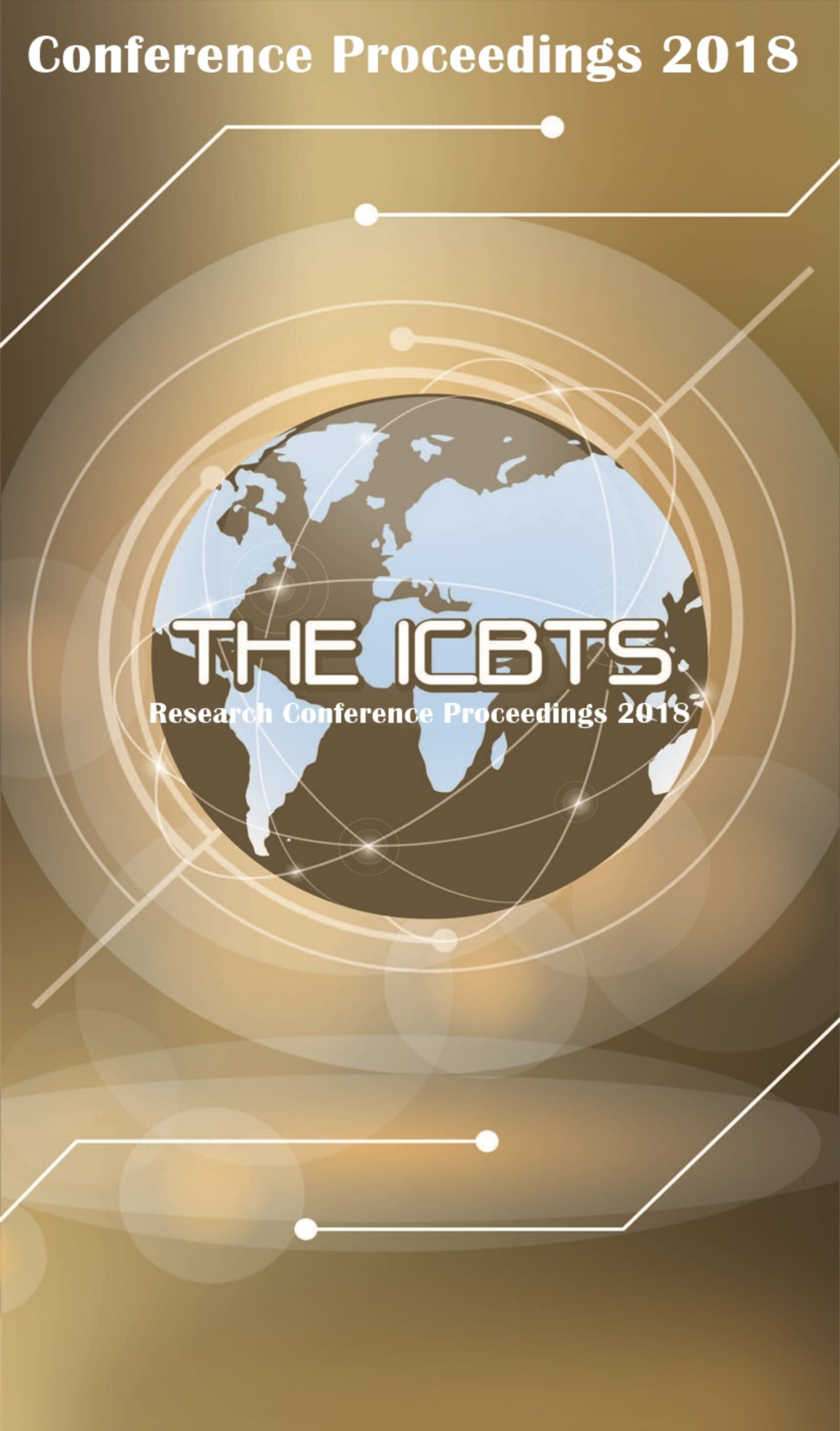
Conference Proceedings 2018



International Academic Multidisciplinary Research Conference 2018

Proceeding of

INTERNATIONAL BUSINESS ECONOMIC TOURISM SCIENCES TECHNOLOGY HUMANITIES SOCIAL SCIENCES AND EDUCATION RESEARCH CONFERENCE

Helsinki, Finland
9 – 11 August, 2018

THE 2018 ICBTS

Edited by **Kai Heuer, Wismar University, Germany**
Chayanan Kerdpitak, IBEST Conference & Publication, USA
Ebrahim Soltani, Hamdanbin Smart University, UAE
Gilbert Nartea, Lincoln University, New Zealand
Vipin Nadda, University of Sunderland, United Kingdom

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Conference Three Themes

The International Business Tourism and Applied Sciences Research Conference

The International Education Social Sciences and Humanities Research Conference

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In Academic Scholars Cooperation with

Wismar University **Lincoln University** **Hamdan Bin Smart Universisty** **Suan Sunandha Rajabhat University**

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Proceedings of Abstracts and Papers (on CD-ROM or flash drive) of The International Business Economics Tourism Transport Technology Social Sciences Humanities and Education Research Conference

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INTRODUCTION

We would like to welcome our colleagues to the International Business Education Social Sciences Humanities Tourism Transport Technology Research Conference. It is the nine series in 2018 of Conference on Business Tourism and Apply Sciences was held in Paris. As always many members of the ICBTS 2018 community look forward to meeting, sharing and exchanging their research ideas and results in both a formal and informal setting which the conference provides. Likewise, the concept of alternating the international conference every one month on April to October between Europe and the rest of the world is now well established. This year's event in Vienna (Austria) London (UK) Las Vegas (USA) Amsterdam (Netherlands) Zurich (Switzerland) Oslo (Norway) Helsinki (Finland) Berlin (Germany) Rome (Italy) Lisbon (Portugal) Lucerne (Switzerland) and another continues with the cultural following the very successful and productive event held in London in February 2018 in the field of various types for international academic research conference on Business Education Social Sciences Humanities and Technology. As usual The ICBTS 2018 brings together leading academics, researchers and practitioners to exchange ideas, views and the latest research in the field of Business Tourism and Apply Sciences.

The theme of this event The 2018 ICBTS International Business Tourism Social Sciences Humanities and Education Research Conference is "Opportunities and Development of Global Business Economics Social Sciences Humanities and Education" It is also represents an emerging and highly challenging area of research and practice for both academics and practitioners a like, The current industrial context is characterized by increasing global competition, decreasing product life cycles, Global Business, Tourism Development, Social Sciences Humanities Education Apply Sciences and Technology collaborative networked organizations, higher levels of uncertainties and, above all, and customers. In our view holding this event in Paris represents a timely opportunity for academics and researchers to explore pertinent issues surrounding Business Economics Tourism Social Sciences Humanities Education Sciences and Technology.

Potential authors were invited to submit an abstract to the International Conference Session Chairs. All abstracts were reviewed by two experts from the International review committee and final papers were further reviewed by this volume with 30 contributing authors coming from 18 countries. This book of proceedings has been organized according to following categories:

- Business
- Management
- Marketing
- Accounting
- Financial
- Banking
- Economic
- Education
- Marketing
- Logistics Management
- Social Sciences
- Supply Chain management
- Industrial Management
- Information Technology
- Sciences Technology
- Transport and Traffic
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SPEAKER BACKGROUND

Professor Dr. Ebrahim Soltani

Prof. Dr. Ebrahim Soltani is a Professor of Business School at University of Kent Canterbury in England and he is Department Chair - Quality & Operations Management at Hamdan Bin Mohammed Smart University Dubai of United Arab Emirate. He was appointed associate professor in business management, total quality management, and operation management in 1989 at the University of Kent, he continued his research in the field of operation management, business management. He has published over 50 papers and reports in such journals as International Journal of Technology and Production Research. He supervised a considerable number of PhD theses and is a consultant on industrial and production industry in England and United Arab Emirate.

SPEAKER BACKGROUND

Professor Dr. Kai Heuer

Prof. Dr. Kai Heuer is full professor for business administration at the Business Faculty of Wismar University in Germany. Before, he served as a full professor at the Environmental Campus of Trier University of Applied Sciences. He studied business administration in Germany and the U.S.A. and holds an MBA and a doctoral degree. He has management experience from leading positions in different companies and as business consultant. His research areas are management accounting, organizational development, and international management where he has published numerous papers, reports and textbooks. He is the head of Master Program in Business at Wismar University and a member of the Schmalenbach-Society for Business Economics, Cologne; managing director of the Institute of Health-, Senior- and Social Management; and a former member of the board of the Centre for Aviation Law and Management.

2018 ICBTS CONFERENCE HELSINKI PROGRAM

The 2018 ICBTS International Multidiscipline Research Conference

9 August 18 8.30 – 09.10 (TH)	REGISTRATION & WELCOME Welcome meeting at The Radisson Blu Seaside Helsinki, Finland
9 August 18 09.00 –10.45	**Session A1** **Paper 1** (1) The Result of Oral Medication Education Program for Preventing Complication in DM. Patient Ponpun Vorasiha and Tipapan Sungkapong **Paper 2** (2) Lifestyles and Health Perception in the Retired Elderly Karuhadej P. and Dangthongdee S. and Cherwanitchakorn S. and Shuaytong **Paper 3 (3)** Characteristic Needs of New Registered Nurses from College of Nursing and Health, Suan Sunandha Rajabhat University by Head Nurse Perspectives Kanya Napapongsa and Dr. Muntanavadee Maytapattana **Paper 4 (4)** Ethical Practice Behaviors of the 4th year Undergraduate Nursing Students, College of Nursing and Health, Suan Sunandha Rajabhat University Muntanavadee Maytapattana and Sumala Sawangjid and Kwanrutai Sempoon **Paper 5 (5)** The Pilot Study: Adaptation of Lecturers after Retirement Sujitra Uratanamanee and Premwadee Karuhadej and Ponpun Vorasiha and Udomporn Yingpaibulsuk **Paper 6 (6)** Ability to Communicate with Customers in Basic English: A Case Study of Guest Houses Employees in Thailand Dr. Natnaporn Aeknarajindawat **Paper 7 (27)** Coping with Recession: The Croatian Experience Borozan Djula
	Morning Break in the room
10.46 – 12.30	**Session A 2** **Paper 1 (22)** Adaptive Leadership for School Excellence amid Policy Change Wanwisa Suebnusorn **Paper 2** (7) Strengthen Program of the moral and basic goodness for the first year nursing students in College of Nursing and Health, Suan Sunandha Rajabhat University ChantanaChangchenvate and Dr. ponpun Vorasiha **Paper 3** (8) The Research Evaluation of Heroes Project by CIPP Model Thitavan Hongkittiyanon and Boonlegan Thomtong and LakanaYodkoldij and Jiraporn rakkarn **Paper 4 (9)** The effect of the Program of Practical skills preparation in Maternal and Newborn Nursing on achievement of nursing students Napissara Dhiranatara and Petcharat Techathawewon **Paper 5 (10)** The effect of preparedness program before clinical practice on achievement of nursing students in the subject of Maternal and Newborn Nursing and Midwifery practicum PetcharatTechathawewon **Paper 6 (11)** Effects of Empowerment Program on Dementia Preventive Behavior in Elderly Monrudee Popijan **Paper 7 (19)** Whether the adult attachment styles would affect leader-subordinate relational identity ? Sung-Chun Tsai and Ching-Fung Chan
12.31-13.30	Lunch
13.31-15.00	**Session A 3** **Paper 1 (39)** Influence of Moringa (Moringa Oleifera) Leaf and Seed Extracts on α-AMYLASE AND α-GLUCOSIDASE inhibitory Properties of Acarbose Akintemi Abimbola O and 2Ganiyu Oboh and Ibukun Emmanuel O **Paper 2 (50)** Cirque du Soleil - KA in Vegas Associate Professor Dr. Hilary Becker **Paper 3 (31)** The Reality of the Economics of Retirement Securities for Moderate-Income Families Dr. Ruby Beale **Paper 4 (48)** Sustaining independent Language Learning Via Mobile Tagging: The Use of Quick Response Code to Enhance Students Motivation in an Algerian University EFL Classroom

	Dr. Mimouna ZITOUNI **Paper 5 (44)** Leadership Framework in Kindergarten Education Joanne Marie Igoy-Escalona **Paper 6 (29)** Pushover Analysis and Incremental Dynamic Analysis of Steel Braced Reinforced Concrete Frames Sangar Saud Hamad Amin
15.01– 15.15	Afternoon Break
15.16 – 16.30	**Session A 4** **Paper 1(17)** Bullying Incidents Experienced by Indigenous Students their Coping Mechanism and Parental involvement: Basis for a Child Protection Program of KNHS Reyselle Ann N. Teodosio **Paper 2 (18)** Strategic Heritage Tourism Development Framework Towards Global Competitiveness and Sustainability Shella Marie Ignacio **Paper 1 (6)** Poverty as the Bane of Street Children in Kano Metropolis, Northwestern, Nigeria, 1999-2016 Azeez Fatimo Moromoke **Paper 2 (22)** Illusion, Gender Bias and Conflict in Ancient Indian Literature: A Presentation / Interpretation of Episodes in Ramayana And Mahabharata Dr. Madan Mohan Beura **Paper 3 (16)** Disinfection without bromate formation in drinking water using high voltage impulse In-Soung Chang and Hye Ran Kim and June-Ho Lee
	SESSION B
9 August 18 09.00 -10.45	**Session B 1** **Paper 1 (12)** The Royal Project: Case Study of Doi Bo, Chiangrai Province Dr. Niracharapa Tongdhamachart **Paper 2 (13)** Decision Making to select Elderly Nursing Home' services in Bangkok Sudpranorm Smuntavekin and Chotika Sulayapong and Boonsri Kittichottipanich **Paper 3 (14)** Self-prevent behaviors in osteoporosis of elderly at Amphawa district, Samut Songkhram Province Pimporn Thongmuang **Paper 4 (15)** The Happiness of Eldery in Urban Communnnity Oranuch Chaopreecha and Sudpranorm Smuntavekin and Kanjana Siricharoenwong **Paper 5 (16)** Need of Attention Care from Health Care Provider of High Risk Pregnant Women in Antenatal Clinic UdompornYingpaiboonsuk and BoonsriKittichottipanich and SuwanmaneeVudthi **Paper 6 (17)** Comparison of Stress Coping of Elderly in Community Nitaya Srijamnong and Anchalee Jantapo **Paper 7** (23) International Higher Education in BUSINESS – 'PIGS MIGHT FLY'An approach for system review Konstantinos Tsontos
	Morning Break in the room
10.45 – 12.30	**Session B 2** **Paper 1 1 (46)** Academic management strategies for vocational education colleges in Thailand according to the concept of entrepreneurial characteristics development of students Nijira Bumroonggit and Chayapim Usaho and Pruet Siribanpitak **Paper 2** (26) Flipped Classroom and The Geometer's Sketchpad:Students' investigation - A Square Peg in a Round Hole Asst. Prof. Dr. Krongthong Khairiree **Paper 3** (27) Construction of a small Vacuum Chamber for Studying a Gravity Janchai YINGPRAYOON **Paper 4** (28) Muay Thai and it's Transition to International Level Mr. Mohamed Darma Khairiree **Paper 5** (29) The Use of Smart Technology in Teaching and Learning: A Way to Enhance Achievement Ms. Rojanard Waramontri **Paper 6 (30)** In-flight Services Project: Creative Education from Airline Cabin Crew's Services Training Taksina Bunbut **Paper 7** (42) The Effect of Participation Motivation to Volunteer Satisfaction

