systems (NIS) can be traced back to the mid-1980s in the context of debates involved in industrial policy in Europe. One of the notable antecedents of the concept of NIS is Christopher Freeman (1982). Since then, an international body of literature has documented the growing influence of the NIS approach (Sharif, 2006).

The concept of NIS can be perceived as a historical grown subsystem of the national economy, in which various organizations and institutions interact with, and influence, one another in carrying out innovative activity and generating innovation performance. The NIS approach implies that innovative activity encompasses the input processes of R&D efforts by private and public sectors, as well as the determinants influencing national technological capabilities, for instance, learning processes, incentive mechanisms or the availability of skilled labor (Nelson and Rosenberg, 1993; Balzat and Hanusch, 2004). Therefore, the NIS approach focuses on the analysis of nationwide structures of innovation activities, their institutional determinants, and their economic effects (Balzat and Pyka, 2006).

Lundvall et al. (2002) indicated that the NIS concept provides a new perspective from which to examine a country's innovation processes through different types of policy. A wide set of policies, including labor market policy, education

policy, industrial policy, energy policy, environmental policy, and science and technology policy, affect a country's competence-building. Moreover, a systematic analysis of comparative studies of different NIS helps to obtain a critical understanding of the limits and the benefits of specific national policy strategies (Edquist and Lundvall, 1993; Lundvall et al., 2002).

Assessing National Innovation Policy

Supply-Side of Innovation Policy.

Taiwan.

Five Taiwanese state-owned enterprises have been established to meet the strategic and tactical needs of the government and to protect certain industries by the construction of large-scale businesses, through direct operation of upstream, heavy industry, which the private sector was unable or unwilling to undertake (Nolan and Wang, 1999). The Taiwanese government is attempting to make these more competitive through privatization, but this has yet to materialize.

To encourage entrepreneurship, the Taiwanese government adopted an incubator tool, foreign direct investment (FDI), and deregulation. Since 1996, the Small and Medium Enterprise Administration (SMEA) of Taiwan has continued to promote the establishment of incubators, through the use of financial support available from the Small and Medium Enterprise Development Fund for office equipment, personnel, and related costs. The inflow of FDI has also helped to establish small and medium enterprises SMEs in Taiwan. Those multinational companies (MNCs) not only introduced advanced technology to the industry, but also created a center-satellite manufacturing model to shape a supply chain. Taiwan's government promulgated several laws to encourage nationals to become involved in business affairs

through investment, such as the Statute for Encouragement of Investment in 1960. In addition, the Statute for Establishment and Management of Export Processing Zones (1965), and the Statute for Establishment and Management of Science-Based Industrial Parks (1979), created the two most significant areas for Taiwan's industrial development; export processing zones (EPZ) and the Hsinchu Science-based Industrial Park. Taiwan's venture capital (VC) has made a particular impact on those in the emerging industries, and the government has established many VC associations, in addition to offering financial support to investors (Tsai and Wang, 2005). We can see that the role of government as a direct provider (as opposed to facilitator) is emphasized. Examples are the establishment of the Industrial Technology Research Institute (ITRI), the Technological Information Center, and the National Science Council, which conduct research on a large scale and undertake studies into the feasibility of industrializing new technology. From the late 1980s through the early 1990s, the government directed a considerable number of innovation alliances in the areas of notebook computers, high-definition televisions, fax and communications equipment, etc., in order to promote industrial upgrading in Taiwan, working through research institutions. (Tsai and Wang, 2005).

The Taiwanese government focused on providing the tools of innovation, that is, technically educated students, as well as government-funded research, training, and information. However, Shyu (2006) criticized the approach in stating that the needs of industry are not always served by the supply policy system; this is the result of the separation of education, industry, and government, as well as the political nature of such a government-focused system.

Singapore.

Public enterprises in Singapore's Government of Singapore Investment Corp and Temasek Holdings were established by the government to control or monopolize several strategic industries. Over time, the statutory boards not only became major actors in the economy, but also formed subsidiary companies to add flexibility to their own operations. These subsidiaries, such as, Jurong Town Corp., attracted corporate investment by offering funds and the promise of cooperation from government departments to ensure that the corporations transferred proprietary technology and training to Singapore.

The Singapore government has gone one step further by building more science parks (Tuas Biomedical Park, One-North Science Habitat), a city within a city (the Biopolis), and clusters (Communication and Media), in order to be on the cutting edge of technology. These science parks specifically catered to the unique research needs of advanced technology and new business models to create value.

The country's competitiveness is propped up by a strong focus on education, providing highly skilled individuals for the workforce. The National University of Singapore is not only the leading academic organization in higher education, it is also a decisive player in university-industry collaboration on applied R&D. It provides a campus location for regionally outstanding research institutes, such as the Institute for Microelectronics, pointing to a research focus on information and communication technology and microelectronics, as well as life sciences. These institutes cooperate with multinational enterprises and international research partners, and range from contract research to mutual agreements of understanding. The second major academic player is Nanyang Technological University, with research institutes such as

the Advanced Materials Research Centre and the Gintic Institute of Manufacturing Technology. Its strategic outlook on R&D activities exhibits an even more applied orientation, closer to the innovation segment of product improvement (Nanyang Technological University, 1996). This assessment also holds for Singapore's four polytechnics, which are engaged in the promotion of R&D activities on a minor scale (Ebner, 2004).

These state universities were given greater autonomy to be competitive in the fast-emerging educational services sector of Singapore, and added to their traditional roles of training scientific, engineering, and managerial manpower in new ways to form and incubate university spin-off firms since autonomy's inception in 1992, while the Innovation and Technology Transfer Office at Nanyang Technological University is currently incubating numerous high-tech start-ups.

The Singapore government established the Ministry of Information, Communication and Arts to develop a comprehensive infrastructure and manpower to boost the economy. In the 10-year master of information and communication (info-comm) industry plan (iN2015), the city-state aims to become "An intelligent nation, a global city, powered by infocomm". The infrastructure and manpower of info-comm was intended to speed up economic growth and set Singaporean businesses apart from others by encouraging ideas and creativity, building brands to foster growth of global talents and expertise based on iN2015.

The main differences in supply-side innovation policy between Taiwan and Singapore are shown in Table 2.

Environmental-Side of Innovation Policy.

Taiwan.

In Taiwan, the government encourages R&D by exempting companies from import duties on instruments and equipment for experiments. In addition, equipment with a life of longer than 2 years can adopt a 2-year accelerated depreciation, and expenditures of 15-20% can be business income tax-deductible (Shyu and Chiu, 2002). The Ministry of Economic Affairs also took action in promoting traditional industries' technology capacity with "Rules of encouragement for the private sector's development of new products" and the "Law governing development for directive new products" (Shyu and Chiu, 2002). In addition, a subsidy for the R&D activities of high-tech companies located in science-based industrial parks was offered by the Taiwanese government (Tsai and Wang, 2005).

Changes were made to address the weaknesses in patent enforcement and prosecution through the integration of the Taiwan Intellectual Property Office into the NIS administration structure, whereby Taiwanese laws and regulations include the Patent Act, Integrated Circuit Layout, Copyright Act, Trade Secrets Act, etc. Although most of Taiwan's companies are small and medium-sized enterprises, the country's competition law, the Fair Trade Law, does not emphasize mergers and acquisitions. Rather, it focuses on preventing cartels, monopolies, limited competition and other behaviors hindering fair competition.

Singapore.

The first formal science and technology plan of Singapore was implemented only as recently as 1991, and had a greater focus on the establishment of investment environment. In the early years of independence, Singapore's strategy was

to attract MNCs to the island state to produce goods for global export markets. Great efforts were consistently made to attract MNCs and invest in education and skills training, as well as encourage technology diffusion from MNCs to the local economy, in the early post-independence years. Tax incentives were given for manufacturing companies that undertook R&D in Singapore.

Singapore is one of the most efficient financial markets in Asia. Its open and flexible financial environment has attracted many giant MNCs, such that they have established their offices in that country, and the pro-business environment also gives support to domestic SMEs. Singapore also has put in place a regulatory environment that is broadly supportive of innovation. For example, the Bioethics Advisory Committee was formed in 2001, at the time of the US stem cell controversy, to develop recommendations on the legal, ethical, and social issues of human biology research (Finegold, Wong and Cheah, 2004). This early and clear legal support for stem-cell research, plus government financial support, has helped Singapore create several stem-cell companies.

The Singapore government allows for tax benefits, grants, and training subsidies to raise productivity by upgrading skills and supporting enterprise investments in innovation in each of six qualifying activities: R&D, IP registration, IP acquisition, design activities, automation through technology or software, and training for employees.

The main differences in environmental-side innovation policy between Taiwan and Singapore are shown in Table 3.

Demand-Side of Innovation Policy.

Taiwan.

Taiwan uses government procurement as one of the most important sources of technological development, especially weapons systems procurement (Tien and Yang, 2005), although it faces a predicament in this respect. To comply with the Agreement on Government Procurement of the World Trade Organization (WTO), Taiwan's government procurement law was legislated in 1999 and aims to clarify procurement information, complete procurement evaluation, and internationalize the procurement market. Since then, the most advantageous tendering method has been adopted as a major legitimate contract award mechanism, instead of the lowest-bid tendering method (Tzeng, Li and Chang, 2006).

Singapore.

The bulk of government procurement activities in Singapore are decentralized to individual ministries, departments, and statutory boards that make their own arrangements. However, they must adhere to central guidelines issued by the Ministry of Finance. Centralized purchasing is carried out for common goods and services, which are consumed service-wide by central procuring entities, such as the Expenditure and Procurement Policies Unit of the Ministry of Finance, the Ministry of Defense, and the Infocomm Development Authority. The Singapore government has adopted the fundamental principles of fairness, openness, and competitiveness for its procurement policies.