	Yi Hsin Lin and Shu- Hsien Lai
12.39 – 13.30	**Lunch**
13.31 – 15.00	**Session B 3** **Paper 1 (9)** The Loud Silence: Silent Role Play to Develop Effective Communication and Listening Skills Manas Moulic and Dr. Mojibur Rahman **Paper 2 (8)** Nexus Between Human Capital Development and Human Capital Investment in Nigeria Awe Isaac Tope **Paper 3 (5)** Effect of Traffic Volume, Vehicular Speed and Road Grades on Air Pollution in Amman Eman Anan Shehadeh **Paper 4 (14)** The objectives of Nigeria's foreign policy in relation to African states between 1960-2015. Aliyu Adamu Imam and Dr. Tindi Seje Nuru **Paper 5 (15)** Knowledge, Attitude and Perception of Parents on Maternity, Newborn and Child Health (MNCH): A Qualitative Assessment in some Selected Rural Areas in Kaduna State Gimba Victor Kyari **Paper 6 (40)** Effects of Globalisation on Education and Culture Assistant Professor Deepthi Kambala
15.01-15.15	**Afternoon Break**
15.16-16.30	**Session B 4** **Paper 1 (30)** Implementation of CSR Expenditure by Indian Corporate Sector and Profit Optimization—Reality for Environmental Concerns Dr. Kamlesh Pritwani **Paper 2 (41)** Financial Sustainability: Synergy in Revenue Generation for Public Universities in Uganda NEEMA-ABOOKI **Paper 3 (45)** Reshaping IT Manager Competencies: A Proposed IT Management Program for the Public IT Workforce in the Kingdom of Saudi Arabia Mohammed A. Gharawi **Paper 4 (7)** Administrative and Human-Health-Related Factors as Correlates of Antenatal Care Service Utilisation Among Pregnant Women in Ekiti State, Nigeria ALADE, Temitope. T. **Paper 5 (42)** Human and Nonhuman Challenges in an ESP Teaching Learning Context: Investigating Speaking Performance Deficiency Among Algerian Learners of Business English at University Level Mimouna ZITOUNI and Lahcen ADDI
	SESSION C
10 August 18 09.31 – 10.45	**Session C 1** **Paper 1** (1) The Tradition of Protest Poetry in Northern Nigeria: A Comparative Study of the Poetry of Sa'adu Zungur and Idris Amali Dikko Muhammad **Paper 2** (7) Niger-delta crisis: its causes and effects on the socio-economic life of the people of Ogoni, rivers state, Nigeria. Ibrahim Ghide Adamu **Paper 3** (29) The Polemic of Online Transportations Existence that Challenge the Motorbike Pedicab 'Betor' as Tourism Icon of Medan In Search of Better Policy for the Government of Medan Syaravina Lubis, SH and Puput Astria, SH and Juli Sartika, Amd **Paper 4 (39)** War Destroys Business: A Reality Check Imran Naseem and Saeed Akbar **Paper 5** (60) Israeli Hebrew Speaker Students' Grapples on Environmental Education with Arabic Speaker Pupils' Hen Firman and Yafa Sitbon and Ifaa Banner and Yulia Einav
10.45 – 11.00	Morning Break
11.01 - 12.30	**Session C2** **Paper 1** (20) Criticism Towards Surveillance Society and Power in Turgay Nar's Theatre Plays Assoc. Prof. Dr. Nurullah ULUTAŞ **Paper 2** (23) The impact of meanders on the river bottom topography and the formation of reverse slope and islands nuclei Asst. Prof. Dr. Osama Khazaal Al-Sherifi

	Paper 3 (24) Modeling Digital Geographic Map for the border oil fields shared between Iraq and neighboring countries using GIS Prof. Makki Ghazi Abdullatif Al-Mohammadi **Paper 4** (25) The Antagonistic nature of the United States-Iran Relations: A Constructivist Perspective Melly Masni **Paper 5** (31) Terrestrial (3D) Laser Scanning for Pipeline Modeling Applications Mohammed Al-Tawary **Paper 6 (32)** Impact of Human Resources Management Practices on Lecturers' Job Performance in Nigerian Universities Yusuf Alhaji Hashim
	SESSION D
10 August 18 09.31 – 10.45	**Session D 1** **Paper 1** (35) Intellectual Exile in Edward Said's Perspective Ahmed Saeed Otaiwi Joudarm **Paper 2 (10)** The Influence of SMS Marketing on Consumers' Purchase Intention through Consumer Attitude Umer Ramzan **Paper 3** (11) The Influence of Social Media on the Development of the Cities Assistant Professor Dr. OSIAC DANIELA **Paper 4** Sustainable Tourism and the Behavior of the Algerian Tourist: By using a Model of Discriminants Functions Benbouziane Mohammed **Paper 5** (9) Chilean uneven spaces: The extraction in the countryside and the accumulation in the metropolis Francisco Vergara-Perucich
10.45 – 11.00	Morning Break
11.01 - 12.30	**Session D 2** **Paper 1** (61) Designing a Robust Non-Linear Automatic Controller for Very Large Crude Carriers in Harbor Maneuvers by applying Modified Decoupling Control Methodology Nguyen Thanh Hoa and Tran Van Hiep and Le Minh Duc and Luong Thi Hon **Paper 2** (63) The Impact of Internal Auditing as a Veritable Tool Towards Organizational Growth Eneh Uchenna B. **Paper 3** (64) Designing a new and Effective Speed Sensorless Controller for 3-Phase Induction Motors by Applying De-Coupling Methodology Luong Thi Hon and Le Minh Duc**,** **Paper 4** (29) The Polemic of Online Transportations Existence that Challenge the Motorbike Pedicab 'Betor' as Tourism Icon of Medan In Search of Better Policy for the Government of Medan Syaravina Lubis, SH and Puput Astria, SH and Juli Sartika, Amd **Paper 5 (39)** War Destroys Business: A Reality Check Imran Naseem and Saeed Akbar **Paper 6** (5) Towards Community Based Tourism (CBT) at Aida Refugee Camp Adel Adem
	Conference Close
11 Aug 2018	**Free day for Participants**

The Schedule will be change to appropriate for participants

FLIPPED CLASSROOM AND THE GEOMETER'S SKETCHPAD: STUDENTS' INVESTIGATION-A SQUARE PEG IN A ROUND HOLE

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ABSTRACT

The purpose of this study was to explore the teaching approaches using a flipped classroom incorporated with the dynamic software program the Geometer's Sketchpad. In the 2018, action research was conducted in mathematics class of International College, Suan Sunandha Rajabhat University, Thailand. In the flipped classroom, the researcher created online lessons of her lectures and the students viewed them prior to attending class. Students worked on problem-solving activities in their classrooms. The students used the Geometer's Sketchpad to investigate on the problem "Which fits best, a square peg in a round hole or a round peg in a square hole? The research findings indicated that the flipped model of instruction was new teaching strategy that moved the lecture on mathematics outside classroom via technology and brought assignments/exercises of mathematics concepts inside the classroom via learning activities. The research findings shown the students engagement in the flipped classroom were higher than the using traditional classroom. Based on the students' interviews they revealed that using flipped classroom incorporated with Geometer's Sketchpad method they were able to make learning mathematics fun and challenging.

Keywords: Flipped classroom, Geometer's Sketchpad, Mathematical problem solving, Students' engagement

INTRODUCTION

International College, Suan Sunandha Rajabhat University (SSRUIC) has the purpose that the teaching and learning process at SSRUIC has to be improved in order to raise the quality of the Graduate. With the intention of encouraging the students' involvement in their learning during classes and after classes, the courses offer at SSRUIC have to be student centered learning, constructivist approach, problem-based learning and using Information and communication Technology. SSRUIC lecturers have to find the meaningful problem-based learning to enhance students to do to learn inside classroom and outside classroom. As such, this action research was conducted in order to explore the teaching approaches using a flipped classroom incorporated with the Geometer's Sketchpad in mathematics subject.

Normally in a traditional mathematics class, a lecturer conducted lesson in the following sequence: a lecturer would begin the lesson by briefly presenting the mathematics concepts, explaining the formula or procedures following by working out one or two examples as illustration for students in the class. The lecturer would then assign some time in class for students to work out similar problems and additional exercises would be given as homework to reinforce the learning achieved. If the mathematics course was to be student centered learning, constructivist approach, problem-based learning and using ICT, then the tradition teaching and learning had to be changed. This provided a challenge to the lecturer to change her teaching method. Mathematics is one of the subjects that most students learn without understanding. The reason might be that with mathematics, there is an overwhelming emphasis on the manipulation of symbols and formulas, and because of that it has been too abstract for many students. Teachers expect their students to spend large amounts of time attempting to paper-and-pencil algorithms associated with problem solving. Students are required to memorize formula and algorithmic computation, but they do not really understand and quickly forget them (Skemp, 1978). This is because learning mathematic is more than computation, more than memorizing rules and facts. It is investigation, exploring, experimenting, posing problems and solving problems. Students have to learn and understand the language, including the symbolisms, and grasp basic concepts.

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Flipped Classroom

In 2012, Jonathan Bergmann and Aaron Sams (2012) from U.S.A. created the new method of teaching, they recorded their teaching lesson, PowerPoint slide showed including voice and any annotations, converted the recording into a video file and then uploaded online. They believed that recorded lectures might be a way to keep their students who missed class could access them. Based on Bergmann and Sams' research findings (2012), the absent students loved the recorded lectures. With the video recorded lectures the students were able to watch the video many times at their own pace until they mastered the content. In a flipped classroom, students watch a video lesson at home and come to class for hands-on activities and real life applications. Bergmann and Sams revealed that flipped classroom model was more efficient than gave lecture and assigned homework. They indicated that the flipped classroom was a better model than the traditional approach. However, they explained the important facts that there is no single way to flip your classroom. Flipping the classroom is more about a mindset: redirecting attention away from the teacher and putting attention on the learner and the learning. The flipped classroom is a pedagogical model in which the typical lecture and homework elements of a course are reversed. Student watched a short video lectures at home before the class session, while the in-class time the students do the exercises, discussions or projects.

The Geometer's Sketchpad (GSP)

The Geometer's Sketchpad is one of the dynamic mathematics software that provides opportunities for students to investigate and discover mathematics concepts in particular geometric patterns. GSP empowers students to use their abilities to create graphical representation, to enable them in developing their mathematical thinking skills, concepts, and understanding. Khairiree (2011) described that while using GSP students learned by exploring, investigating and discovering. GSP enhance students' ability in helping them visualize abstract mathematical relationships and various problem structures through pictorial representations.

Mathematical Problem Solving

Students were assigned to investigate on the mathematical problem solving. "Which fits better, a square peg in a round hole or a round peg in a square hole? A square peg in a round hole is an expression that has been in use since about 1800 for a misfit, nonconformist or eccentric, someone who does not fit well into society. The situation where persons feel that they are in the wrong place, or doing an activity for which they are unsuitable or do not fit in with the people around them. The van Hiele theory was employed in this study. The van Hiele theory of geometric thought had great impact on the geometric thinking (van Hiele & van Hiele-Geldof, 1958). van Hiele theory consists of five-level hierarchy of ways of understanding of geometry. They are visualization, analysis, informal deduction, deduction and rigor. Each of the five levels describes the thinking processes used in geometric contexts. van Hiele describe that the product of thought at each level are the same as the objects of thought at the next level. The students have to create their ideas at one level so that relationships among these ideas can become the focus of the next level. Moreover Meyer (2001) explains that students bridge the gap between concrete and increasingly abstract levels through their creation and use of models, drawings, diagrams, tables or symbolic notations and technology is a good tool for mathematical modeling. The students also used the Geometer's Sketchpad to investigate on this problem.

Flipped Classroom, GSP and Action Research in Thailand

In Fiscal Year 2018, the author conducted the action research in mathematics class in order to explore the classroom environment of using a flipped classroom incorporated with the Geometer's Sketchpad in solving mathematics problem. The research study was conducted in March 2018. The subjects were 32 first year students of SSRUIC, Bangkok, Thailand. They are at 19-year-old students. The flipped classroom teaching approach was employed in this study. Students had to study and work on mathematics problems before attended mathematics class.

Research Questions

1. What are the components of teaching and learning instruction using flipped classroom and the Geometer's Sketchpad method?
2. How Geometer's Sketchpad enhance students' investigation in solving mathematics problems in Flipped classroom?

Research Question 1: What are the components of teaching and learning instruction using flipped classroom method?

RESEARCH FINDINGS

Based on the research findings, in order to implement flipped classroom and the Geometer's Sketchpad method effectively the components of teaching and learning instruction have to include two topics as follows:

(1) Mathematics Course Webpage and Moodle of SSRUIC for students to search information, to follow up lessons and work assignments. The components of the webpage must included information as follows:

- Students Online Users name;
- Thailand Qualification Framework 3 (TQF 3), Course outline, lesson plan, and learning objectives;
- Handout and lecture notes;
- Weekly video tape recorded of the lesson conducted during classes;
- You Tube of the relevance topics;
- Assignments and problem-based learning questions
- Quiz/Assessment/Evaluation and Web Link.

(2) The students have to learn how to use the Geometer's Sketchpad software program effectively. The Geometer's Sketchpad online activities must embedded in the Webpage throughout the course duration.

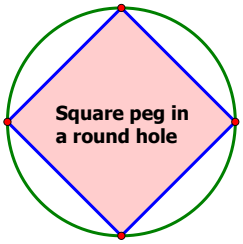
Research Question 2: How Geometer's Sketchpad enhance students' investigation in solving mathematics problems in Flipped classroom?