Since the signing of its first free trade agreement (FTA) under the ASEAN free trade area in 1993, Singapore has expanded to cover 18 regional and bilateral FTAs with 24 trading partners (China, Japan, Korea, the ASEAN, India and the

United States). Singapore's FTAs have been instrumental in helping Singapore-based businesses strengthen cross-border trade by eliminating or reducing import tariff rates, providing preferential access to services sectors, easing investment rules, improving IP regulations, and opening government procurement opportunities.

There are no significant exchange controls, and funds may be freely remitted into and out of the country. There is also no restriction on the repatriation of profits. Subject only to tax liabilities, a company incorporated in Singapore may pay dividends to foreigners not residing in Singapore.

The main differences of demand-side innovation policy between Taiwan and Singapore are shown in Table 4.

How National Innovation Policy Affects Development: Taiwan and Singapore

From a systematic perspective, innovation policy can affect a country's innovation performance and competence-building. The capability to innovate and to bring innovation to market successfully will be a crucial determinant of the global competitiveness of nations. Most policymakers are aware that innovative activity is a primary driver of economic progress and well-being, as well as a potential factor in meeting global challenges in domains such as the environment and health.

As small island economies, both Taiwan and Singapore have achieved high economic growth rates in the past, while being competitive in science, technology, and innovation. The current innovation policies of the Taiwanese government concentrate on supply-side policy. Conversely, the government of Singapore has refocused its innovation policy from promoting traditional innovative activities to

attracting FDI and growing certain industrial clusters, such as the biomedical and infocomm industry, from environmental-to supply-side.

Governmental attitudes toward promoting national innovation capacity play a key role in determining the observed differences (OECD, 2007). First, in Singapore, the aggressive education policies and huge budget for the overall education system provide abundant research manpower and great competitiveness for domestic and MNCs. The incentive of tax and environment for foreign talents encourages the development of excellent human resources for businesses (Anwar, 2008). Every year, Singapore spends approximately 20% of its national budget on establishing its education system. The budget for education covers primary and higher education, occupational education, and on-the-job training. Well-trained individuals, not only in science and technology, are one of the main reasons why many MNCs have moved to Singapore. Moreover, these MNCs have brought advanced knowledge and experience to the local landscape, and have created a positive cycle that encourages a greater number of knowledge workers and well-developed facilities (Anwar, 2008). The government considers entrepreneurship to be a key driver of its economic growth and it has launched policies that aim to implant an innovative and risk-taking spirit in school education and encourage students to start businesses.

Singapore has adhered to a series of policies that successfully constructed many notable clusters decades ago. These clusters once contributed to increased export, and helped Singapore evolve from a small harbor city into an innovation-driven country. The tax incentives and reliable infrastructure are the main reasons for creating clusters (Parayil, 2005). The Singapore government now has a base of successful experience and is turning its efforts toward

advanced technology, such as in that of the biomedical, infocomm and media industries. These industries will upgrade the domestic manufacturers and will also reinforce the strength of infrastructure in Singapore.

Overall, as part of its innovation policy, Taiwan's government has invested significant amounts in research institutions and selected universities, and has also funded selected firms; these funds are typically used to develop one industry or technical area that is viewed as having significant growth potential. The Taiwanese government has chosen to develop high-technology industries (Tsai and Wang, 2005). In order to compete in these industries and to enter new segments, high levels of innovation have been vital. Focusing on a few sectors serves to concentrate scarce resources on priority areas (Habaradas, 2008). This core concentration on innovation has resulted in a strong innovation performance, as shown by the number of triadic patent families. The results of this innovation policy focus can be observed in constant patent growth, as well as in very strong cluster formation and in national development exhibited by long-term industrial growth.

Conclusion and Policy Implications

Variation in innovation policy shows the differences and similarities in Singapore and Taiwan in terms of public enterprises, education, and information. Taiwanese innovation policy places a greater emphasis on the development of innovation by research institutes and through universities. Taiwanese public institutes have taken an active role in innovation/R&D and have focused policies on specific industries, using a top-down approach. The Singapore government promotes innovation by public enterprises establishments, where large and wealthy

holding companies directly control specific industries and define the path of innovation development.

In terms of education policy, Singapore puts more resources into education and training than Taiwan. We can find a variety of education and training programs that are provided by the Singapore government. With regard to information infrastructure, Singapore has made the construction of the infocomm industry of national importance. The iN2015 plan also shows Singapore's ambition to be a leader in information infrastructure. Taiwan's "Intelligent Taiwan" also aims to increase the strength of information infrastructure and industry.

In environmental-side policy, Singapore has a more competitive and wide-ranging benefits package, while Taiwan has established science parks and clusters that provide financial and tax holidays to specific industries. The most important direct subsidies in Taiwan are in the form of tax incentives. In Singapore, the effects of environmental-side policy can be found in

large FDI and specific grants, as well as tax holidays toward certain industry and innovation activities. As a result of efficiency and openness, Singapore has benefited from the presence of foreign MNCs, which bring in capital, technology, management know-how, and access to world export markets. Singapore also works with like-minded countries within international and regional organizations to encourage free trade.

In demand-side policy, the Taiwanese government has emphasized the use of government procurement and industrial cooperation policies to acquire advanced technologies, such as aerospace technology, military technology, transportation technology, etc., which established the foundation of the high-tech industry in Taiwan (Industrial Technology Research Institute, 2005). Trade shows have also been of importance in bringing together key customers and manufacturers. The demand-side policy for Taiwan is mainly from the domestic market, whereas Singapore benefits more from regional and global integration.

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Table 1. A More Complete innovation Policy Analysis Model

Grouping	Policy tools	Examples
Supply side	Public enterprise	Innovation by publicly owned industries, setting up of new industries, pioneering use of new techniques by public corporations, participation in private enterprise
	Network and entrepreneurship	Supporting start-ups, establishing science parks and incubators, encouraging collaboration between firms and institutions, venture capital associations, measures to promote entrepreneurship
	Scientific and technical	Research laboratories, support for research associations, learned societies, professional associations, research grants
	Education	General education, universities, technical education, apprenticeship schemes, continuing and further education, retraining
	Information	Information networks and centers, libraries, advisory and constancy services, databases, liaison services
Environmental Side	Financial	Grants, loans, subsidies, financial sharing arrangements, provision of equipment, buildings, or services, loan guarantees, export credits, etc.
	Taxation	Company, personal, indirect and payroll taxation, allowances
	Legal and Regulatory	Patents, environmental and health regulations, inspectorates, monopoly regulations
	Political	Planning, regional policies, honors or awards for innovation, encouragement of mergers or joint consortia, public consultation
Demand Side	Procurement	Central or local government purchases and contracts, public corporations, R&D contracts, prototype purchases
	Public services	Purchases, maintenance, supervision and innovation in health services, public building, construction, transport, telecommunications
	Commercial	Trade agreements, tariffs, currency regulations
	Overseas agent	Defense sales organizations

Source: Adapted from Shyu & Chiu, Innovation Policy for Developing Taiwan's Competitive Advantages (2002), based on Rothwell and Zegveld (1981).

Table 2. Comparison of supply-side policies between Taiwan and Singapore

	Singapore	Taiwan
Public Enterprise	Several giant holdings companies	Five state-owned enterprises
	Commanding state-owned enterprises directly or indirectly involved in technology and science	Traditional manufacturer
	Engaged in banking, investment, real estate, land, infocomm, biomedical and other advanced industries	R&D activities that focus on product development and basic science research
Network and Entrepreneurship	Listed in national economic plan	Innovation alliances
	Social and cultural side reform	Incubator establishment
	Innovation Voucher Scheme	Setting up of venture capital associations
	Incubator Development Program	
Scientific and	Four major clusters	Industry and research conferences

Technical	The Agency for Science, Technology and Research (A * STAR)	Support for university research
	Spearhead in biomedical and infocomm industry	Establishment of research institutes
		University research grants
Education	Autonomy of universities	Government training
	Enhance entrepreneurship education in campus	Development plan for world-class universities and development of research centers of excellence
Information	iN2015 master plan	Enhance linkage between national institutes and businesses
	Infocomm Development Authority of Singapore develops policies to ensure the growth of an innovative and competitive Infocomm sector	Intelligent Taiwan project within i-Taiwan 12 projects

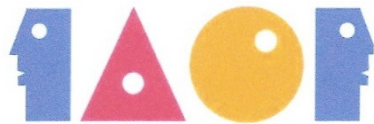
Table 3. Comparison of environmental-side policies between Taiwan and Singapore

	Singapore	Taiwan
Financial	Various loans on machinery, factories, working capital, ventures abroad	Loan subsidies
	Grants for incubators and start-ups	Grants for incubators
		Subsidies for firms Located in Science Parks
		Development fund
Taxation	Benefits for small-to-midsize companies starting up	R&D equipment/expenditure tax alleviation
	Startups that meet certain qualifying conditions can claim for tax exemption under the Tax Exemption For Start-ups scheme	Tax relief for training
	Capital gains taxes are generally 0%	Tax incentives and export processing zones for attracting foreign direct investment
Legal and regulatory	Strict IP protection system	Patent and copyright acts
	Centralized IP management	Fair Trade Law focusing on preventing cartels and monopolies
Political	High business costs of terrorism	Visa restrictions (negative effect)
	Maintain balance of power	Technology export restrictions (negative effect)
	Independent foreign policy	

Table 4. Comparison of demand-side policies between Singapore and Taiwan

	Singapore	Taiwan
Procurement	Contracts and tenders worth around S\$10 billion each year	Government procurement and industrial cooperation
	Decentralized government procurement	Build-operate-transfer

	system	
	Government R&D service contract	
	Central guidelines issued by Ministry of Finance	
Public service	Jurong Town Corporate	Science Parks in Hsinchu, Taichung and Neihu, and Nangang
	Singapore Science Park	
Commercial	No significant exchange controls	Reduced foreign exchange controls
	18 regional and bilateral free trade agreements (FTAs)	Access to multilateral trade organizations, such as the World Trade Organization (WTO)
Overseas agent	Member of WTO, Association of Southeast Asian Nations, Asia-Pacific Economic Cooperation (APEC), and other international groups	Participates in regional trade organizations, such as APEC
		Signed the FTA with Panama and Guatemala



TESTING THE ISCST3 MODEL ON AIR POLLUTION FROM ROAD VEHICLES IN TAOYUAN, TAIWAN

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Abstract

The purpose of this study was to examine the performance of USEPA nonreactive Gaussian air quality dispersion model, the Industrial Source Complex Short-Term Model (ISCST3), in simulating roadside air pollution concentrations on daily and vacation traffic flow in Taoyuan, Taiwan. Air pollution produced from diesel vehicle in the urban area, including CO, NO_x, PM₁₀, PM_{2.5}, and SO₂ was simulated its dispersion. Emission factors for different diesel vehicles were estimated by using MOBILE6.2. The ISCST3 simulation was performed to predict the spatial distribution of air pollutants from mobile sources for daily and vacation traffic flow. The emission rates were different from various mobile vehicles. Finally, the concentration of five air pollutants was successfully simulated and presented as dispersion map. The highest concentration of CO, NO_x, PM₁₀, PM_{2.5}, and SO_x on daily traffic flow is 0.0287 ppm, 21.9 ppb, 0.849 µg/m³, 0.18 µg/m³, and 0.404 ppb, respectively; on vacation traffic flow is 0.0195 ppm, 15.5 ppb, 0.555 µg/m³, 0.117 µg/m³, and 0.267 ppb, respectively. In addition, the concentration of five pollutants on daily traffic flow was all higher than that on vacation traffic flow. Distribution of air pollutants also indicated that the traffic flow of diesel vehicles would significantly affect the dispersion of pollutants. Therefore, strategies for air pollution control in urban area will of necessity need to focus on the vehicle sources.

Keywords: ISCST3; MOBILE 6.2; Simulation, Diesel mobile, Air pollution

Introduction

Road traffic is one of the most important sources of air pollution in urban areas and mega cities. Rapid growing of road transportation and motor vehicles deteriorate the severity of air quality in urban area. Air pollution has been known that seriously impacts on human health and welfare. The UK National Atmospheric Emission Inventory also reported that road traffic is the largest emission source of many health-related air pollutants, such as carbon monoxide (CO), nitrogen oxides (NO_x), benzene, and PM₁₀, some of which contribute to the formation of ozone and secondary air pollution (Chen, et al 2008).

On the other hand, diesel vehicle is the most trustworthy power source in the transportation because of its high heat effectiveness and energy saving. The application of diesel vehicle is widely increased in the transportation, such as motor bus and trucks. Since petroleum diesel consists of blends of hundreds of different chemicals of varying hydrocarbon chains, many of these are hazardous and toxic (Ali, et.al. 2013). Carbon monoxide, nitrogen oxides, sulfur oxides, and particulates that are generally produced during diesel combustion. Black smog discharged by diesel vehicle is also the obvious pollution which causes the degradation of air quality level and the increase of detestation in the observation. In addition, past studies confirmed that air

pollution produced from diesel vehicle contributes to risks of morbidity and mortality for divers, commuters, and individuals living near roadways (Zhang, et.al. 2013). Therefore, it is essential to investigate the distribution of air pollution produced from diesel mobile in the urban area.

A theoretical modeling exercise on a study of air pollution dispersion and prediction show that traffic emissions make a great contribution of air pollution. When calibrated appropriately, the prediction model can be served as a useful tool for indirect estimation of air pollution levels and hence human exposure (Chen, et al 2008). The Motor Vehicle Emissions Factor Model version 6.2 (MOBILE6.2) and Industrial Source Complex Short- Time Model (ISCST3) have been widely applied to simulate or predict the dispersion and concentration of various air pollutants, such as CO, NO_x, PM_{2.5} and dioxins (Lorber, et.al. 2000), (Banerjee, et.al. 2011).

The objective of this study was to use current EPA guidance on the use of ISCST3 for air pollution dispersion modeling and simulate the dispersion of air pollution produced from diesel vehicle in the urban area, including CO, NO_x, PM₁₀, PM_{2.5}, and SO₂.

Modeling procedures

MOBILE6.2 modeling

Emission factors for different diesel vehicles were estimated by using MOBILE6.2 which is a widely used regulatory emission model that estimates emission of HC, CO, NO_x, PM, and other toxic air pollutants (Pierce et.al. 2008). Several important traffic-related items are taken into account in the MOBILE6.2 modeling, including vehicle classification, emission type classification, roadway classification, and pollutant categories (EPA 2003). Besides, Cook et al. (2006) also provides a description of several key inputs required to exercise MOBILE6.2. A list of MOBILE6.2 input parameters for this study is provided as Table 1. The input data as vehicle age distribution, ratio of diesel vehicle, and average trip length were shown as Supplemental Tables 1-4.

ISCST3 modeling

ISCST3 is the United States Environmental Protection Agency's (USEPA) non-reactive Gaussian air quality dispersion model which plays an important role for the forecasting of ground level of air pollutants. Principally, the ISCST3 dispersion model is based on the Gaussian streamline theory which assumes that air pollutants discharged continuously from sources are undergone the process of diffusion, dilution, deposition, etc., and then get in the steady state in the atmosphere (Goyal et.al. 2007). The ISCST3 model for continuous sources can be expressed as from a source

point is:

$$C(x, y) = \frac{QKVD}{2\pi\rho_x\rho_yU_s} \exp\left(-\frac{1}{2}\left(\frac{y}{\rho_y}\right)^2\right)$$

where $C(x,y)$ = the concentration ($\mu\text{g}/\text{m}^3$) at distance x (m) downwind and y (m) crosswind from the source; Q = source strength or average emission rate ($\mu\text{g}/\text{m s}$); ρ_x and ρ_y = the standard deviation of lateral and vertical concentration distribution; and U_s = average wind speed at effective height (m/s). The model is relative to average steady-state pollutant concentrations, wind speed, effective stack height, and atmospheric conditions. In addition, there are some assumptions assumed for the modeling work: (1) rate of emission from the source is constant for minimum average period; (2) wind speed is constant both in time and elevation; (3) pollutant is conservative and not subject to decay and chemical reaction; (4) terrain is relatively flat (Banerjee, et.al. 2011).

The ISCST3 model requires input data relating to emission source location, source emission characteristics, prevailing meteorological conditions, and receptor network. The model also requires hourly meteorological data including date, time, wind speed (m/s), wind direction (degree), ground air temperature (K), stability class, and mixing height (m). The basic exhaust emission rate factors for different vehicles were calculated from MOBILE6.2.

Table 1. Summary of MOBILE6.2 input parameters.

Input Item	Input Parameter		Remark
	Max	Min	
Temperature	31.60 °C	28.5 °C	July, 2010
Absolute Humidity	128 grains/lb		July, 2010
Cloud Cover	0.2		July, 2010
Sunrise/Sunset	AM 5:00	PM 6:00	July, 2010
Reid Vapor Pressure	8.9 psi		National criterion
Sulfur Content of Gasoline	42.50 ppm		National criterion
Sulfur Content of Diesel Fuel	294 ppm		National criterion
Oxygenated Fuels	Methyl Tertiary-Butyl Ether, MTBE: 0.50 Ethyl Tertiary-Butyl Ether, ETBE: 0.05 Tertiary-Amyl Methyl Ether, TAME: 0.45 Diisopropyl Ether, DIPE: 0.00		Estimated values
Vehicle Age Distribution	As shown in Supplemental Table 1		-
Ratio of Diesel Vehicle	As shown in Supplemental Table 2 &3		-
Average Trip Length	As shown in Supplemental Table 4		-
Vehicle Miles Traveled by Hour	Default		-
Weekday Trip Length Distribution	10%, 25.2%, 26.1%, 16.6%, 11.4%, 10.6%		-

Table 2. Input source for simulation

Input Case	Input Data for Simulation
Case A	The monitored data and daily traffic flow in 2010
Case B	The monitored data and vacation traffic flow in 2010

Table 3. The highest concentration of pollutant by simulation.

Air pollutant	CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂
Unit	ppm	ppb	μg/m ³	μg/m ³	ppb
Highest concentration					
Case A	0.0287	21.9	0.849	0.180	0.404
Case B	0.0195	15.5	0.555	0.117	0.267

In order to developed emission inventory, the mobile pollution sources located in Taoyuan County in Taiwan were considered for this study. A total study area of 50,000 m × 70,000 m was selected having center point inside Taoyuan County. Further, the area was subdivided into smaller grids (1,000 m × 1,000 m). The ISCST3 simulation was performed to predict the spatial

distribution of air pollutants from mobile sources for daily (Case A) and vacation (Case B) traffic flow. The model predictions were carried out for 24 h averaging time. The input data was divided into two cases as Table 2.