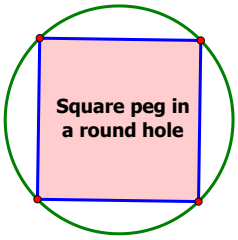
In a flipped classroom, the students learned the topics of area formulas, Pythagoras theorem, and using algebra in solving mathematics problem. The researcher posted the problem on the webpage and moodle of SSRUIC course: *Which fits best, a square peg in a round hole or a round peg in a square hole?* The students were assigned to draw a diagram to represent a physical for a general case, apply Pythagoras Theorem to a general situation. Then devise and use problem solving strategies to investigate situations mathematically. The students have to study and find the way to solve this problem before attend the class. This problem requires careful thinking and investigating. The students worked together in a small group, they discussed what "best fit" means and decided what quantities will be needed in order to do the comparison. The drawing strategy in solving this word problems was employed as a strategy in mathematics classes.

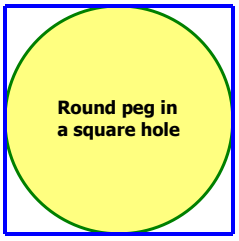
The following examples show students activities in using the Geometer's Sketchpad to investigate on the problem: *Which fits best, a square peg in a round hole or a round peg in a square hole?*

1) The students decided on and sketched the best diagrams for a well-fitting *round peg* in a square hole and *square peg* in a round hole. The students discussed on the criterion for best fit was the critical mathematical modelling. What really is the right quantity to compare? One criterion could be the best fit is touching more of the sides of the hole or a tighter fit. The students look for the one that fill up the hole the most completely.
   This can be measured by the proportion of the area of the hole that is blocked by the peg. The students also showed their solutions by expressing the area of the inner shape as percentage or

fraction of the whole area. The diagrams below showed the inside circle or square touching the outside shape at four points. The orientation of the square in the round hole could vary.



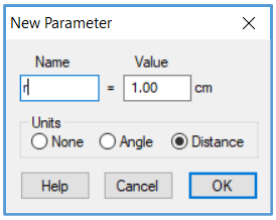




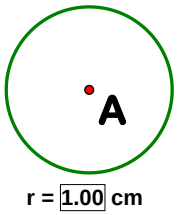
2) The students worked together in a small group, each group choose a value for the radius of the circle or the side length of the square in each diagram to begin. They applied Pythagoras Theorem to general situation, they devised and used problem solving strategies to explore situations mathematically. The students worked from a specific radius measurement. They used GSP to sketch the circle and the square as follows.

(1) Students constructed "**Square peg** in a round hole" by using GSP step by step as following:

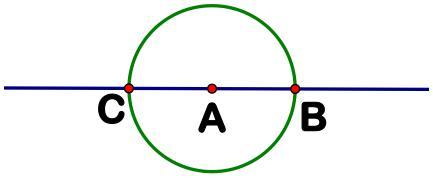
- Open the Geometer's Sketchpad Version 5, in the File Menu, choose New Sketch.
- Construct parameter *r*
  - Select **New Parameter** in the **Number menu**;
  - Type ***r*** and value of radius = 1.00 in the pop up menu as shown on the right; and
  - Select **Distance Units**: ***cm*** as shown on the right.



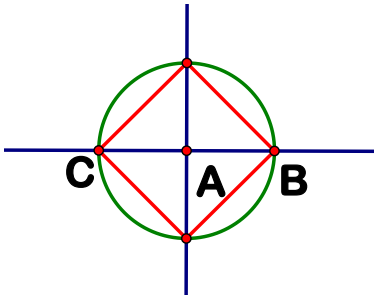
- Construct circle by point and radius:
  - Construct point ***A*;**
  - Select point ***A*** and the parameter ***r***, then in the construct menu choose **Circle By Center + Radius.**



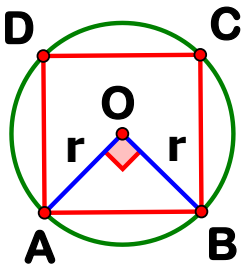
- Construct point B on a circumference of circle A;
- Construct a line through point A and point B:
  - Select point A and point B, then in the construct menu choose **Line**.
- Line AB intersects a circumference at point C.



- Select point A, in the Transform menu choose **Mark Center**.
- Select line AB, point B and point C, in the Transform menu choose **Rotate**;
- Choose By **fixed angle** and enter **90º** and then click **OK**;
- Construct four segments to sketch a square as show on your right.



- Select all lines, in the Display menu choose Hide lines;
- Change Name of four points of a square to ABCD, name the center of a circle as point O;
- Construct radius AO and BO; and
  ∠ AOB = 90 °
- Drag point **B** around the circle and
  the orientation of the square in the circle could vary.



If the radius of the circle is ***r***, then by Pythagoras Theorem

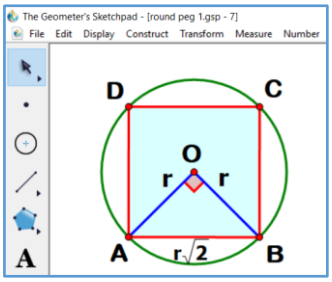
$AB^2 = AO^2 + BO^2$

$AB^2 = r^2 + r^2$

$AB^2 = 2r^2$

the side of the square AB $= r\sqrt{2}$

Hence the area of square ABCD $= (r\sqrt{2}) \times (r\sqrt{2}) = 2r^2$

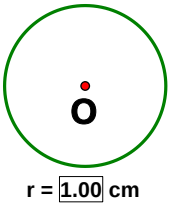


The area of the circle is $= \pi r^2$

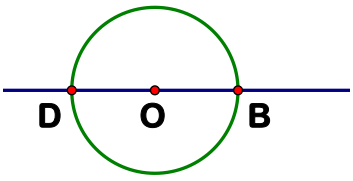
(2) Students constructed "**Round peg** in a square hole" by using GSP step by step as following:

Students used GSP to construct a circle and a square as follows:

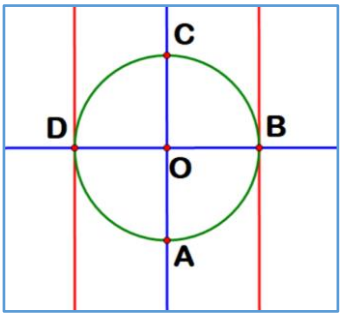
- Construct circle by point and radius:
  - Construct point **O**;
  - Select point **O** and the parameter ***r***, then
    in the construct menu choose **Circle By Center + Radius**.



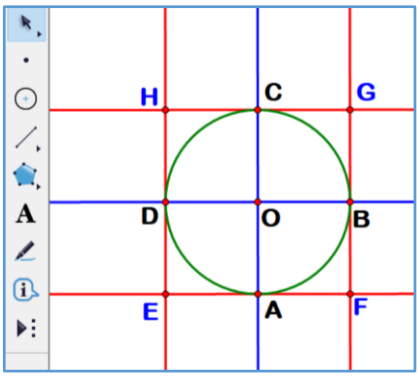
- Construct point B on a circumference of circle O;
- Construct a line through point O and point B:
  - Select point O and point B, then
    in the construct menu choose line;
- Line OB intersects a circumference at point D;



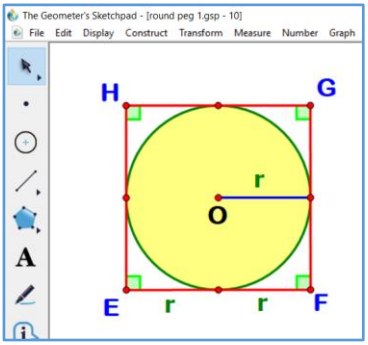
- Select point O, in the Transform menu choose
  Mark Center;
- Select line DB, point B and point D, in the Transform menu choose **Rotate**;
- Choose By **fixed angle** and enter 9**0º** and then click **OK**;
- The rotation of line DB intersects a circumference at point A and point C;
- Construct a line through point B perpendicular to line DB;
- Construct a line through point D perpendicular to line DB;



- Construct a line through point A parallel to line DB;
- Construct a line through point C parallel to line DB;



- Construct radius OB and circle interior;
- Construct four segments to make a square EFGH and hide all lines as show on your right.



The side of the square EFGH = r + r = 2r
Hence the area of square EFGH = 2r × 2r = $4r^2$

Area of the circle is = πr^2

3) The students discussed how they will judge which fits best. The possible way included express the area of the inner shape as a percentage or fraction of the area of the outer shape. The tables below shows the example of students investigated and showed their works from a specific radius measurement.

Table 1 Percentage of Comparison of the Area of the Inner Shape and the Outer Shape when r = 1

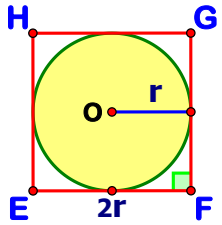
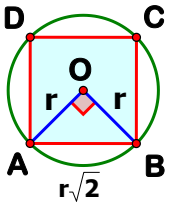
For the round peg in a square hole		For the square peg in a round hole	
	**r = 1 unit** Square Hole: Area of square = $4r^2$ $= 4 \times 1^2 = 4$ Round Peg: Area of circle = πr^2 $= \pi 1^2 = \pi$		**r = 1 unit** Round Hole: Area of circle = πr^2 $= \pi 1^2 = \pi$ Square peg: Area of square = $2r^2$ $= 2 \times 1^2 = 2$
Fraction of the square hole filled by the round peg $= \frac{Area\ of\ Inner\ Shape}{Area\ of\ Outer\ Shape} = \frac{Area\ of\ round\ peg}{Area\ of\ square\ hole} = \frac{\pi}{4}$ $\cong 0.79$ Approximately 79 % of the hole is filled by the round peg.		Fraction of the round hole filled by the square peg $= \frac{Area\ of\ Inner\ Shape}{Area\ of\ Outer\ Shape} = \frac{Area\ of\ square\ peg}{Area\ of\ round\ hole} = \frac{2}{\pi}$ $\cong 0.64$ Approximately 64 % of the hole is filled by the square peg.	

Table 2 Percentage of Comparison of the Area of the Inner Shape and the Outer Shape when r = 5

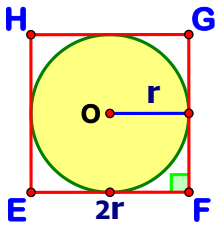
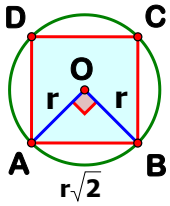
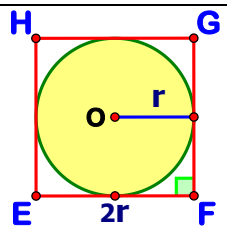
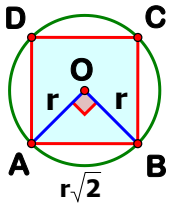
For the round peg in a square hole		For the square peg in a round hole	
	**r = 5 unit** Square Hole: Area of square = $4r^2$ $= 4 \times 5^2 = 100$ Round Peg: Area of circle $= \pi r^2$ $= \pi 5^2 = 25\pi$		**r = 5 unit** Round Hole: Area of circle $= \pi r^2$ $= \pi 5^2 = 25\pi$ Square peg: Area of square = $2r^2$ $= 2 \times 5^2 = 50$
Fraction of the square hole filled by the round peg $= \frac{Area\ of\ Inner\ Shape}{Area\ of\ Outer\ Shape} = \frac{Area\ of\ round\ peg}{Area\ of\ square\ hole} = \frac{25\pi}{100}$ $\cong 0.79$ Approximately 79 % of the hole is filled by the round peg.		Fraction of the round hole filled by the square peg $= \frac{Area\ of\ Inner\ Shape}{Area\ of\ Outer\ Shape} = \frac{Area\ of\ square\ peg}{Area\ of\ round\ hole} = \frac{50}{25\pi}$ $\cong 0.64$ Approximately 64 % of the hole is filled by the square peg.	

Table 3 Percentage of Comparison of the Area of the Inner Shape and the Outer Shape when radius = r

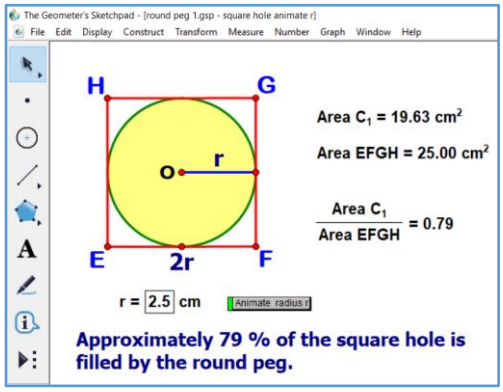
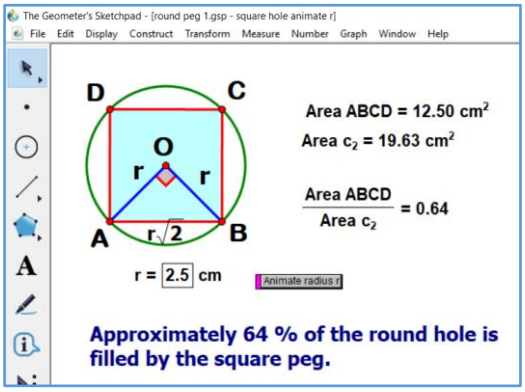
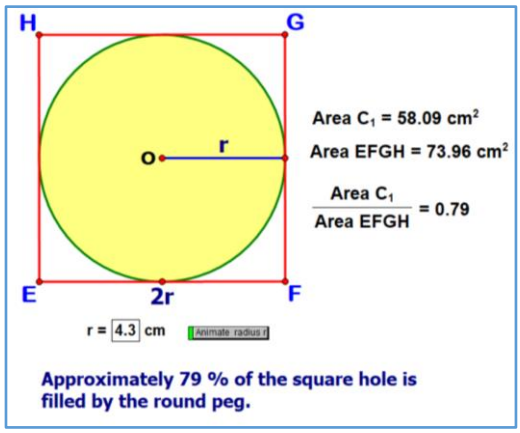
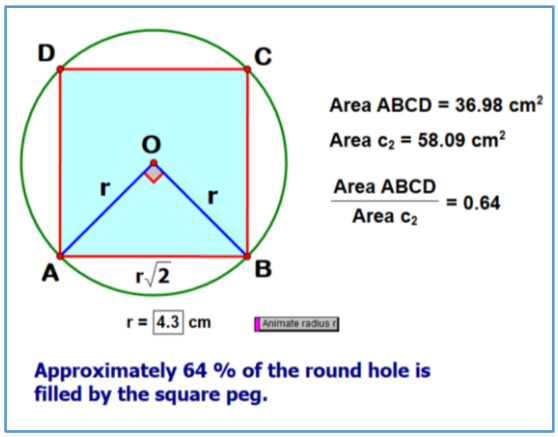
For the round peg in a square hole		For the square peg in a round hole	
	**radius = r unit** Square Hole: Area of square = $4r^2$ Round Peg: Area of circle $= \pi r^2$		**radius = r unit** Round Hole: Area of circle $= \pi r^2$ Square peg: Area of square = $2r^2$
Fraction of the square hole filled by the round peg $= \frac{Area\ of\ Inner\ Shape}{Area\ of\ Outer\ Shape} = \frac{Area\ of\ round\ peg}{Area\ of\ square\ hole} = \frac{\pi r^2}{4r^2}$ $= \frac{\pi}{4}$ $\cong 0.79$ Approximately 79 % of the hole is filled by the round peg.		Fraction of the round hole filled by the square peg $= \frac{Area\ of\ Inner\ Shape}{Area\ of\ Outer\ Shape} = \frac{Area\ of\ square\ peg}{Area\ of\ round\ hole} = \frac{2r^2}{\pi r^2}$ $= \frac{2}{\pi}$ $\cong 0.64$ Approximately 64 % of the hole is filled by the square peg.	

4) The students used the Geometer's Sketchpad to animate the radius of circle to investigate which fits best by varying radius ***r*** and compare the fraction of the area of the inner shape to the area of the outer shape.

Animate radius r:

- Select parameter **r**, then in the Display menu choose Animate Distance parameter ***r*** or
- Animate parameter **r** by creating an action button
  - Select parameter **r**, Choose Edit Menu, Action button, Animation and click OK.

Table 4 Percentage of Comparison of the Area of the Inner Shape and the Outer Shape by using GSP

For the round peg in a square hole	For the square peg in a round hole
	
	

Based on the students'investigation of various values of the radius ***r*** from Table 1 to Table 4, the students worked with numerical examples, they chose the size of the hole or pegs. The students observed the general result and move to algebra to demonstrate it. They found that the percentage of area covered does not depend on the size of the hole. The students explained that a round peg filled up about 79% of a square hole, where as a square peg only filled up about 64% of a round hole. The students' conclusion and answer to this problem: Which fits best, a square peg in a round hole or a round peg in a square hole? is:

"A round peg in a square hole is a better fit than a square peg in a round hole."

CONCLUSION

Based on the research findings indicated that the flipped model of instruction was new teaching strategy that moved the lecture on mathematics outside classroom via technology and brought assignments/exercises of mathematics concepts inside the classroom via learning activities. The research findings shown the students engagement in the flipped classroom were higher than the using traditional classroom. Based on the students' interviews they revealed that using flipped classroom incorporated with Geometer's Sketchpad method they were able to make learning mathematics fun and challenging.

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THE IMPACT OF CUSTOMER SERVICE OF MEXICAN COMPANIES BASED ON CUSTOMER CARE

EL IMPACTO DEL SERVICIO AL CLIENTE DE LAS EMPRESAS MEXICANAS EN FUNCIÓN DE LA ATENCIÓN AL CLIENTE

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ABSTRACT

The purpose of this research is to measure the level of customer service of Mexican companies in terms of customer service, considering that customer service is directly related to offer a good customer service. This research is analytical and descriptive, because it contains the main concepts about research, as well as the main authors and creators of the same and descriptive because in the research are tables and tables that help explain in a way Easier for the correct compression and differentiation of these concepts. With this research they will understand the importance and difference between a service and an attention, and once understood this will be able to better train their staff to obtain better and greaterresults in their companies and also reflected in their profits.

Keywords: Customer service, Customer Support, Companies.
JEL: M12, M21, M31.

Resumen

El propósito de esta investigación es medir el nivel de atención al cliente de las empresas mexicanas en función del servicio al cliente, considerando que el servicio al cliente está directamente relacionado para ofrecer una buena atención al cliente. Esta investigación es de tipo analítica y descriptiva, porque en ella se encuentran los conceptos principales sobre la investigación, así como los principales autores y creadores de los mismos, y descriptiva porque en la investigación se encuentran cuadros y tablas que ayudan a explicar de una manera más sencilla para la correcta compresión y diferenciación de estos conceptos. Con esta investigación comprenderán la importancia y la diferencia que hay entre un servicio y una atención, y una vez comprendido eso podrán capacitar mejor a su personal para obtener mejores y mayores resultados en sus empresas y también reflejándose en sus ganancias.

Palabras clave: Servicio al cliente, atención al cliente, empres

INTRODUCTION

The main purpose of organizations is to ensure that their main corporate activities create and add value over time, efficiently and effectively (Reyes, 2010, p.2). In this sense, good treatment towards clients can be the key to success to remain positioned in the market. Having stability allows the business to cultivate motivation for employees, helping us to have less turnover of staff. This is very important since it does not create demotivation among them.

This research is analytical and descriptive, because it contains the main concepts about the research, as well as the main authors and creators of the same. It is descriptive because in the research there are tables that help to explain in a certain and simpler way for the correct compression and differentiation of these

concepts. In view of the results and recommendations of this scientific research, small and medium entrepreneurs in Mexico should urgently consider what is proposed here, since with it they will be able to provide a better service to their users, and a better service to their clients, which they found throughout this investigation

1. Background of the problem

Some users and consumers complain about customer service in companies that have the need to offer a face-to-face service with the user, such as supermarkets, automotive agencies or a bank branch, etc. The problem has always existed, but unfortunately Mexican companies do not care about providing quality customer service, if not all they are interested in is selling, without taking into account if that customer was satisfied with their product or with the attention offered by an advisor. This is where the problems arise, when the client complains but does not go beyond a simple complaint.

In this type of situation, one of the main problems of Mexicans is that they do not know how to complain or demand their rights when they are given bad service. Godoy (2011), mentions that today, customer service is an activity developed by organizations oriented to satisfy the needs of their customers; achieving thus increase their productivity and be competitive. The client is the main protagonist and the most important factor in the business game (page 4).

2. Delimitation of the problem

The present investigation will be applied to the Mexican companies that grant a direct service with the client, like a supermarket, automotive agency or some bank. The approach that is intended to provide this research has to do with the factors that are important for customer service such as: attention, empathy and service attitude. The main limitation is that sometimes employees give bad customer service due to several factors. The main one is the lack of constant training and the low salaries they receive. However, they are behaviors that must change immediately since modern consumers demand a change and a good service, since they are paying for it.

It is in this sense that González (2010) mentions that a common problem detected in all sectors is that, although there are high productivity equipment or new production processes in the market that use the most modern technologies, the small size of these companies prevents them from accessing them. On the one hand, the investment is too large and on the other, the production capacity of these equipment exceeds the needs of the company (page 2).

Taking into consideration the aforementioned problems, the following research questions are required:

a. What is the level of customer service of Mexican companies based on customer service?
b. What is the level of customer service of Mexican companies based on reliability?
c. What is the level of customer service of Mexican companies according to capacity?
d. What is the level of customer service of Mexican companies based on empathy?

4. Justification

It is clear that companies depend on their customers. The good treatment of customers is the key to success to remain positioned in the market. Having stability allows the business to cultivate motivation for employees, helping it to have less turnover of staff. This is very important since it does not create demotivation among them, encouraging them to do things right the first time, and therefore always providing a service or quality care.

3. Research variables and hypotheses

a. Independent variable (X) = Customer service

b. Dependent variable (Y) = Customer service

General hypothesis

The customer service is directly related to offer good customer service.

Specific hypotheses

H1 = X1 + X2 + X3 ——————→ Y1
The company, the customer and the service attitude are directly related to reliability.

H2 = X1 + X2 + X3 ——————→ Y2
The company, the client and the service attitude are directly related to the capacity.

H3 = X1 + X2 + X3 ——————→ Y3

The company, the client and the service attitude are directly related to empathy.

Table 1: Description of research variables, dimensions and indicators

VARIABLE	DESCRIPTION	DIMENSIONS	INDICATORS
X0 Customer service	Activity of interrelation offered by a supplier for the purpose of a customer obtaining a product or service, both at the time and in the right place and where it ensures a correct use of it (Agudelo, 2013, pp. 17-22)	Company Client Service attitude	Customer retention Buyer satisfaction Customer loyalty Customer rating Accessible simple
Y0 Customer care	It is an activity developed by organizations oriented to satisfy the needs of their clients, thus increasing their productivity and being competitive (Godoy N., 2011, pgs. 23-35)	Reliability Capacity Empathy	Service ability Fulfill times Willingness to help Efficiency Goof treatment kindness

Source: Own elaboration.

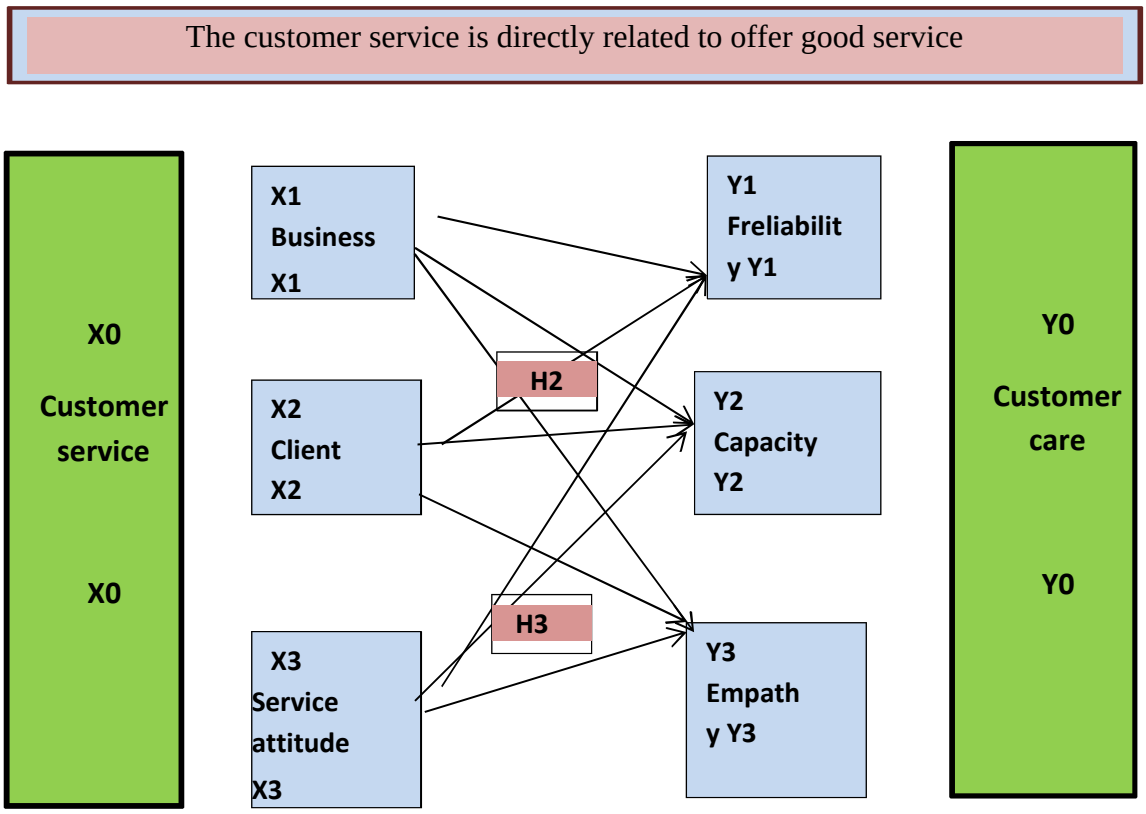

Figure 1. Deployment of variables, dimensions, and hypotheses.
Source: Own elaboration.

Therefore, the hypothesis of this research is that customer service is directly related to offer good customer service. This data will be split to develop in a more in-depth way what is a service and care like as their differentiation between these concepts, considering that the objective is to measure the level of customer service of Mexican companies based on customer care.

4. Research objectives

A. General objective

Measure the level of customer service of Mexican companies based on customer care.

B. Specific objectives

1) Measure the level of customer service of Mexican companies based on reliability.
2) Measure the level of customer service of Mexican companies according to capacity.
3) Measure the level of customer service of Mexican companies based on empathy.

Table 2. Congruence matrix

General questions	Specific questions	General objective	Specific objective
	What is the level of customer service of Mexican companies based on customer care?		Measure the level of customer service of Mexican companies in Reliability function
Is customer service directly related to providing good customer care?	What is the level of customer service of Mexican companies based on reliability? What is the level of customer service of Mexican companies according to capacity? ¿What is the level of customer service of Mexican companies based on the empathy?	Measure the level of customer service of Mexican companies in customer service function.	Measure the level of customer service of Mexican companies in customer service function. Measure the level of customer service of Mexican companies in function of empathy.

Source: Own elaboration.

5. Conceptual theoretical framework

A. Customer service

In order to define the variables of this research, it is first necessary to begin by defining certain concepts that are basic, but necessary to better understand what is being investigated. First of all, it begins by defining what is a service, followed by what is a customer, to later understand that it is "customer service". Stanton (2006) defines services as identifiable and intangible activities that are the main purpose of a transaction designed to provide customers with satisfaction of wants or needs (pp. 333-334). Services are activities, benefits or satisfactions that are offered for rent or sale, and which are essentially intangible and do not result in the ownership of something (Sandhusen, 2002, page 385).

A service is the result of the application of human or mechanical efforts to people or objects. Services refer to a fact, performance or effort that is not physically possible (Hair, 2002, page 344). The Association (2006) mentions that services (according to one of the two definitions they provide) are products, such as a bank loan or the security of a domicile, that are intangible or at least substantially, if they are totally intangible, they are exchanged directly from the producer to the user, cannot be transported or stored, and are almost immediately perishable.

Service products are often difficult to identify, because they come into existence at the same time they are purchased and consumed. They cover the intangible elements that are inseparability; which usually involve the participation of the client in a certain important way. They cannot be sold in the sense of the transfer of ownership; and they do not have any title. Today, however, most products are partly tangible and partly intangible, and the dominant form is used to classify them as goods or services (all are products). These common, hybrid forms may or may not have the qualities given for totally intangible services.