Results and Discussion

Emission rate factors of different pollutants

The emission rate factors of different pollutants from diesel vehicles were estimated by MOBILE6.2 model in the speed range of 20 to 100 km/hr with the distance interval of 5 km. By taking into consideration the speed limit of various road, vehicles classification, vehicles age, etc., the estimated emission rates of 6 air pollutants (PM₁₀, PM_{2.5}, CO, NO_x, SO_x, and VOC) were shown as Figure 1. Six individual classes of vehicles were also simulated by MOBILE6.2, including Light -- Duty Diesel Trucks 3 and 4 (LDDT34), Class 5 Heavy - Duty Diesel Vehicles (HDDV5), Class 8a Heavy - Duty Diesel Vehicles (HDDV8a), Diesel Transit and Urban Buses (HDDBT), Two Stroke Motorcycles (MC2C), and Four Stroke Motorcycles (MC4C).

From the estimated results, emission rates of PM₁₀ and PM_{2.5} from 6 vehicles were constant at different speed followed the order of HDDV5 > HDDV8a > HDDBT > LDDT34 > MC2C ≈ MC4C. The results also show that vehicles using diesel had higher particulate emission rates, and both motorcycles (MC2C and MC4C) had the lowest emission rates. For CO emission rates, motorcycles had much higher emission rates than other vehicles, especially MC2C, and emission

rate was gradually decreasing with the increasing of speed to about 85 km/hr and then was rapidly increasing with the increasing of speed. The CO emission rates of other diesel vehicles were slightly decreasing with the increase of speed but almost constant at high speed. However, the high level emission rate of CO means that the combustion is inefficient or incomplete. The NO_x emission rates of various diesel vehicles was slightly decreasing and then increasing with the increasing of speed, and motorcycles were gradually increasing with the increasing of speed. HDDV8a had highest NO_x emission rates, and the emission rates of 6 vehicles followed the order of HDDV8a > MC2C > MC4C > LDDT34 > HDDV5 > HDDBT.

In general, NO_x produces when combustion occurs at very high temperature which also confirms that vehicles have higher NO_x emission at higher speed. The SO_x emission rates of all vehicles were all constant at different speed, and then in the order of HDDBT > HDDV8a > HDDV5 > LDDT34 > MC2C ≈ MC4C. Although SO_x produces when elemental sulfur is present in the fuel, it is worthily mentioned that the diesel urban bus had the highest emission rate for SO_x. For VOC emission rates, the motorcycles had the highest emission rates among 6 vehicles, which was

gradually decreasing with the increasing of speed to 85 km/hr and then was increasing with the increasing of speed. The VOC emission rates of other diesel vehicles were slightly decreasing with the increase of speed but almost constant at high speed. The tendency of VOC emission rates was similar to the CO emission rates which indicated there was a certain relationship between the CO and VOC emission rates. Past studies also confirmed that VOC could be produced during incomplete organic matter combustion at high temperature (Tankari et.al. 2008), (Henner et.al. 1999).

Simulated results by ISCST3

From the above emission rates calculated by MOBILE6.2, the emission concentration distribution of 5 pollutants (CO, NO_x, PM₁₀, PM_{2.5}, and SO_x) produced by various vehicles was simulated by ISCST3. The distributions of simulated air pollution concentration in both Case A and B from all vehicles in Taoyuan County are shown in Figure 2-7. From the pollution distribution map, it could be found that the air pollution concentrated on the national freeway and interchange because of the traffic congestion. In addition, the highest concentration of CO, NO_x, PM₁₀, PM_{2.5}, and SO_x on daily traffic flow is 0.0287 ppm, 21.9 ppb, 0.849 µg/m³, 0.18 µg/m³, and 0.404 ppb, respectively; on vacation traffic flow is 0.0195 ppm, 15.5 ppb, 0.555

µg/m³, 0.117 µg/m³, and 0.267 ppb, respectively. The simulated results also show that the concentration of five pollutants on daily traffic flow was all higher than that on vacation traffic flow. In addition, the distribution of air pollutants also indicated that the traffic flow of diesel vehicles would significantly affect the dispersion of pollutants.

However, the past studies indicate that emissions from vehicular activities contributed to only 40% of NO₂ and SO₂ pollution, but the industrial sources are responsible for more than 50% of the total NO₂ and SO₂ concentration levels (Bhan-akar et.al. 2005). The other study also shows that emissions from the vehicle sources had contributed 76.5% and 68.4% of the total CO and NO_x concentrations, respectively, in urban atmosphere of Beijing (Hao et.al. 2001). Therefore, the influences of NO_x and SO_x contributed from other sources in the urban area, such as industrial sources, should be further investigated. In addition, strategies for particulates and CO control will of necessity need to focus on the vehicle sources. Finally, it could be concluded that the dispersion of 5 air pollutants was successfully simulated by using ISCST3 model.

Conclusions

The study has successfully conducted ISCST3 dispersion model to simulate 5 air pollutants in Taoyuan, Tai-

wan. The emission rate factors of different pollutants from diesel vehicles were estimated by MOBILE6.2 model. The emission rates of different pollutants were different from various mobile vehicles. From the ISCST3 simulated results, the air pollution from vehicles concentrated on the national freeway and interchange because of the traffic congestion.

Results also showed that the concentration of five pollutants on daily traffic flow was all higher than that on vacation traffic flow. In addition, the distribution of air pollutants also indicated that the traffic flow of diesel vehicles would significantly affect the dispersion of pollutants. Therefore, strategies for air pollution control in urban area will of necessity need to focus on the vehicle sources.

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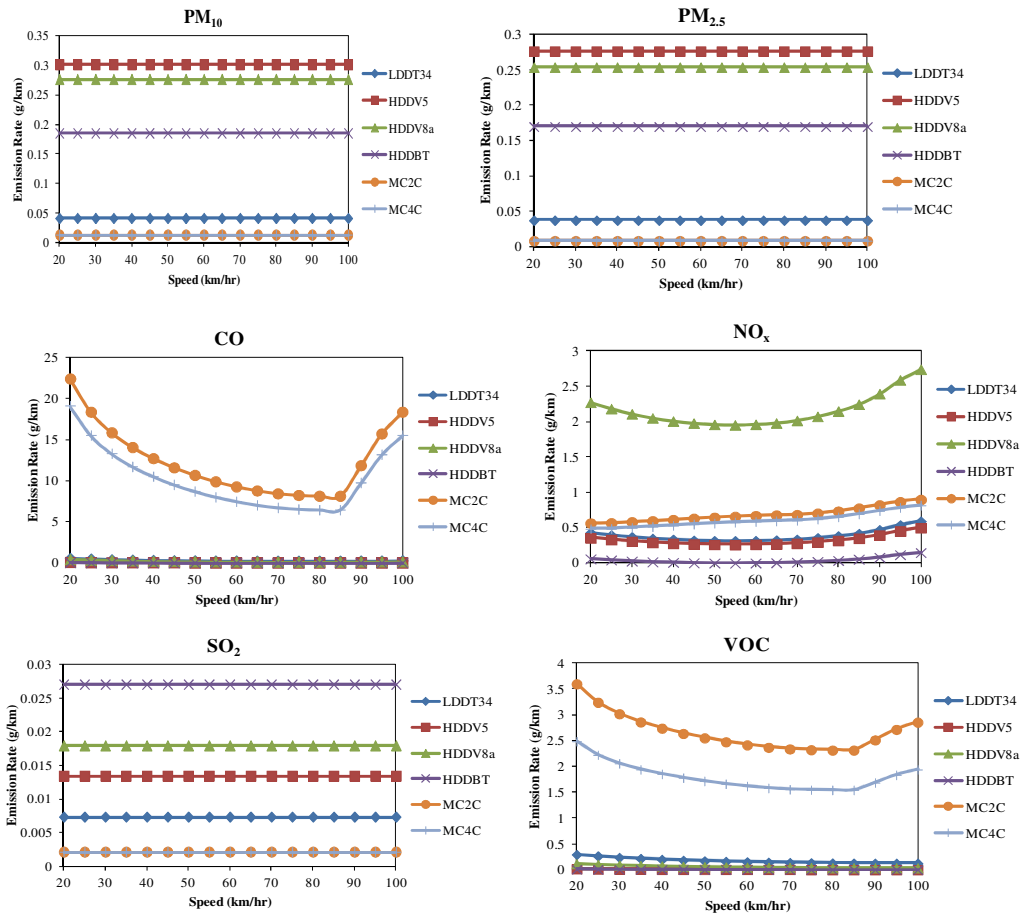


Figure 1. Estimated emission rates of 6 air pollutants for various vehicles at different speed.

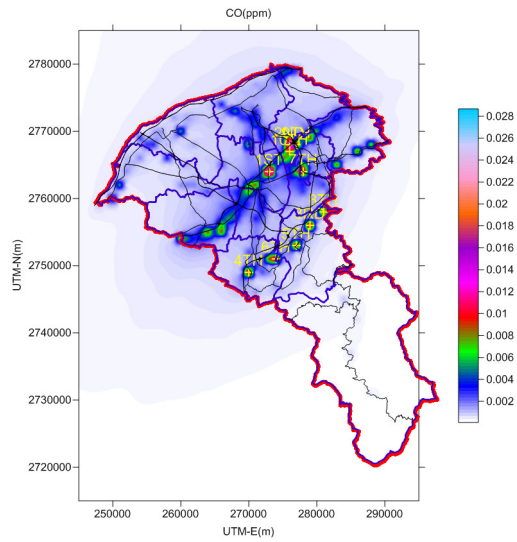


Figure 2. Distribution figure of simulated CO concentration from vehicles in Taoyuan (Case A.)

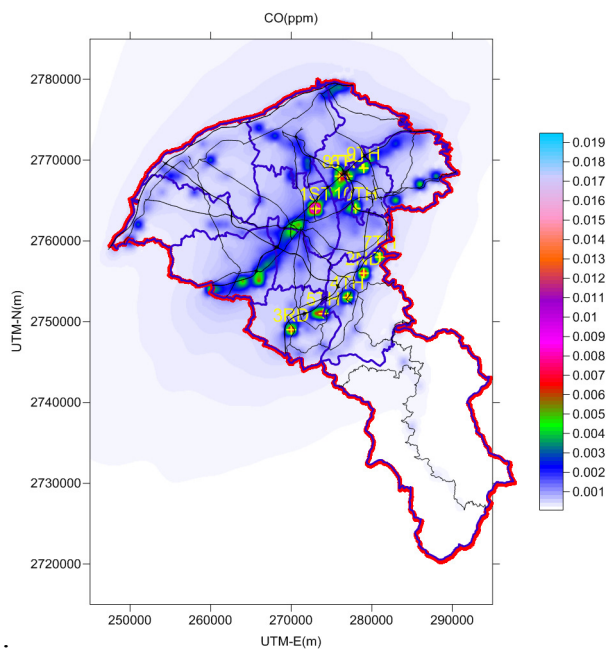


Figure 3. Distribution figure of simulated CO concentration from vehicles in Taoyuan (Case B).

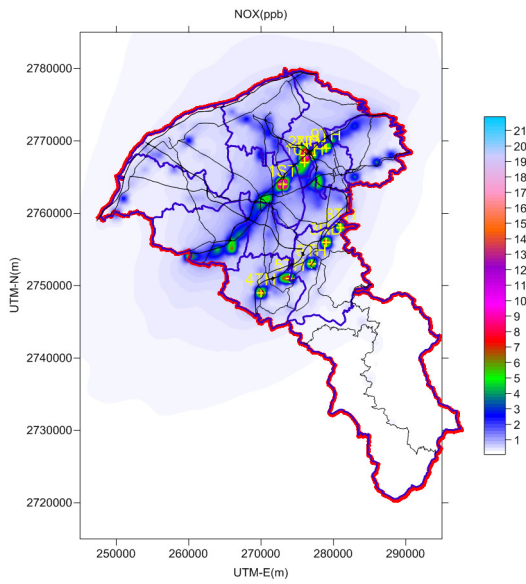


Figure 4. Distribution figure of simulated NO_x concentration from vehicles in Taoyuan (Case A).

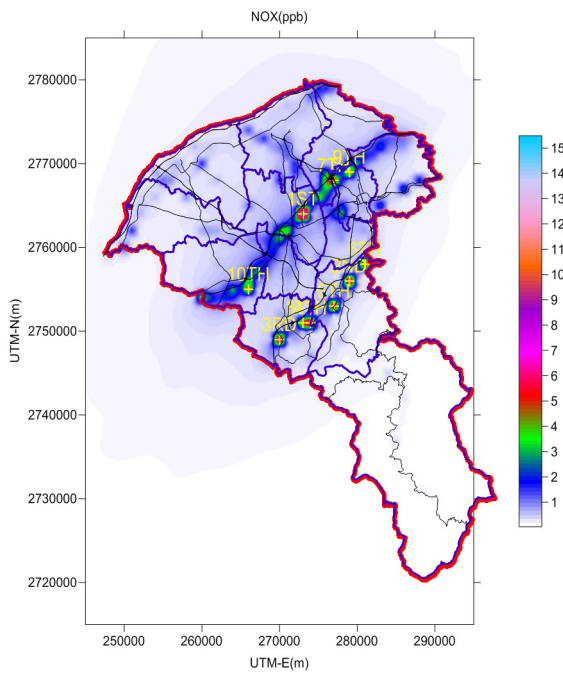


Figure 5. Distribution figure of simulated NO_x concentration from vehicles in Taoyuan (Case B).

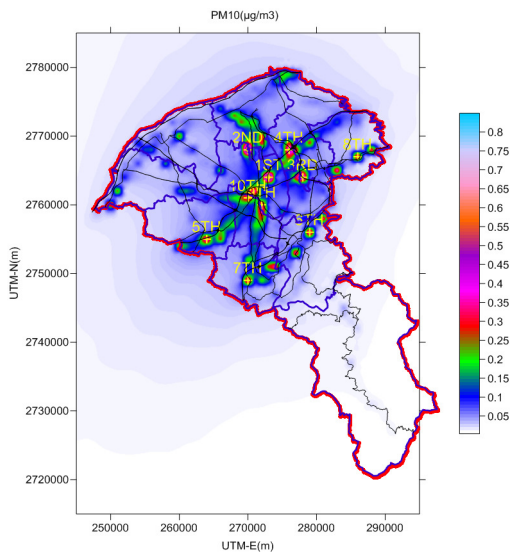


Figure 6. Distribution figure of simulated PM₁₀ concentration from vehicles in Taoyuan (Case A).

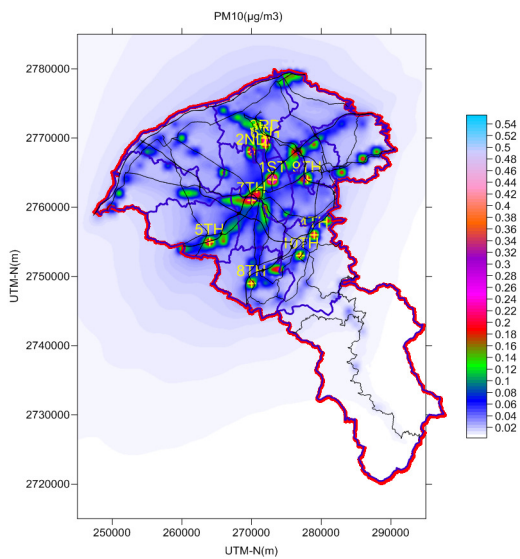


Figure 7. Distribution figure of simulated PM₁₀ concentration from vehicles in Taoyuan (Case B).

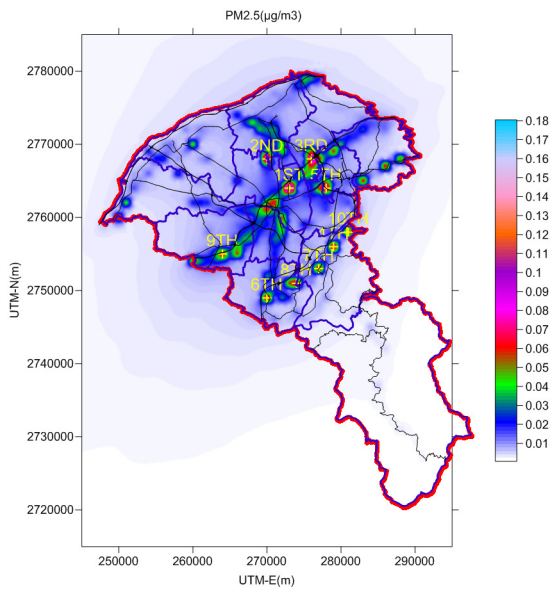


Figure 8. Distribution figure of simulated $PM_{2.5}$ concentration from vehicles in Taoyuan (Case A).

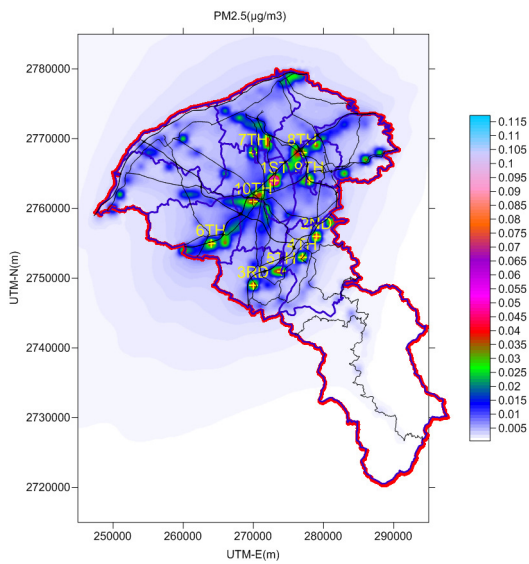


Figure 9. Distribution figure of simulated $PM_{2.5}$ concentration from vehicles in Taoyuan (Case B).

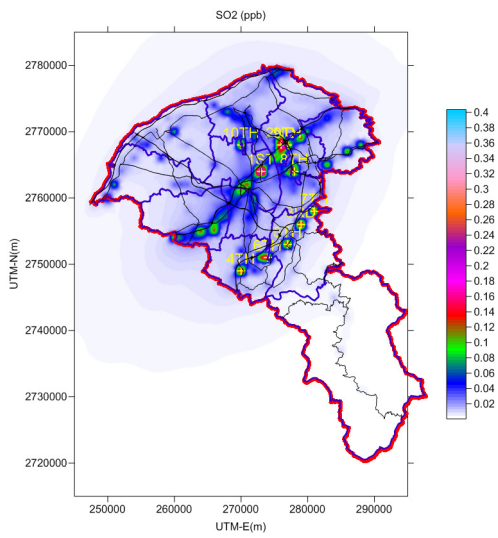


Figure 10. Distribution figure of simulated SO₂ concentration from vehicles in Taoyuan (Case A).

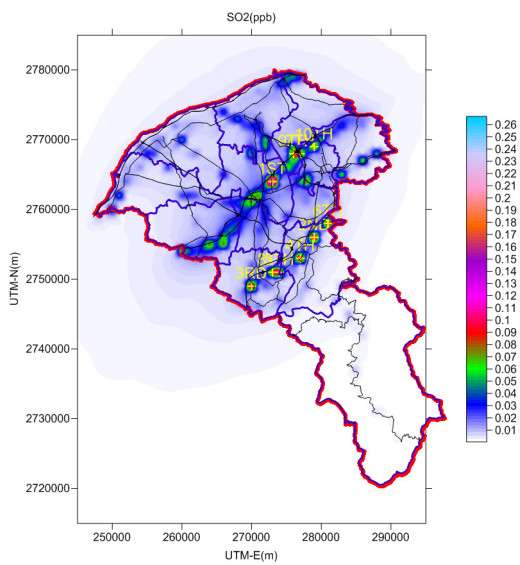


Figure 11. Distribution figure of simulated SO₂ concentration from vehicles in Taoyuan (Case B).