Kotler (2004) explains that

> A service is a work, an accomplishment or an act that is essentially intangible and does not necessarily result in ownership of something. Its creation may or may not be related to a physical product. Complementing this definition, it should be noted that according to the mentioned authors, the services cover a wide range, ranging from renting a hotel room, depositing money in a bank, traveling by plane to visiting a psychiatrist, up to cut the hair, watch a movie or get advice from a lawyer. Many services are intangible, in the sense that they do not include almost any physical element, such as the task of the management consultant, but others may have a physical component, such as fast foods (page 9.10).

B. Client

The customer is the potential or actual buyer of the products or services. The customer is a person or company that acquires goods or services, not necessarily the final Consumer (Marketing, 2009)". According to the Marketing Dictionary (1999) the customer is a term that defines the person or organization that makes a purchase, may be buying on their behalf, and personally enjoy the acquired good, or buy for another, such as in the case of children's articles, it is the most important part of the company's population (page 54). Barquero (2007) mentions that the word client comes from ancient Greek and refers to the person who depends on. Customers are those people who have a certain need for a product or service that my company can satisfy.

Kotler (2003) mentions some recommendations about what is most valuable in any company. The products come and go. The challenge for companies is focused on making their customers last longer than their products. They have to consider more the concepts life cycle of the market and life cycle of the client instead of the product life cycle concept. Companies must consider their clients as an asset that must be managed like any other asset of the company. If they do not lend attention to their customers, some other company will do it (pages 8-9).

C. Customer service

Customer service considers it as all the activities that unite an organization with its clients (Inches, 1983, page 4). In this definition, it is emphasized that customer service is a range of activities that together create a relationship. It can also be considered as the secondary activities carried out by a company to optimize the satisfaction that the client receives from its main activities.

The customer service can be broken down into three phases: pre-sale, sale and after-sales. Studying and defining each one of them allows to identify the orientation that the activities should have at each moment of the consumer's buying cycle (Herrera, 2005, page 2). According to the author, the pre-sale customer service consists in offering the potential customer the products he wants, the best qualities, the most pleasant and clear presentation and the best possible price. The activity in the sale stage is based on providing all possible information about the product sold, way of use, medium for support and maintenance or other aspects such as the delivery mode of the product. In post-sales, it concentrates on the application of actions to allow the customer to be satisfied with the product, even better proud of its purchase, motivated to buy back, enabled to make easily any guarantee, exchange by default and find the precise technical support.

D. Customer service

Let's start by defining what is the attention to easily understand what customer service is.

Attention: Kahmeman (1973) explains that the concept of attention implies the existence of a control by the organism, of the choice of the stimuli that, in turn, will control its conduit, being the attention something more than a mere selection, which is also related to quantity or intensity. The author considers that both the voluntary and the involuntary selection must take into account the intensive aspects of care (page 2). Prieto (2001) mentions that customer service is the set of activities developed by market-oriented organizations, aimed at identifying the needs of customers in the purchase to satisfy them, thus achieving to meet their expectations, and therefore, create or increase the satisfaction of our customers (page 168).

To carry out a successful customer service policy, the company must have sources of information about a target market and the behavior of its consumers. The fact of knowing the origins and needs of these expectations will, subsequently, convert them into demand. To determine this, periodic surveys should be conducted to identify the possible services that will be offered and determine the strategies and techniques that may be used. Customer service is the set of benefits that the customer expects as a result of the image, price and reputation of the product or service it receives (Prieto, 2007, page 232).

E. Theory of motivation-hygiene by Frederick Herzberg

The psychologist Frederick Herzberg proposed the theory of motivation-hygiene. In the belief that the relationship of an individual with his work is basic, and that his attitude towards this work may well determine the success or failure of the individual, Herzberg investigated the question What do people want from their position? He asked people to describe in detail situations where he felt exceptionally well and badly in his position. According to Herzberg, the factors that lead to job satisfaction are separate and distinct from those that lead to job dissatisfaction. Therefore, administrators who seek to eliminate factors that create dissatisfaction in the position can bring peace, but not necessarily motivation. They will be appeasing their work force, instead of motivating it.

As a result, Herzberg has indicated that characteristics such as company policies and administration, supervision, interpersonal relationships, working conditions and salaries can be conceptualized as hygiene factors. When they are adequate, people will not be dissatisfied; however, neither will be satisfied. If wanted to motivate people in their position, Herzberg suggests emphasizing achievements, recognition, work itself, responsibility and growth (Herzberg, 1968).

F. The classical theory of administration Henry Fayol

His studies covered all areas of the company, since it was very important for Fayol both to sell and produce, to finance himself and to secure the assets of a company. In short, the organization and its components were considered as a large interdependent system, as internal customers. Fayol, in his functional and systemic analysis of the organizations, found certain operations that were repeated in any type of companies, which were necessary for the achievement of their objectives.

Later, this study translated into a deeper analysis regarding the division of labor within current organizations. For Fayol, administration is a common activity for any type of business, for-profit and non-profit organizations, political, sports, religious or entertainment organizations, etc., and it plays a very important role in society. Every company needs to apply a methodology in its actions, and the administrative

process is undoubtedly that methodology that is required for the solution of the problems that arise in any organization (Fayol, 1976).

G. The theory x and the theory and of Douglas Murray Mcgregor

The theory X is based on the old model of threats and the presumption of mediocrity of the masses. It is assumed that individuals have a natural tendency to leisure and that work is a form of punishment, which presents two urgent needs for the organization: supervision and motivation. (McGregor, 1960). The managers of Theory Y consider that their subordinates find in their employment a source of satisfaction and that they will always strive to achieve the best results for the organization, thus, companies must release the skills of their workers in favor of said results.

The theory that has relation with the investigation is the classic theory of the Administration Henry Fayol, since it deepened in the excellence of the companies generating utilities to the company, as well as the creation of tools or processes to carry out the correct function of the company (McGregor, 1960).

Table 3. Theories of customer service.

Theory	Author	Principles
Theory of Motivation Hygiene by Frederick Herzberg	Frederick Herzberg	In the belief that the relationship of an individual with his work is basic, and that his attitude towards this work may well determine the success or failure of the individual, Herzberg has indicated that characteristics such as the policies and the administration of the company, the supervision, the interpersonal relations, the working conditions and the salaries can be conceptualized as factors of hygiene. When they are adequate, people will not be dissatisfied; however, neither will be satisfied (Herzberg, 1968).
Classic Theory of Administration	Henry Fayol	For Fayol, it was very important to sell and produce, to finance and to secure the assets of a company. In short, the organization and its components were considered as a large interdependent system, as internal customers. Every company needs to apply a methodology in its actions, and the administrative process is undoubtedly that methodology that is required for the solution of the problems that arise in any organization (Fayol, 1976).
The theory x and the theory Y	Douglas Murray Mcgregor	Theory X: It is based on the old model of threats and the presumption of mediocrity of the masses. It is assumed that individuals have a natural tendency to leisure and that work is a form of punishment. (McGregor, 1960, pp. 133-144), Theory Y: Considers that their subordinates find in their employment a source of satisfaction and that they will always strive to achieve the best results for the organization, thus, companies must release the skills of its workers in favor of these results (McGregor, 1960, page 22).

Source: Own elaboration.

The theories pertaining to the variable customer care are described below.

H. Theory of Taylor administration

Before Taylor's proposals, workers were responsible for planning and executing their work. They were entrusted with production and were given the freedom to carry out their tasks in the way they believed was correct. The author describes it this way: managers and workshop leaders know better than anyone that their

own knowledge and personal skills are far below the combined knowledge and skill of all the men under their command. Therefore, even managers with more experience leave their workers the problem of selecting the best and most economical way of doing the job. Hence, its principles seen in their historical perspective, represented a great advance and a new approach, a tremendous innovation in front of the system (Taylor, 1973).

I. The theory of the two factors of job satisfaction

The theory of the two factors was formulated by Herzberg in the field of job satisfaction. According to this well-known theory, there are factors that determine job satisfaction and other very different factors that determine job dissatisfaction. The hygienic factors, production, dissatisfaction if its level is insufficient, but will not produce satisfaction if its level is sufficient. On the contrary, the growth factors will generate satisfaction when their level is sufficient, but they do not generate dissatisfaction when their level is insufficient.

In this sense, satisfaction and dissatisfaction would not be polar opposites of the same continuum, as maintained by the traditional theory, according to which any factor can produce satisfaction or dissatisfaction depending on the level it reaches and the importance it has for each person, but there would be a double continuum in which the opposite of dissatisfaction would not be satisfaction, but the absence of dissatisfaction, and the opposite of satisfaction would not be dissatisfaction, but the absence of satisfaction.

Table 4. Review of customer service theories

Theory	**Author**	**Principles**
Theory of Administration	Frederick Taylor	His main contribution was to demonstrate that the scientific Administration is not a group of efficiency techniques or incentives but a philosophy by virtue of which the management recognizes that its objective is to scientifically seek the best methods of work through of entertainment and times and movements (Taylor, 1973).
Theory of the two factors of the satisfaction in the job	Frederick Herzberg	There are some factors that determine the job satisfaction and other factors very different that determine the labor dissatisfaction (Herzberg, 1968, p. 103-106). The hygienic factors, production, dissatisfaction if your level is insufficient, but they will not produce satisfaction if their level is enough. On the contrary, growth factors will generate satisfaction when your level is enough, but they do not generate dissatisfaction when your level is insufficient (Herzberg, 1968).

Source: Own elaboration

6. Empirical literature review

Table 5. Empirical review of the service literature and customer service

Authors (Year)	Research tittle	Context	Method or instrument used	Results and findings
(Fonseca, 2008)	Improvement proposal for the customer service of the Unipharm group in Bogotá.	It proposes the design of an improvement proposal in the customer service of the company Grupo Unipharm Bogotá based on a prior evaluation of the same. This evaluation is carried out in order to establish satisfaction levels, the quality of the service and the general perception of the current clients of the company.	A semi-structured survey whose purpose is to measure the satisfaction of the external client by means of closed questions that allow to establish the needs and expectations and satisfaction indexes.	The evaluation indicators related to the attitudes of employees at a general level are located at a good level of satisfaction, however they are perceived. Acceptable levels in the availability and quality of information.
(Pinzón, 2015)	Quality of service and value in intermodal freight transport.	The service environment in which this work focuses is the logistics sector, and more specifically freight transport services The interest in this doctoral thesis for the study of service variables in this specific sector has its origin in the same motivation from which the PREVITRANS project arose, project in which this research is framed	The questionnaire was designed and elaborated. First, a description of the structure is presented of the questionnaire that allows to identify which will be the main blocks. Second, the authors deepened the literature review of measurement scales and defined the sets of specific indicators for each of the constructs that should be evaluated.	The different approaches to the academic study of both the transport of goods by road and the maritime. From a marketing perspective, they converge in the interest to explain how the relationships between loader companies and providers of logistics services or specifically transport work, emphasizing the key elements that allow to succeed in said relations.

Source: Own elaboration

7. Contextual framework

The National Institute of Statistics and Geography (INEGI 2015) indicates the following within the framework of the presentation of the National Statistical Directory of Economic Units (DENUE), it announced that there are 4 million 926 1,161 of companies in Mexico. These economic units represent 87 percent of all those reported in the 2014 INEGI Economic Census. The institute indicated that 2 million 825 thousand 272 companies were already registered in the previous version of the DENUE, while 2 million 100 thousand 789 of remaining businesses were incorporated in this version. On the other hand, of the 4 million 410 thousand 199 economic units that were registered in the Interactive DENUE 10/2013, a total of one million 584 thousand 927 businesses were closed, which closed or suspended activities.

According to this report, the estimation, although preliminary, corresponds to an analysis of the general situation of all the companies, since the life expectancy of a business varies depending on the turn and its size. It is important to note that the report revealed that Mexican companies have an average life of 7.7 years, this according to INEGI estimates and their economic censuses taken every 5 years.

The new directory can be consulted through a mobile application, which shows all the information of the economic units registered on top of the geographic and demographic maps found on the agency's portal. Below is a graph in which it can be seen the life expectancy of companies in Mexico in its 100 main municipalities.

Life expectancy at birth of business in the 100 main municipalities

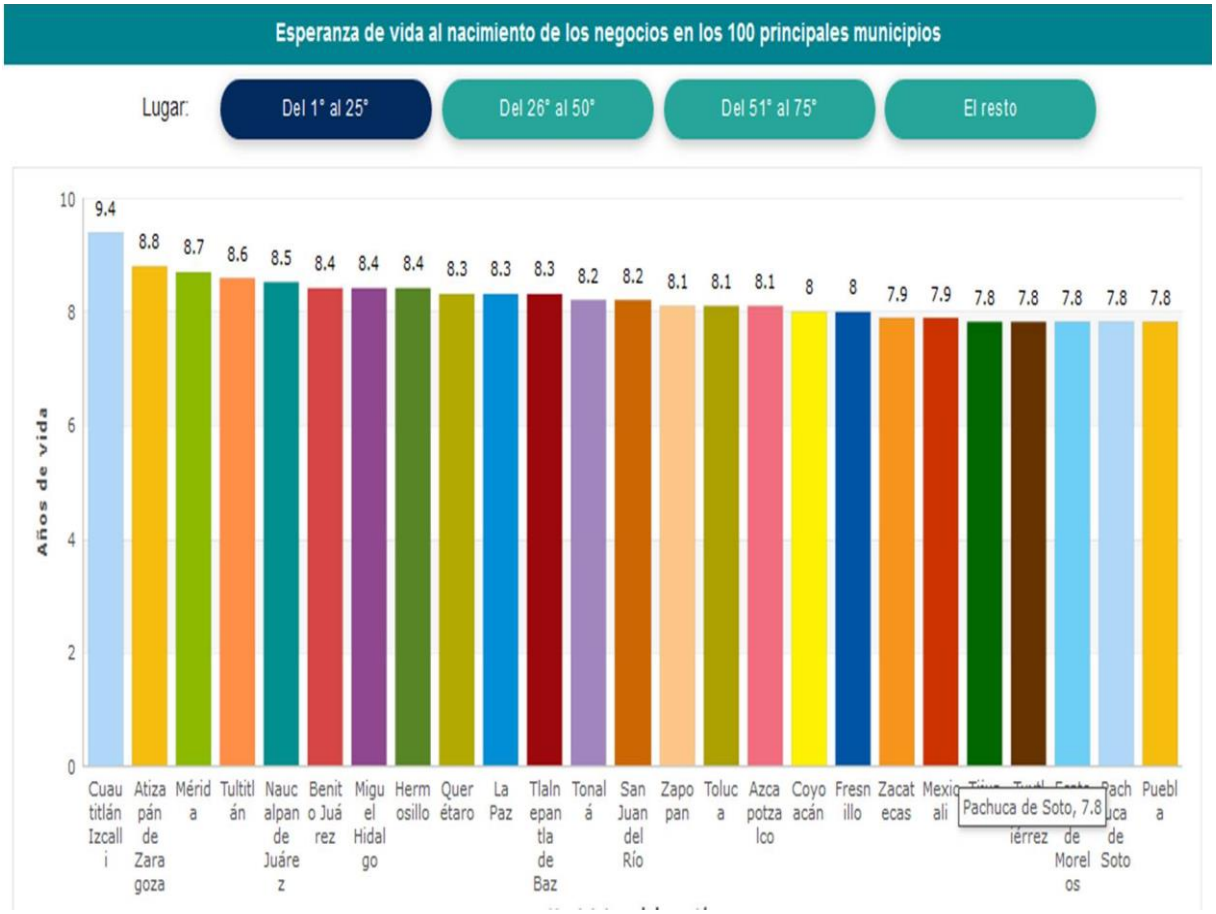

Figure 2. Life expectancy of companies in Mexico.

Source: INEGI. (2017) Economic Censuses 1989, 1994, 1999, 2004, 2009 and 2014.

To have a clearer idea of this research, the following tables are presented by sector.

Table 5. Food sector

Position	Business
1	Grupo Bimbo
2	Nestlé
3	Grupo Herdez
4	Kellogg's
5	Bachoco
6	La Costeña
7	Gruma
8	Mondélez
9	Ferrero de México
10	Grupo Bafar

Source. Own elaboration.

Table 6. Insurance sector

Position	Business
1	Metlife
2	Mapfre
3	Allianz
4	Axa
5	Qualitas
6	Zurich

Source. Own elaboration.

Table 7: Automovil sector.

Position	Business
1	General Motors
2	BMW
3	Nissan
4	Ford Motor Company
5	Volkswagen
6	Honda
7	Toyota
8	FCA
9	Mercedes Benz
10	Mazda

Source: Own elaboration.

Table 8. Autoservices and departmental services

Position	Business
1	Liverpool
2	Walmart
3	Marti
4	Comercial Mexicana
5	Soriana
6	Coppel
7	Chedrahui
8	Grupo Famsa
9	Costco

Source: Own elaboration.

As shown above, the most important companies in Mexico in their different segments are listed.

8. Research method

A. Kind of investigation

This research is analytical and descriptive, because it contains the main concepts about the research, as well as the main authors and creators of the same. It is descriptive because in the research there are tables that help to explain in a certain simpler way for the correct compression and differentiation of these concepts.

B. Design of the investigation

Table 9. Description of the variables, dimensions, indicators, instrument operationalization of variables and statistical analysis of research.

Variables	Description	Dimensions	Indicators	Instrument	Operationalization of variables	Statistical analysis
X0	That activity of interrelation offered by a supplier with the purpose that a client get a product or service, both at the time and in the precise place and where it is ensured a correct use of it (Agudelo, 2013, p. 17-22).	Company Client Survive attitude	Customer retention Buyer satisfaction Customer loyalty Customer rating Accessible simple	Descriptive bibliographical analysis	Information is collected from expert authors, internationally recognized. To contrast with the variable.	Tables Bar graphs

Source: Own elaboration.

C. Analysis of data

This research is analytical and descriptive, because it contains the main concepts about research, as well as the

main authors and creators of the same. It is descriptive because in the research there are tables that they help to explain in a simpler and simple way for their correct and easy understanding of these concepts, as well as the differentiation between them.

9. Analysis of results

A. Testing hypothesis and results

The hypothesis of this research is that customer service has an impact or direct relationship with customer care. At first glance, it could be said that the definition of both concepts is similar, but in this research it shows that this is not the case, since there is a small difference between these concepts. The main difference is that many times a service is provided by a system or a company, and attention is given by a human being, and when these are combined in an appropriate manner, the hypothesis of this work is verified, that customer service has an impact on customer care.

B. Contrasting of hypothesis

This research corroborates what Hair (2002) mentions that a service is the result of the application of human or mechanical efforts to people or objects. Services refer to a fact, performance or effort that is not physically possible (page 344). Being in this way that the service can be manipulated by the attention that a human being uses on the service rendered, giving it a "plus" making the service better than it already is, or simply improving it.

C. Findings

The findings of this research is that you can verify that there is a noticeable difference between the variables, and with this that employers can understand the difference of these two important concepts, so they can apply them correctly to obtain customer loyalty, since it is easier to retain a client than to attract a new one.

D. Contributions

This research provides small and medium entrepreneurs with knowledge of vital importance for their organizations, since this work understands the importance and difference between a service and attention, and once understood that can better train their staff to obtain better results in their companies.

E. Implications

This research is mainly aimed at small and medium-sized Mexican entrepreneurs. These are abundant in Mexico because they do not care much if their clients are satisfied with the services and attention provided by their part of their staff, and with this research it can be understood the importance and the difference that exists between both.

Conclusions and recommendations

Within this research it is important to point out that the personnel of each company must be prepared and psychologically trained to be able to perform the position in which they are working, since with that they will be able to perform their work better. Consequently, the employee unconsciously gives a good service, followed by good customer care, since today's companies must pay more attention to how they provide their services, using the marketing techniques and strategies necessary to implement these changes.

In addition to that, the business competitiveness of today is very big. That is why these entrepreneurs must implement new strategies, starting with better training their staff, and investing in marketing strategies that exist some very economic, such as having a presence on social networks, or have certain promotions to better retain their customers.

The recommendations of this research are that some service companies do not give due importance to the difference between both variables, and it should be noted that they take it as if they were the same, which

was found in this research that there is a difference.

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THE EFFECT OF PARTICIPATION MOTIVATION TO SATISFACTION OF VOLUNTARY SERVICE

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ABSTRACT

This research focused on the small volunteers of "The Magic of Nature" activity in the National Taiwan Museum of Fine Art. Based on this event to understand the effect of participation motivation by small volunteer to their satisfaction of voluntary service. This study used the questionnaire survey procedure to collect the total effective samples are 27 copies. The data were then analyzed through Reliability Test, Descriptive analysis, Independent-Samples t-test, One-Way ANOVA and Regression analysis. The results of this study are as follows:

1. Most small volunteers were studied in art class of elementary school, and mostly female students. Besides, volunteer experience and no volunteer experience accounted for fifty percent individually.
2. The major participation motivation of small volunteers are Altruistic motivation, Egoistic motivation and Personal growth motivation.
3. Interpersonal relationship satisfaction is the highest for satisfaction of voluntary service to small volunteers.
4. Egoistic motivation has most significant impact on satisfaction of voluntary service.

Keywords: Participation motivation, Satisfaction of voluntary service, Small volunteers, Museum

CONSTRUCTION OF A SMALL VACUUM CHAMBER FOR STUDYING A GRAVITY

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ABSTRACT

This work is to study and to construct a small vacuum chamber from a transparent plastic tube with a simple vacuum system using a big syringe. Further study is to do experiment of 2 falling objects with different weights, feather and metal ball, in the vacuum chamber. To hold these 2 objects, the magnetic system is designed to hold and release the objects at the same time. In order to pump the air out of the chamber, we used 3-way valves to let the air comes out and stop the air comes in. A low cost syringe is used to pump the air out of the chamber. In the vacuum, it is clear that a feather and a metal ball can fall in an equal way. The result of the experiment can be clearly seen by using a high speed camera. With this chamber, a value of gravity g can be measured by using a charging circuit of a capacitor. When an object is released from the top of the chamber, the charging circuit will be triggered to start charging a known-value capacitor. The voltage across the capacitor is increasing as the time passing. The charging voltage across the capacitor is increasing as a function of an exponential form of time. When the falling object reaches the floor of the chamber the micros-witch underneath is triggered to stop a charging process. By measuring a charging voltage across the capacitor, a time of a falling object can be calculated from a formula and hence the value of g can also be calculated. The measurement of this charging voltage and the time can be measured by a data logger and a hand-held calculator. The result of this method is accurate enough for the experiment in the classroom level.

Keywords: gravity, vacuum, free fall objects, air resistant, capacitor charging circuits, Newton‘s law of motion

INTRODUCTION

A free falling object is an object that is falling under the influence of gravity. Any object that is being acted upon only by the force of gravity is said to be in a state of free fall. A free-falling object has an acceleration of 9.8 m/s^2, downward (on Earth). This numerical value for the acceleration of a free-falling object is such an important value that it is given a special name. It is known as the acceleration of gravity - the acceleration for any object moving under the sole influence of gravity. A matter of fact, this quantity known as the acceleration of gravity is such an important quantity that physicists have a special symbol to denote it - the symbol **g**. The numerical value for the acceleration of gravity is most accurately known as 9.8 m/s^2. There are slight variations in this numerical value (to the second decimal place) that are dependent primarily upon on altitude. An object that **falls through a vacuum** is subjected to only one external force, the gravitational force, expressed as the weight of the object. The weight equation defines the weight **W** to be equal to the mass of the object **m** times the gravitational acceleration **g**:

$$W = m * g \qquad \text{……...…….(1)}$$

The gravitational acceleration **g** decreases with the square of the distance from the center of the earth. But for many practical problems, we can assume this factor to be a constant. An object that moves because of the action of gravity alone is said to be **free falling**. If the object falls through the atmosphere, there is an additional drag force acting on the object and the physics involved with the motion of the object is more complex.

The motion of any moving object is described by Newton's second law of motion, force **F** equals mass **m** times acceleration **a**:

$$F = m.a, \text{ in this case, } F = m.g \qquad \text{……..(2)}$$

The **acceleration** of the object equals the gravitational acceleration. The mass, size, and shape of the object are not a factor in describing the motion of the object. So all objects, regardless of size or shape or weight, free fall with the same acceleration. In a vacuum, a metal ball falls at the same rate as a feather.

The remarkable observation that all free falling objects fall with the same acceleration was first proposed by **Galileo Galilei** nearly 400 years ago. Galileo conducted experiments using a ball on an inclined plane to determine the relationship between the time and distance traveled. He found that the distance depended on the square of the time and that the velocity increased as the ball moved down the incline. The relationship was the same regardless of the mass of the ball used in the experiment. The experiment was successful because he was using a ball for the falling object and the friction between the ball and the plane was much smaller than the gravitational force. He also used a very shallow incline, so the velocity was small and the drag on the ball was very small compared to the gravitational force.

A position versus time graph for a free-falling object is shown below.

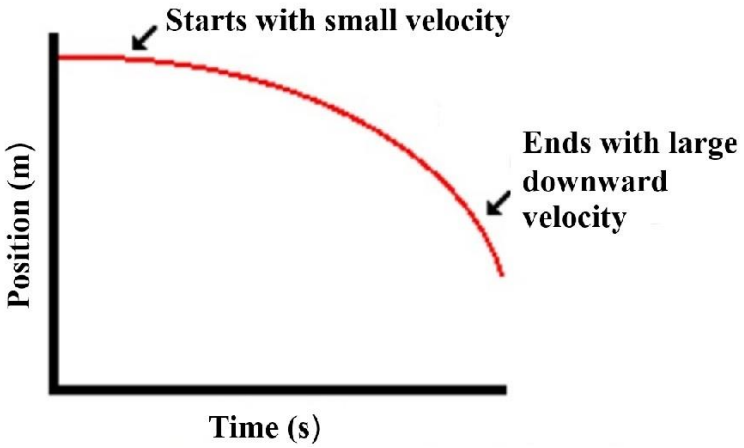

Fig. 1. *A graph showing position versus time for a free-falling object*

Observe that the line on the graph curves. A curved line on a position versus time graph signifies an accelerated motion. Since a free-falling object (without air resistance or drag force) is undergoing an acceleration ($g = 9.8\ m/s^2$), it would be expected that its position-time graph would be in a quadratic form. A further look at the position-time graph reveals that the object starts with a small velocity (slow) and finishes with a large velocity (fast). Since the slope of any position vs. time graph is the velocity of the object, the small initial slope indicates a small initial velocity and the large final slope indicates a large final velocity. Finally, the negative slope of the line indicates a negative (i.e., downward) velocity.

A velocity versus time graph for a free-falling object is shown below.

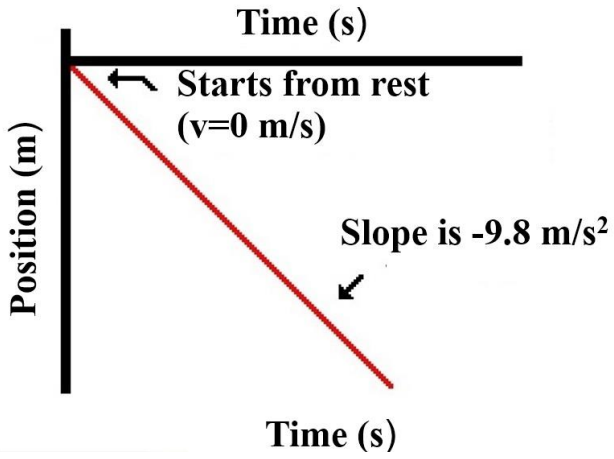

Fig. 2. *A graph showing a velocity versus time for a free-falling object*

Observe that the line on the graph is a straight, diagonal line. A diagonal line on a velocity versus time graph signifies an accelerated motion. Since a free-falling object is undergoing an acceleration (g = 9,8 m/s^2, downward), it would be expected that its velocity-time graph would be diagonal. A further look at the velocity-time graph reveals that the object starts with a zero velocity (as read from the graph) and finishes with a large, negative velocity; that is, the object is moving in the negative direction and speeding up. An object that is moving in the negative direction and speeding up is said to have a negative acceleration. Since the slope of any velocity versus time graph is the acceleration of the object, the constant, negative slope indicates a constant, negative acceleration. This analysis of the slope on the graph is consistent with the motion of a free-falling object - an object moving with a constant acceleration of 9.8 m/s/s in the downward direction. [1], [2].

If the light free-falling object like a feather starts with zero velocity, the graph will not look like the above graph because of the air resistance or drag force. This study is to construct a simple and low-cost small vacuum chamber for doing experiment of 2 falling objects with different weights, feather and metal ball, in the vacuum chamber. This is to show that the mass, size, and shape of the object are not a factor in describing the motion of the object. So all objects, regardless of size or shape or weight, free fall with the same acceleration. In a vacuum, a metal ball falls at the same rate as a feather. Apart from this experiment, the second experiment is to the determine a gravitational acceleration "g" value by using an RC charging circuit

METHODOLOGY

1. Construction of a small Vacuum Chamber

The experiments showing the free-fall objects in the vacuum chamber have been done by many people. But the vacuum system for the experiment is expensive and cannot be performed in a normal classroom. In this study, we construct a low-cost and small vacuum chamber with a simple vacuum system using a big syringe.