Supplemental Table 1.

Vehicle age	LDDT3	HDDBS	HDDBT	HDDV5	HDDV8a
1	8.77	6.09	2.53	5.06	0.00
2	8.53	0.23	3.34	4.72	5.00
3	7.59	4.68	2.85	3.92	0.00
4	5.54	4.92	1.96	2.85	25.00
5	9.48	7.73	2.36	4.40	35.00
6	8.45	2.81	4.03	4.26	10.00
7	8.72	10.54	7.46	4.82	0.00
8	7.66	16.63	6.52	4.54	0.00
9	5.92	9.84	4.16	3.09	5.00
10	5.27	2.81	7.95	4.98	0.00
11	5.07	1.41	9.66	6.59	0.00
12	5.42	9.60	8.76	10.99	0.00
13	5.02	6.32	9.82	15.51	10.00
14	3.74	5.85	6.93	5.77	0.00
15	2.23	6.32	6.85	4.38	0.00
16	1.07	2.81	5.62	4.64	0.00
17	0.54	0.23	3.50	4.22	10.00
18	0.34	1.17	1.75	2.01	0.00
19	0.32	0.00	0.81	0.90	0.00
20	0.11	0.00	1.02	0.78	0.00
21	0.12	0.00	1.34	0.60	0.00
22	0.06	0.00	0.49	0.16	0.00
23	0.00	0.00	0.04	0.24	0.00
24	0.01	0.00	0.16	0.34	0.00
25	0.01	0.00	0.08	0.18	0.00

Data source: Environmental Protection Bureau, Taoyuan, Taiwan

Supplemental Table 2.

Vehicle age	1	2	3	4	5	6	7
	LDV	LDT1	LDT2	LDDT3	LDT4	HDV2B	HDV3
1	0.47%	0.05%	0.05%	99.85%	99.85%	100.00%	100.00%
2	0.02%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%
3	0.04%	0.00%	0.00%	99.24%	99.24%	100.00%	100.00%
4	0.00%	0.10%	0.10%	99.53%	99.53%	100.00%	100.00%
5	0.02%	0.04%	0.04%	99.12%	99.12%	100.00%	100.00%
6	0.00%	13.81%	13.81%	98.24%	98.24%	100.00%	100.00%
7	0.03%	15.09%	15.09%	99.70%	99.70%	100.00%	100.00%
8	0.15%	22.70%	22.70%	100.00%	100.00%	100.00%	100.00%
9	0.16%	16.87%	16.87%	99.78%	99.78%	100.00%	100.00%
10	0.12%	16.64%	16.64%	100.00%	100.00%	100.00%	100.00%
11	0.35%	17.71%	17.71%	99.75%	99.75%	100.00%	100.00%
12	0.27%	16.42%	16.42%	90.83%	90.83%	100.00%	100.00%
13	0.59%	13.51%	13.51%	91.52%	91.52%	100.00%	100.00%
14	0.59%	10.90%	10.90%	92.41%	92.41%	100.00%	100.00%
15	0.09%	14.14%	14.14%	91.62%	91.62%	100.00%	100.00%
16	0.13%	3.52%	3.52%	71.08%	71.08%	100.00%	100.00%
17	0.00%	0.35%	0.35%	80.95%	80.95%	100.00%	100.00%
18	0.00%	0.00%	0.00%	81.13%	81.13%	100.00%	100.00%
19	0.00%	0.00%	0.00%	87.76%	87.76%	100.00%	100.00%
20	0.00%	0.00%	0.00%	88.24%	88.24%	100.00%	100.00%
21	2.86%	16.67%	16.67%	100.00%	100.00%	100.00%	100.00%
22	0.00%	0.00%	0.00%	88.89%	88.89%	100.00%	100.00%
23	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
24	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%
25	62.50%	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%

Data source: Environmental Protection Bureau, Taoyuan, Taiwan

Supplemental Table 3.

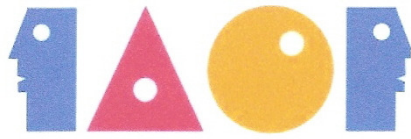
Vehicle age	8	9	10	11	12	13	14
	HDV4	HDV5	HDV6	HDV7	HDV8A	HDV8B	HDBS
1	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
3	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
4	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
5	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
6	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
7	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
8	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
9	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
10	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
11	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
12	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
13	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
14	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
15	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
16	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
17	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
18	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
19	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
20	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
21	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
22	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
23	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
24	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Data source: Environmental Protection Bureau, Taoyuan, Taiwan

Supplemental Table 4.

Vehicle age	1	2	3	4	5
	LDDT3	HDDBS	HDDBT	HDDV5	HDDV8a
1	0.008773	0.001926	0.051171	0.029438	0.051171
2	0.024706	0.003852	0.102342	0.058875	0.102342
3	0.040639	0.005778	0.153514	0.088313	0.153514
4	0.160051	0.014383	0.164873	0.234912	0.164873
5	0.246640	0.022989	0.177670	0.392988	0.177670
6	0.205403	0.031595	0.199056	0.246829	0.199056
7	0.162253	0.040200	0.359115	0.308119	0.359115
8	0.187328	0.048806	0.343097	0.291719	0.343097
9	0.182441	0.057411	0.412390	0.289981	0.412390
10	0.170668	0.066017	0.288891	0.254324	0.288891
11	0.179078	0.074623	0.228877	0.234467	0.228877
12	0.177666	0.083228	0.227363	0.208719	0.227363
13	0.139064	0.235030	0.268832	0.212145	0.268832
14	0.112889	0.161037	0.261743	0.233257	0.261743
15	0.153940	0.378622	0.119833	0.228468	0.119833
16	0.083430	0.229632	0.214371	0.211180	0.214371
17	0.128125	0.162200	0.257709	0.191112	0.257709
18	0.125825	0.099446	0.301047	0.158829	0.301047
19	0.132468	0.054978	0.245211	0.152663	0.245211
20	0.079673	0.152441	0.184993	0.166012	0.184993
21	0.050579	0.249905	0.133540	0.114705	0.133540
22	0.049254	0.268219	0.064557	0.149558	0.064557
23	0.042567	0.069436	0.218477	0.156920	0.218477
24	0.035880	0.069436	0.133834	0.078486	0.133834
25	0.029193	0.069436	0.084643	0.117650	0.084643

Data source: The basis of dynamometer measurements



THE EFFECTS OF PERCEIVED UNCERTAINTY ON TOURISTS' DECISION-MAKING TO AGRITOURISM IN TAIWAN

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Abstract

Travel decision-making is a complicated process with risk and uncertainty. Tourists' feeling of insecurity among travel thus could hinder tourism growth. However, studies are still confused when discussing the effects of those factors on travel decision-making. The objective of this study is to examine the moderating effect of perceived uncertainty on the elements of the theory of planned behavior (TPB) by investigating agritourism setting in Taiwan. The findings show that the TPB model is adequate to Taiwan agritourism. Attitude, subjective norm and perceived behavioral control are positively impacted on the behavioral intention of Chinese tourists about Agritourism in Taiwan. In addition, perceived uncertainty only has moderating effect on the relationship between perceived behavioral control and behavioral intention. Based on managerial and academic implications are delineated and direction for future research are offered.

Keywords: agritourism, behavioral intention, Theory of Planned Behavior

Introduction

Travel decision-making is a complicated process that is risky and uncertain (Sirakaya and Woodside, 2005). For exam

ple, news has reported that Chinese tourists have been hit by the falling rocks in Taroko national park; others have been locked in Alisan forest park because the way was broken by heavy rain. Perceived

risk and uncertainty, thus, have been suggested as an important inhibitors to travel (Quintal, Lee, and Soutar, 2010). Furthermore, prior study has showed that both perceived risk and perceived uncertainty negatively influenced people's attitudes toward visiting Australia; perceived uncertainty negatively influenced people's perceived behavioral control when visiting Australia (Quintal, et al., 2010). However, research is still lack when discussing the effects of those factors on travel decision-making. The fragmented studies on perceived risk/ uncertainty have made it difficult to develop a comprehensive theoretical base for the construct (Ross, 1975).

Based on the issue mentioned above, researchers have demonstrated that the decision-making processes of a tourist can be influenced by family, reference group, and situational factors (Kotler, and Armstrong,

2012; Yen, Liu, and Chen, 2012). Perceived risk and perceived uncertainty might play as moderators in decision-making model. However, few researches explore its impacts on travel decision-making except Quintal et al. (2010) and no studies confirm whether perceived risk and perceived uncertainty are moderators of behavioral intention or not. Therefore, clarifying its role would benefit for firms to realize the behavioral intention of tourists.

Consequently, simplifying and integrating arguments into an appropriate decision-making model would be helpful in assessing variables influences on people's travel behavior. Such a model could be applied to agritourism settings, offering academic and practical insights into how tourists to diverse firms embrace perceived uncertainty when making travel decisions. The research framework was drawn below.

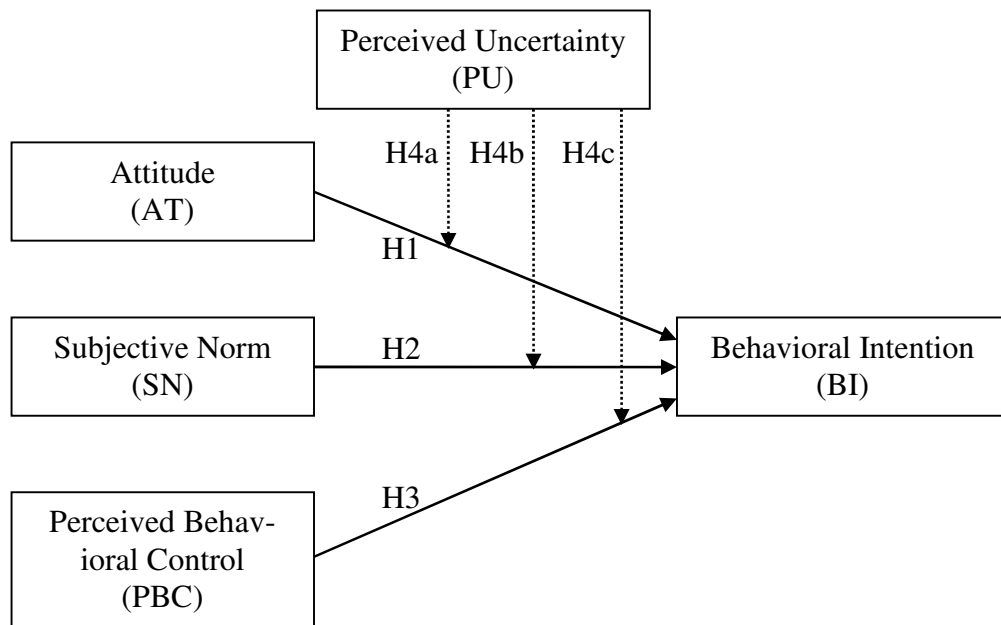


Figure 1. Research framework

Literature Review

The TPB has been examined in previous studies in many Asian countries, including South Korea (e.g., Huff and Alden, 2000; Lee and Green, 1991; Oh, Ahn, and Kim, 2003; Park and Blenkinsopp, 2009) and China (e.g., Lam and Hsu, 2006; Lee, 2000; Singh, Fassott, Zhao, and Boughton, 2006; Song, Wanberg, Niu, and Xie, 2006; Sparks and Pan, 2009). The basic paradigms of Ajzen's (1985, 1991) TPB are that people are likely to carry out a particular type of behavior if they believe: (1) such behavior will lead to an outcome they value, (2) their important referents will value and approve of the behavior and (3) they have the necessary resources, abilities and opportunities to perform such behavior (Lam and Hsu, 2006). Specifically, attitudes, subjective norms and perceived behavioral control influence behavioral intentions.

Attitude (ATT)

TPB assumes attitude toward a behavior, subjective norm, and perceived behavioral control are three conceptually independent determinants of behavioral intention (Han, Hsu, and Sheu, 2010). The first important determinant of behavioral intention is attitude (ATT), which can be described as "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991, p. 188). One states that attitude toward a behavior represents the perceived consequences of the behavior and his/her evaluation of the significance of the consequences (Eagry and Chailen, 1993). Another demonstrates that AT is the feelings of favourability or unfavourability toward performing a behavior (Chou, Chen, and Wang, 2012); represents a person's overall positive and negative beliefs and evaluations of the behavior (Cheng, Lam, and Hsu, 2005).

Others argued that an ATT is an individual tends to possess a favorable attitude when the outcomes are positively evaluated and, thus, he/she is likely to engage in that specific behavior (Ajzen, 1991; Cheng *et al.*, 2005); a favorable or unfavorable predisposition to respond in a consistent way toward an object, such as a holiday choice (Lam and Hsu, 2006; Moutinho, 1987). In other words, tourists' attitude toward agritourism is his/her evaluation of the significance of the consequences/outcomes for agritourism. Based on the TPB, hypothesis is developed:

H1: attitudes toward to agritourism of tourists have positive influence on their behavioral intentions.

Subjective norm (SN)

Subjective norm (SN) is an individual's perception of general social pressures from important others to perform or not to perform a given behavior (Cheng *et al.* 2005). SN measure the importance people attach to reference groups' endorsements and people's willingness to conform to these groups' shared beliefs, attitudes and choices, such as their holiday choices (Moutinho, 1987). It reflects the perceived desire of significant referents to approve or disapprove of a particular behavior (Chou *et al.*, 2012). In turn, it is the social pressures from reference groups to approve or disapprove of agritourism. Based on the TPB, hypothesis is developed:

H2: The subjective norms of tourists have positive influence on their behavioral intentions.

Perceived behavioral control (PBC)

Perceived behavioral control (PBC) refers to an individuals' perception of the ease or difficulty of performing a behavior (Ajzen, 1991) and directly affects intention

and behavior. PBC is a measure of the difficulty people attach to the performance of a behavior, such as making holiday choices (Lam and Hsu, 2006). Another states PBC is related to perceptions of internal and external constraints on performing a behavior (Chou *et al.*, 2012). In turn, it is a tourists' perception of the ease or difficulty when travel in agritourism. Based on the TPB, hypothesis is developed:

H3: The perceived behavioral control of tourists has positive influence on their behavioral intentions.

Perceived Uncertainty (PU)

Perceived uncertainty is viewed as a subjectively determined expectation of ambiguity about a potential loss, in which no measure of probability can be attached to each possible outcome (Becker and Knudsen, 2005). This potential loss in which no measure of probability negatively influenced people's attitudes toward visiting the destination and it also negatively influenced people's perceived behavioral control toward visiting the destination (Quintal *et al.*, 2010) in TPB model. It is one of the antecedents of attitude and perceived behavioral control in TPB model. When the attitudes toward visiting the destination of tourists and perceived behavioral control were confirmed, few studies examined whether their future intention would be influenced by uncertain situations or not. Hence, hypothesis is developed:

H4a: As perceived uncertainty costs increase, the relationship between attitude and behavioral intention will diminish (i.e., perceived uncertainty \times attitude interaction).

H4b: As perceived uncertainty costs increase, the relationship between subjective norms and behavioral

intention will diminish (i.e., perceived uncertainty \times subjective norms interaction).

H4c: As perceived uncertainty costs increase, the relationship between perceived behavioral control and behavioral intention will diminish (i.e., perceived uncertainty \times perceived behavioral control interaction).

Methodology

Having considered the data collection requirements of this study such as a need of large sample of customers and quantities of Taiwanese agritourism, it would be appropriate to employ the field survey with a self-administered questionnaire as the primary data collection technique for this study. The field study method was chosen in order to gain information directly from individuals at the leisure farm settings. As such, their feelings and perceptions about the setting with respect to attitude (AT), subjective norms (SN), perceived behavioral control (BC), behavioral intentions (BI) and perceived uncertainty (PU) are likely to be clearly in mind (Danaher and Mattsson, 1994).

To ensure the content validity of the scales, the items selected constructs are mainly adapted from prior studies. The study uses existing scales for measuring attitude, subjective norms, perceived behavioral control, behavioral intentions and attractive alternativeness. Items for PU, AT, SN, BC, and BI were drawn based on the studies of Chou *et al.* (2012), Han *et al.* (2010) and Quintal *et al.* (2010).

The initial items were confirmed and corrected by the managers of leisure farms and pretested was done by EMBA (Executive Master of Business Administration) students in NPUST (National Pingtung University of Science and Technology),

Taiwan. For items, responses were ratings from 1 to 7. The anchors are “strongly disagree” (1) and “strongly agree” (7) for measuring SN, BC, BI, and PU. The anchors for AT are extremely bad (1) /extremely good (7), extremely undesirable (1)/extremely desirable (7), extremely unpleasant (1)/extremely pleasant (7), extremely foolish (1)/extremely wise (7), extremely unfavorable (1)/extremely favorable (7), extremely unenjoyable (1) /extremely enjoyable (7), and extremely negative (1)/extremely positive (7).

It was decided that the model would be tested by collecting data from leisure farms in Taiwan. The criteria for farms' selection were based on their service quality of experience, food and beverages, and accommodation certified by Taiwan Leisure Farms Development Association (TLFDA). Finally, a total of 23 farms were drawn and could be categorized into full-service farms and limited-service farms. They were selected expecting adequate diversity of quality and loyalty to allow a model to be estimated. A questionnaire was prepared for collecting rating and other information. Items measuring the various constructs were distributed about in the questionnaire to reduce halo effects.

Because the goal was to develop a model, random sampling was not seen as necessary. Surveyors were collecting data from tourists they did not know. Quota sampling was adapted to ensure that respondents were distributed across age and sex groups. Having enough respondents in certain categories was seen as important for data to be appropriate for estimating the model of concern. Data was collected by personal contact with respondents at rest area of the farm. In collecting data, respondents were asked to complete a printed questionnaire. The data collectors, as necessary, clarified the meaning of questions and answers. In other words they dealt with any problems encountered while

answering questions.

Data were collected during the June to August in 2012. A total of 400 valid questionnaires were received. Of 400 questionnaires obtained, about 55.5% were male and 45.5% were from female respondents. At about 16.8% of respondents were below 20 years of age and 13.6% of respondents were higher than 40 years of age. The majority of respondents were between 20-40 years of age (69.8%). Approximately 7.1% of respondents were graduated from junior high school and 26.5% of respondents were graduated from junior high school. At about 65.4% respondents were graduated from college or above. With regard to the frequency visited, 75% of respondents were first time to the destination and 25% were revisit.

Results

A confirmatory factor analysis (CFA) using AMOS 17.0 and SPSS 17.0 were conducted to test the measurement model and hypothesis. Before testing the model, the data were examined. For making maximum likelihood (ML) estimates for path models (Kline, 1998), there are problems if certain conditions arise. There are likely to be outliers if the absolute value of skewness is greater than 3. Also, there is a distribution problem if the absolute value of kurtosis is larger than 10. One wants data that is approximately normally distributed for making ML estimates. For this research the skewness of variables ranges between -1.282 and -0.297 (Table 1) so the < 3 criterion is met. The kurtosis values are between 2.183 and -0.838 so the < 10 criterion is met. Therefore, this enables authors to proceed in evaluating the measurement models.