The vacuum chamber is made from a transparent plastic tube. Both ends of the tube are close tightly. There is also outlet for air with a valve. A small piece of feather and an iron nut are used as falling objects. These two objects are hold on the top of the tube using magnetic holding lever.

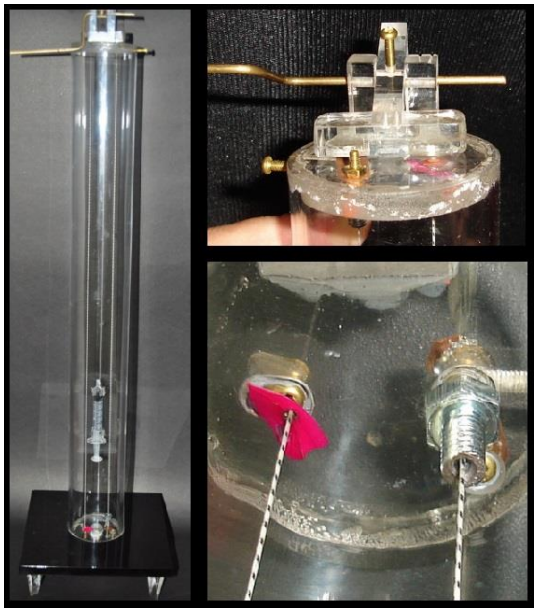

Fig. 3. *Showing the vacuum chamber made from a transparent plastic tube with outlet for air with a valve and magnetic holding lever.*

When these two objects are released simultaneously from the top of the tube, it is obviously seen that the iron nut will fall faster than a feather. The air resistance has greater effect on a feather than on a metal nut because of the weight of the objects.

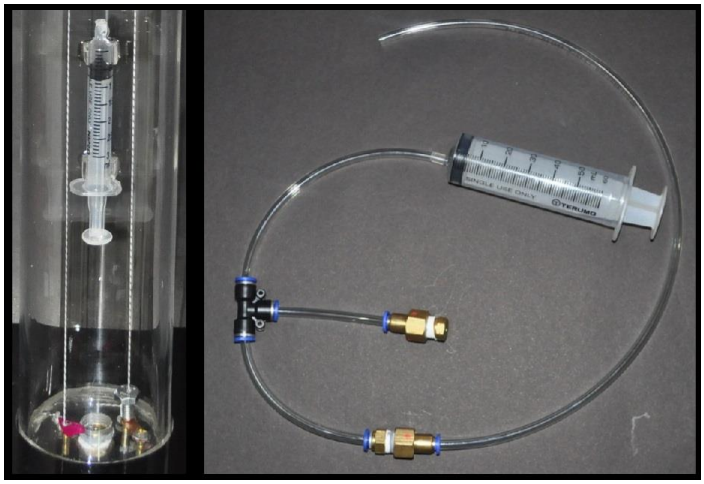

Fig. 4. *Showing a simple vacuum system using a syringe to pump the air out of the chamber and a*n *air-tight syringe for monitoring the vacuum inside the chamber.*

In order to pump the air out of the chamber, we used 3-way valves to let the air comes out and stop the air comes in. A low cost syringe is used to pump the air out of the chamber. A vacuum condition inside the tube can be monitored by a small air-tight syringe placed in the plastic tube. The experiment can be performed by dropping the two objects from rest at the top point of the tube. The air resistance in the tube is reduced. The feather will fall faster than the result in the previous experiment. In order to measure the falling time of the objects for calculation of gravity g, a micro-key switch underneath is needed to trigger the electronic circuit of time measurement as shown in Fig. 5.

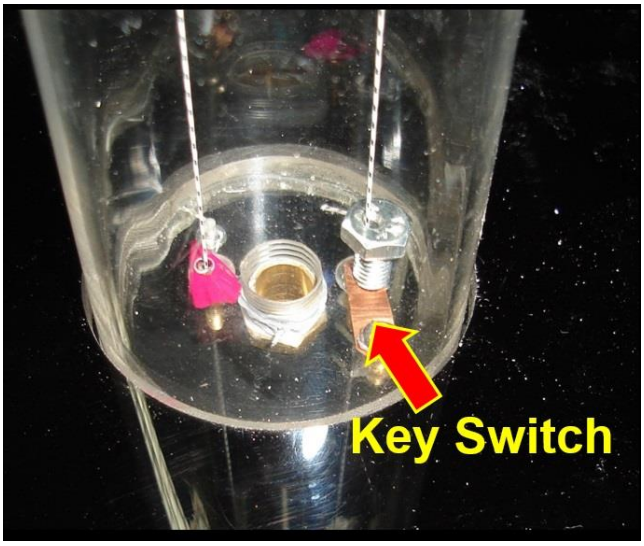

Fig. 5. *Showing a micro-key switch in the chamber for triggering the electronic circuit of time measurement*

2. Experiments

There are 2 experiments in this study. Observing of free-falling of metal object and a feather in vacuum chamber, and the determination of a gravitational acceleration "g" value by using an RC charging circuit

Observing of free-falling of metal object and a feather in vacuum chamber

A small piece of feather attached with a very small iron ring to be hold by a magnet and an iron nut are used as falling objects. They are big different in weights. These two objects are hold on the top of the tube using magnetic holding lever.

Firstly, these two objects were released simultaneously from the top of the tube in atmospheric pressure. The observation of the motion was done by a high speed video camera.

The second experiment was done the same way but the air in the chamber was pumped out as much as possible a big syringe. The vacuum inside the chamber was monitored by a small air-tight syringe placed in the chamber. And again, the observation of the motion in this case was also done by a high speed video camera. The video recordings from these 2 experiments were compared to confirm the effect of air resistance or drag for from air.

Determination of a gravitational acceleration "g" value by using an RC charging circuit

An object is falling from rest, the traveled distance S can be calculated from the following equation of motion:

$$S = ½.gt^2 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(4)$$

Where g is an acceleration due to gravity and t is a traveling time. Knowing the length of the chamber tube S and traveling time t, an acceleration due to gravity, g, can be calculated.

Direct measurement of time of a falling object is not accurate. The measurement of time using an RC-charging circuit is introduced.

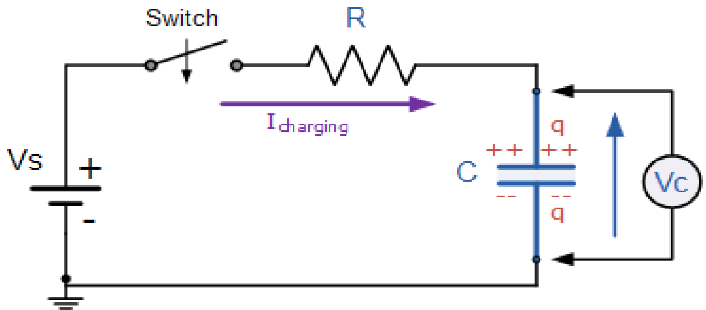

Fig. 5. *Showing a circuit diagram for RC-charging*

Instead of measuring the time, we can measure the voltage Vc as a function of time, t. Vs is a constant voltage source. If we know the values of a Resistor R and a Capacitor C, we can then find the falling time, t. The relation between Vc and charging time t is shown in the Fig. ….. We can use this t to find the g from equation …….

$$Vc = Vs\left(1 - e^{-t/RC}\right)$$

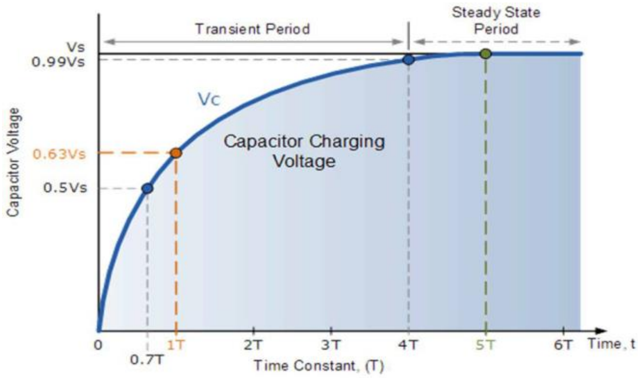

Fig. 6. *Showing a graph of charging voltage as a function of charging time of RC circuit.*

The variation of Vc as a function of time t for different R and C in the circuit can be seen by simulation using Geometer's Sketchpad [4].

The charging voltage Vc can be measured by a data logger CBL2 and displayed by a graphic calculator TI84 from Texas Instruments [3]. There is a stop key switch at the bottom of the tube. When a falling iron nut touches the switch, the voltage will drop, and the time can be measured.

RESULTS

Observing of free-falling of metal object and a feather in vacuum chamber

The video clips from 2 experiments clearly show that the feather and the metal nut fall almost at the same time in the vacuum. The feather falls much slower in the normal atmosphere. The big difference can be observed although the vacuum in the chamber is not a high vacuum.

Determination of a gravitational acceleration "g" value by using an RC charging circuit

The result of this experiment can be seen on the display screen of the data logger CBL2. The starting and stopping time can be obtained from the screen. Time difference is 0.30 s as shown in the Fig….. The distance S in this experiment is 0.45 m. We can them find the value of g from the equation. …..

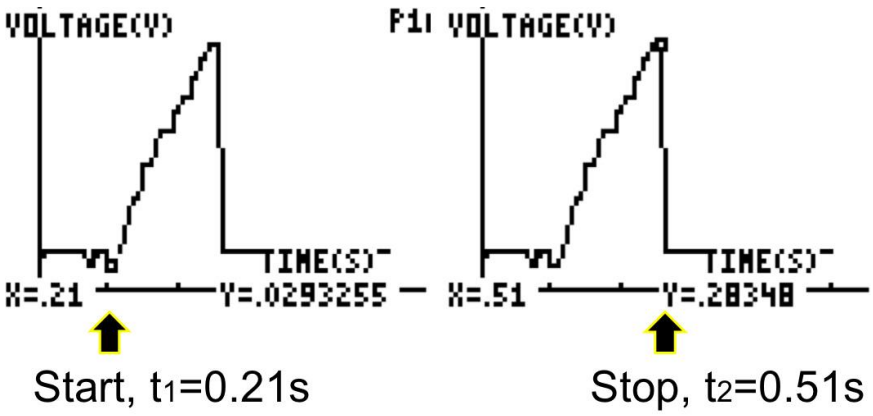

Fig. 7. *Showing a charging voltage as a function of a time for a falling object.*

$$\mathbf{S = \tfrac{1}{2}.gt^2}$$

$$0.45 = 1/2g\ (0.30)^2$$
$$g = 10\ m/s^2$$

From all known values, we can calculate the value of an acceleration due to gravity, **g**. In this experiment, we get $g = 10\ m/s^2$.

CONCLUSION

In order to study 2 free falling objects with different weights and shapes falling under the influence of gravity in a normal classroom is not that easy. A vacuum chamber is needed to see the effect. But the big chamber and vacuum system is expensive. By using this low cost vacuum chamber, the free falling experiment can be performed effectively. The effect of air resistance and clearly be seen. The value of an acceleration due to gravity, **g**, can be easily measured in a very short falling distance.

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Muay Thai and it's Transition to International Level

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ABSTRACT

This research is a survey research. The purpose of research is to analyze how the traditional combat technique transition into an international world class combat technique, competition and its transition into Mix Martial Arts. In general many people do not understand that foreigner come to Thailand and learn Muay Thai is to enhanced their ability of Mix Martial Arts and not only learn traditional Muay Thai or the cultural and traditional belief of it. Academic and theoretical research Social Science, most sample data will be collected true reports and conferences paper. Both Quantitative and Qualitative methods will be used to analyze the data collected. Further studies about this combat sport will be studied and improve Muay Thai for international audiences. By using MMA as an international platform to put Muay Thai into a mainstream fighting style. Based on the research findings, in order to Muay Thai to international level, they should anticipate benefit such as journal publication, patent and sections using the research result to improve and modernize the traditional combat sport of Muay Thai. It is also to show that Muay Thai is not only for combat but also for sport and a way of life. Winning fight is also an indicator that MMA fighter that use Muay Thai have more advantages to winning tournament.

Keywords: Muay Thai, Kick Boxing, Mix Martial Arts, Combat Sport, Fitness, ASEAN, Culture, Tradition, History, marketing mix, SWOT analysis, and SWOT analysis matrix strategies.

INTRODUCTION

This research is a survey research. The purpose of research is to analyze how the traditional combat technique transition into an international world class combat technique, competition and its transition into Mix Martial Arts. In addition, this survey aims to study the strength of Muay Thai and Mix Martial Arts, to describe the transition of Muay Thai to international level, and to identify international community perception of Muay Thai. In general many people do not understand that foreigner come to Thailand and learn Muay Thai is to enhanced their ability of Mix Martial Arts and not learn traditional Muay Thai or the cultural and traditional belief of it. Most sample data will be collected true reports and conferences paper. Further studies about this combat sport will be studied and improve Muay Thai for international audiences and using MMA as an international platform to put Muay Thai into a mainstream fighting style. The roles of International College, Suan Sunandha Rajabhat University are to serve community in academic knowledge base on the research study and real. The researcher' duty is to provide students with the direct experiences.

RESEARCH METHODOLOGY

This research was a survey research and conducted in Thailand. The population were people who were involved in Muay Thai and Mix Martial Arts (MMA). The research study was conducted during January until June 2017. The researcher employed the quantitative and qualitative method in this study. Since we do not know the size of population who possess knowledge on Muay Thai and MMA the researcher employed the Taro Yamane' table of finding sample size to determine the sample size. The sample size in this study will be 100 participations with 5% error. The stratify simple random sampling will be employed in this study. The sample in this study will be Thai people and foreigners who are in Bangkok and Phuket, Thailand.

Research Questions

Research Question 1. What are the international community perception of Muay Thai?

Research Question 2. What are the factors effects the transition of Muay Thai to international level?

Research Instruments were questionnaire and open-ended questions for structure interview. The questionnaire will be constructed by the researcher in order to answer the research questions. The questionnaire on the International community perception of Muay Thai consists of 30 questions. The structured interview questions and open-ended questions were constructed by the researcher in order to answer the research questions.