The chi-squares (287) is significant ($p < 0.05$; Bollen, 1989), a finding is not unusual with large sample sizes (Doney and Cannon, 1997). The ratios of chi-square to

degrees of freedom (df= 108) are 2.65 for measurement model less than 3 (Marsh and Hovecar, 1985). The values for GFI (0.920), AGFI (0.886), CFI (0.972), and RMSEA (0.064) are acceptably close to the standards suggested by Hu and Bentler (1999) greater than 0.9 for GFI and AGFI, greater than 0.95 for CFI and less than 0.08 for RMSEA. Given that these batteries of overall goodness-of-fit (GFI) indices were accurate and that the model was developed on theoretical bases, and given the high level of consistency samples, no re-specifications of the model were made. This enables authors to proceed in evaluating the reliability and validity.

This study assesses the quality of measurement efforts by investigating uni-dimensionality, convergent validity, reliability, and discriminate validity. Evidence for the uni-dimensionality of each construct included appropriate items that loaded at least 0.70 on their respective hypothesized component and loaded no larger than 0.30 on other components in a factor analysis (see Table 1). In addition, the overall goodness of fit supports uni-dimensionality (Steenkamp, et al. 1991). Convergent validity was supported by all loadings being significant ($p < 0.01$) and nearly all SMC (square of multiple correlation) exceeding 0.30 (Hildebrandt, 1987). This study assesses reliability jointly for all items of a construct by computing the composite reliability (C.R.) and average variance extracted (AVE) (Baumgartner and Homburg, 1996; Steenkamp and van Trijp, 1991). For a construct to assess good reliability; composite reliability should be higher than 0.70, and the average variance extracted should at least be 0.60 (Bagozzi and Yi, 1988). All scales demonstrate good reliabilities.

To examine discriminant validity, Current study first checks the coefficients of correlations between factors whether they are significantly lower than 1 and then

compared the correlations between factors with their AVE (Gaski and Nevin, 1985). The results show that all of coefficients of correlations between factors are significantly lower than 1 and the correlations between factors are lower than their AVE, thus confirming discriminant validity (see Table 2). In summary, the measurement model demonstrates adequate uni-dimensionality, convergent validity, reliability, and discriminant validity. This enables authors to proceed in evaluating hypotheses testing.

With regard to the model fitness (Table 3), the chi-squares (282) is significant ($p < 0.05$; Bollen, 1989), a finding is not unusual with large sample sizes (Doney and Cannon, 1997). The ratios of chi-square to degrees of freedom (df= 100) are 2.82 for measurement model less than 3 (Marsh and Hovecar, 1985). The values for GFI (0.920), AGFI (0.878), CFI (0.977), and RMSEA (0.068) are acceptably close to the standards suggested by Hu and Bentler (1999) greater than 0.9 for GFI and AGFI, greater than 0.95 for CFI and less than 0.08 for RMSEA. Given that these batteries of overall goodness-of-fit (GFI) indices were accurate.

Path analysis was used to estimate the relationships in the extended TPB model in each of the three country samples. As can be seen in Table 3, attitude toward to visit Taiwanese agritourism (AT) had a significant positive effect on behavioral intentions to visit Taiwanese agritourism (BI) ($\beta=.086$; $t=1.839$). This offers some support for Hypothesis 1, as the Chinese travelers' attitudes influenced their behavioral intentions to visit Taiwanese agritourism. Subjective norms (SN) had a significant positive influence on BI ($\beta=.386$; $t=6.334$), supporting Hypothesis 2. Perceived behavioral control (BC) had a significant positive effect on BI ($\beta=.382$; $t=6.216$), supporting Hypothesis 3. Clearly, significant others (Kim et al., 2009) and perceptions

Table 1. Reliability and convergent validity

Concept	Items	Mean	SD	Skewness	Kurtosis	λ	SMC	CR	AVE
AT	Q1	5.84	1.112	-1.204	1.802	.896	.803	0.91	0.7
	Q2	5.86	1.045	-1.138	1.883	.925	.855		
	Q3	5.88	1.082	-1.282	2.183	.924	.853		
	Q4	5.89	1.046	-.983	1.127	.794	.631		
	Q5	5.89	1.067	-1.007	.991	.784	.614		
	Q6	5.87	1.060	-.974	.933	.916	.839		
SN	Q7	5.52	1.130	-.662	.342	.969	.940	0.93	0.83
	Q8	5.44	1.100	-.597	.378	.895	.801		
	Q9	5.43	1.104	-.501	-.116	.766	.586		
BC	Q10	5.56	1.034	-.380	-.432	.834	.695	0.78	0.65
	Q11	5.33	1.045	-.363	.107	.847	.717		
	Q12	5.23	1.123	-.297	-.165	.859	.738		
BI	Q13	5.43	1.083	-.473	-.035	.891	.794	0.85	0.72
	Q14	5.30	1.099	-.633	.719	.813	.661		
	Q15	5.25	1.273	-.763	.655	.935	.873		
PU	Q16	3.02	1.716	-.587	-.587	.969	.938	0.98	0.95
	Q17	2.98	1.714	-.838	-.838	.950	.903		
	Q18	2.90	1.688	-.702	-.702	.896	.803		

Note: $\chi^2=287(p=.000)$; $df=108$; $GFI=.920$; $AGFI=.886$; $CFI=.972$; $RMSEA=.064$

SMC: Squared Multiple Correlations; CR: Composite Reliability; AVE: Average Variance Extracted

Table 2. Discriminate validity and correlations between concepts

Concept	M	SD	PU	AT	SN	BC	BI
PU	10.97	4.99	.95				
AT	35.67	5.55	-.108*	.70			
SN	16.89	3.18	-.274**	.465**	.83		
BC	16.26	2.70	-.023	.350**	.591**	.65	
BI	16.29	3.00	-.140**	.392**	.622**	.590**	.72

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level (2-tailed).

Table 3. Results of hypotheses testing

Path	β	t-values
AT-BI	.086	1.839*
SN-BI	.386	6.334***
BC-BI	.382	6.216***
PU*AT	.131	.488
PU*SN	.345	1.236
PU*BC	-.542	-1.988*

χ^2 : 282; df: 100; GFI: .920; AGFI: .878; CFI: .977; RMSEA: .068; R²: .554

Note: Standardized β is significant while t-values exceed 1.96. * $p < .05$. *** $p < .001$

of control (Sparks and Pan, 2009) did influence people's intentions.

Diagonal elements are AVE. Off-diagonal elements are correlations between factors. Furthermore, the first moderator perceived uncertainty \times attitude (PU*AT), perceived uncertainty \times subjective norm (PU*SN), and perceived uncertainty \times perceived behavioral control (PU*BC) was tested. An unusual finding was revealed that perceived uncertainty can destroy the relationship between perceived behavioral control and behavioral intentions ($\beta = -.542$; $t = 1.988$), supporting Hypothesis 6. However, PU could not significantly moderate AT-BI and SN-BI relationship, Hypothesis 4 and Hypothesis 5 were not supported. Consequently 55.4% variance of behavioral intentions for Chinese tourists can be explained by attitude, subjective norm, and

perceived behavioral control under an uncertainly situation.

Conclusion

The primary aim of the current study was to examine the relationships between perceived uncertainty (PU) and the theory of planned behavior (TPB) constructs. The analysis suggested attitudes, subjective norms, and perceived behavioral control have positive impacts on behavioral intentions. The analysis also suggested PU was a moderator that have impacts on perceived behavioral control - behavioral intentions relationship in Ajzen's (1985, 1991) TPB. These relationships are discussed in the following paragraphs.

First, the significant 'attitude-intention' relationship provided strong support that

tourists' positive attitudes towards agritourism strengthen intentions to undertake agritourism, while negative attitudes weaken them. This study identifies attitude as a key factor influencing tourists' intention of agritourism planning. This demonstrates Chinese tourists' intention will be higher when their evaluations of the significance of the consequences/ outcomes for Taiwanese agritourism are high. Furthermore, the significant 'subjective norm-intention' relationship also provided strong support that tourists' decision making was influenced by a reference group. Results highlight the role that significant others played in influencing the implementation of agritourism planning, and thus confirmed socio-cultural norms as a key influence on agritourism planning (Méheux and Parker, 2006). This indicates Chinese tourists' intention will be higher when the social pressures from reference groups to approve of Taiwanese agritourism. Moreover, the significant 'perceived behavioral control - behavioral intention' relationship also provided strong support that tourists' that tourists' positive perceived behavioral control strengthen behavioral intentions to

undertake agritourism. It reveals Chinese tourists' intention will be higher when their perceptions of the ease are high.

Nevertheless, a finding is unusual when situational variable, perceived uncertainty, is considered. With regard to the higher uncertainty tourists' perceived, the probabilities of the intention to undertake agritourism would be lower while their perceived behavioral control was high. It implies supervisors, peers, industry associations and government all have a role to play in declining the environment uncertainty. The arrangements of restaurant, accommodation, tour, transportation, shopping etc. are all needed to be confirmed. For farm managers, top management needs to articulate the importance of agritourism planning by embedding it in strategic plans and including it as a core competency and key performance indicator of managers. Considering to future research, study related to farm branding is needed in order to defend the uncertainty outside the farm and offer more useful competitive strategies.

Acknowledgements

This paper was extracted from the results of 2012 technical project supported by Council of Agriculture, Taiwan (ROC)

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