Data Collection

The researcher shall administer the questionnaire through mail and interview the sample by face-to-face or by telephone. The observation fields study and white papers. Research will be conduct mainly in Bangkok, Thailand; Phuket and it will be done true:

- Mix Martial Arts observation
- Muay Thai Tournament
- Online resources
- Personnel interview
- Academic Journal,
- Case Study, and
- Video tape record

Data analysis

The descriptive statistics will be employed to analyze the data. The statistics to be used are percentages, mean, and standard deviation. The data from structured interview will be analyzed using qualitative method. The SWOT analysis are strength, weakness, opportunity and threat are marketing mix will be used in the data analysis. The components of marketing mix: 4Ps consisted of product, price, places and promotions, and SWOT analysis matrix strategies were employed to analyzed data.

FINDINGS

Research findings

The data from structured interview were analyzed using qualitative method. The SWOT analysis are strength, weakness, opportunity and threat are marketing mix will be used in the data analysis. The components of marketing mix: 4Ps consisted of product, price, places and promotions, and SWOT analysis matrix strategies were employed to analyzed data. The research finding are as follows.

Table 1: SWOT Analysis of Muay Thai

	Muay Thai
Strengths	Popular, Cheap to learn and practices, cultural tradition of Thailand, good for health, teach discipline,
Weakness	Ability of instructor to teach in English, no text or manual in English
Opportunities	Growth of popularity of Muay Thai could make a big market for sport product and also new movies about the art of Muay Thai.
Threats	Due to its popularity uncertified teachers and fake Muay Thai gym tarnish the good name of the traditional art of Muay Thai.

Table 2 Marketing Mix Matrix Strategies and SWOT Analysis of Muay Thai Transition to International level

	Strength	Weakness	Opportunities	Threats
Product	1. Muay Thai is a combat sport of Thailand that uses stand-up striking along with various clinching techniques. 2. Muay Thai used just only body without any weapon. 3. Muay Thai is referred to as the "Art of eight limbs" because it make use of punches, kicks, elbow and knee strikes. 4. Muay Thai allows strikes to all three body regions, namely head, body and legs. 5. Muay Thai style is unique identity and cannot copy.	1.English Literacy: The limitation of using English communication. 2. Many Thai trainers cannot communicate and cannot teach the foreigners using English language. 3. The resistances from older generation of Muay Thai practitioner that don't want foreigner to learn the traditional art such as "Mae Mai Muay Thai". They believed that Muay Thai is a culture heritage. 4. Muay Thai kick boxers sometime had injury occurred during the fight.	1. By using MMA as an international platform to put Muay Thai into a mainstream fighting style. 2.Muay Thai style is unique identity and cannot copy. 3.Using Thai kick boxers such as Somrak Kumsing, Tony Jaa to promote Muay Thai. They are very famous and well-known Thai boxers in International market.	1.The main constrains are language barrier. 2. Old Thai people believe that Muay Thai traditional should not teach foreigner and traditional art.
Price	1. The cost of setting Muay Thai Classes are not expensive because Muay Thai used just only body without any weapon. 2. Muay Thai is referred to as the "Art of eight limbs" because it make use of punches, kicks, elbow and knee strikes.	1.The cost of promotion Muay Thai to internationally is very expensive. 2. Thai government did not help in supporting Muay Thai to marketing abroad.	1. Thai Government and University can provide budget to Muay Thai Schools. 2. Muay Thai School should have a certificate from Thai Government Sector and credible standards for international level.	1.Thai producers could not risk investing a large amount of money for supporting Muay Thai film and marketing abroad. 2. The are many foreigners set up Thai Fights and boxing schools 3.There are kick boxings techniques in many countries.
Promotion	1.Using Thai kick boxers such as Somrak Kumsing, Tony Jaa to promote Muay Thai. They are very famous and well-known Thai	The cost of promotion Muay Thai to internationally is very expensive. 2.Thai government did not help in supporting Muay	1.Muay Thai School should have a certificate from Thai Government Sector and credible standards for international level.	There are kick boxings techniques in many countries.

	boxers in International market. 2.Muay Thai School should have a certificate from Thai Government Sector and credible standards for international level. 3.All Thai citizen have to support Muay Thai.	Thai to go abroad.	2.All Thai citizen have to support Muay Thai.	

Based on the data analysis from Table 1 SWOT analysis and Table 2 Marketing Mix Matrix Strategies and SWOT Analysis of Muay Thai Transition to International level strategies the researcher found that Muay Thai products are unique, but the weakness were English Literacy and the limitation of using English communication of Many Thai trainers. Many of the trainers cannot communicate and cannot teach the foreigners using English language. The prices to go international were expensive. This condition made the owners of Muay Thai schools have no proper place to sell the products, and not enough budget to promotion. The research findings were in line with the main four elements: 4 Ps of marketing mix theory.

CONCLUSIONS

Muay Thai will change your life from your physical conditioning, to your health and wellness, and even your confidence and concentration, martial arts has many benefits to the human mind, body, and spirit. Muay Thai can specifically impact and change who you are — from your physical appearance, down to your mental aptitude. For those looking to get in shape and build muscle, Muay Thai training is a great place to start. Muay Thai will provide you with enough cardio to really maximize your energy expenditure. It is one of the toughest workouts you will ever experience, but you'll emerge much stronger and fitter because of it. Another benefit of training in Muay Thai is that you will develop heightened awareness and sharper focus.

As it teaches you how to defend yourself, Muay Thai toughens you from the inside and helps boost your immune system, as workouts tend to do. Not only does it make your muscles strong, but it also gives you endurance and brings you to your peak physical condition. Of course, when the body is strong and fluid, the mind is also enhanced.

Practicing your techniques while making sure they are properly executed is a tremendous mental exercise as much as it is physical. There is a science to Muay Thai, as you will quickly learn in your first few training sessions. You'll be hooked on learning more as you go along.

Thus by training in Muay Thai, your mental psyche is greatly improved, empowering you with supreme self-confidence, tenacious discipline, and absolute focus — all of which combined put you into your optimum mental and spiritual state.

Not only will Muay Thai enhance your physical well-being and relieve stress, but it will also improve your social life. Meet new friends and build lasting relationships with your gym mates. Have loads of fun in each session, learning and experiencing new techniques. One of the added benefits of training in Muay Thai is that it will definitely have you looking your absolute best. After just a few weeks of training, you will start to notice major changes in your physical appearance. You will be a lot leaner and trimmer, and if you practice Muay Thai long enough, you will inevitably be blessed with a beautifully sculpted figure.

Based on the research findings, in order to Muay Thai to international level, they should:

- Anticipated benefit such as journal publication, patent and sections using the research result to improve and modernize the traditional combat sport of Muay Thai. It is also to show that Muay Thai is not only for combat but also for sport and a way of life. Winning fight is also an indicator that MMA fighter that use Muay Thai have more advantages to winning tournament.
- Show the strength of Muaty Thai and integrate it into MMA
- Help Muay Thai reach much wider audiences and modernize the traditional combat sport.
- Publish about Muay Thai and MMA in an academic Journal with SCOPAS rating.
- Plan of building a new generation of researchers who have already gotten the experience from conducting the research program
- Have knowledge for the productions (output) and indicators to:
    - Bring knowledge of other Muay Thai to international setting and also to enhanced knowledge of Muay Thai
    - Improve MMA and Muay Thai fighter fitness level.
    - Improve international community perception of Muay Thai
    - Help Thailand to achieve fame true Muay Thai.

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THE USE OF SMART TECHNOLOGY IN TEACHING AND LEARNING: A WAY TO ENHANCE ACHIEVEMENT

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ABSTRACT

Nowadays, students were born in a world of continuous evolution of technology. Technology is part of their daily life inside and outside their professional studies. One of the most important discoveries when it comes to technology is the internet which provides today the possibility for students to have access to all types of information and resources which are very useful in their studies activities. In addition, students are more technological than ever and are demanding new and innovative ways to learn. As a lecturer, one of the most promising approaches is based on design and development of smart universities and smart classrooms. Therefore,smart technology can empower teachers and learners, promote change and foster the development of twenty-first century skills. This research aims to investigate the current situation regarding using smart technology at the SuanSunandhaRajabhat University, International College. The results show that student learning and achievement have been affected when the teaching and learning processes are enhanced by smart technology which has motivated the students to get more involved in learning activities through which they became more active and more interested in learning. To exemplify my observations based on my own experience in teaching atSSRUIC, I chose both survey and experiment to students and academic staff. The students were asked to attend three lectures using traditional technique (white board), power point and smart technology. The findings of this study led to some suggestions to enhance students' achievements that can enable lecturersto adapt their teaching methods and teaching tools to their students' needs and of course to the evolution of technology.

Keywords: Smart Technology, Achievement, Learning Process

INTRODUCTION

The word technology is derived from the Greek word "techno" which means the willingness, skills, knowledge of the way, rule, skill, tools and "logos" which means sci- ence, word, learning, mental state. Technology can have a reciprocal relationship with teaching. Educational technology opens a perspective and usage in teaching; teaching technology is known as the implementation of learning models, treat of teaching methods and scientific knowledge in the educational process; learning technology acts as factor and element of change in teaching didactics. (Murati., Xh.. 2013, p. 24). In overall process of educational the teaching technology, aims to accomplish the two basic objectives which are: 1. The intensive aspect of learning, educational work; and 2. The extensive aspect of organizing educational work (Murati., Xh.. 2013, p. 25).

In addition, today it is impossible for any profession performs without the help of information technology. The computer and the Internet gives us endless possibilities and resources in improving the quality of work. Even in education, computer skills and additional equipment are needed, because they create great opportunities for teachers and inspire curiosity, imagination and interest of students. Computer use in education encourages changes in the concept of education, teaching contents, the teaching technologies and the relationship between teachers and students. Popular programs such as PowerPoint, FlashPlayer, Word, Excel, Access, Adobe, etc., have become a great help for teachers in teaching. The influence of information and communication technology increasingly becomes much comprehensive in many social spheres.Thus, enhancing student interest and input in a course is important for professors.

The purpose of this paper is to investigate the current situation regarding using smart technology at the Suan Sunandha Rajabhat University, International College by asking general research questions. These questions all focus on the attitudinal and behavioral aspects of students toward the use of Interactive Technology in the classroom and are as follows.

Research Question 1: Will students report a higher attitude score for the subject matter in a course after it is taught with Interactive Technology?

Research Question 2: Will students report a higher attitude score regarding the use of Interactive Technology after they have used it in a course?

Thus, this paper will discuss the use of Interactive Technology, address how faculty can utilize it to enhance classroom communication, and measure its effectiveness.

LITERATURE REVIEW

A number of authors (Clements and Sarama, 2003; Glaubke 2007; Dynarski et al. 2007) suggest that we should focus on five areas of software programs that have the potential to strongly influence children's learning experience:1. The educational value of the program,2.Its ability to engage children in learning, 3. Ease of use,4. Interactivity between the child and programs, 5.The possibility that a software program monitors the progress of the child.Digital games, whether computer-, game console-, or handheld-based, are characterized by rules, goals & objectives, outcomes & feedback, conflict/ competition/challenge/opposition, interaction, and representation of story (Prenksy, 2001) or more simply, "Purposeful, goal-oriented, rule-based activity that the players perceive as fun" (Klopfer, 2008). They are distinguished by two key elements: (1) an interactive virtual playing environment, and (2) the struggle of the player against some kind of opposition. Gaming is already a widespread activity in our culture —more than 45 million homes have video-game consoles (Feller, 2006). Therefore, one of the most obvious benefits to using these technologies for learning is that students are often already familiar with the tools. Other researchers have found that games improve skills in communication and collaboration, problem-solving, and various number-related skills (McFarlane, Sparrowhawk, &Heald, 2002).

Jenkins et al. note that these new capacities "almost all involve social skills developed through collaboration and networking. These skills build on the foundation of traditional literacy, research skills, technical skills, and critical analysis skills taught in the classroom" (2006, p. 19). These are all critical skills, often developed in conjunction with distributed learning environments—designed to leverage activities around principles of distributed cognition, and collective intelligence. These two skills in particular are based on the view that intelligence is more than just an attribute of an individual, but distributed amongst brain, body, and world (Clark, 1997); improved reasoning is made possible by the use of technology to "expand and augment human's cognitive capacities" (Jenkins et al. 2006, p. 37). Furthermore, "knowledge cultures" assembled in these online communities produce the capacity for cognition and accomplishment far beyond what one person alone could accomplish.

Kurdziel (2005) notes five reasons for educators to use an audience response system: (1) to address the limitations of traditional lectures; (2) to engage students; (3) to provide feedback to both students and instructors; (4) to effectuate learning gains; and (5) to realize improvements in attitudes. The key benefit of the technology is that it allows both students and professors to get instant feedback (Merritt, 2000).Students know that their opinions are being heard equally, and professors can get immediate feedback on the performance of the class as a whole while tracking individual students behind the scenes to pinpoint specific concerns (Terreri and Simons, 2005) and determine if more time is needed to on a specific topic (Cohen, 2005). Carnaghan and Webb (2005) note the benefit of increasing interactivity regardless of class size, and that the use of Interactive Technology allows professors to focus on problems revealed by the students' responses. Taylor (2007) describes the benefit of utilizing Interactive Technology in large lectures to increase students' active involvement. Finally, Hoffman and Goodwin (2006) note the following benefits of Interactive Technology: ensures interaction, keeps students focused, increases participation, promotes discussion, and increases retention.

The purpose of this paper is to examine the impact of Interactive Technology in the classroom especially the students' learning and achievement have been affected when the teaching and learning processes are enhanced by smart technology. To exemplify my observations based on my own experience in teaching at SSRUIC, I utilize research questions. These questions all focus on the attitudinal and behavioral aspects of students toward the use of Interactive Technology in the classroom and are as follows.

Research Question 1: Will students report a higher attitude score for the subject matter in a course after it is taught with Interactive Technology?

Research Question 2: Will students report a higher attitude score regarding the use of Interactive Technology after they have used it in a course?

METHODOLOGY

The purpose of this paper is to examine the impact of Interactive Technology in the classroom. The researcher conducted this study with one section of the course utilizing Interactive Technology and the other section not using it. Both sections were to have the same instructor with identical material, in-class questions, and tests. Through the use of post measures taken at the end of the semesters using Interactive Technology. The two research questions were addressed in two different ways: through pre- and post-survey measures done at the start and the end of the semester for the sections of the Subject IAC1204 Personality Improvement and Grooming course where Interactive Technology was utilized, and through additional post-survey measures at the end of the semester for those sections where Interactive Technology was utilized. Survey items were utilized to measure the research questions. The majority of these pedagogical measures combined items either created by the authors or adapted from other pedagogical research. Several of the items came from a working paper by Carnaghan and Webb (2005), who measured the impact of the use of Interactive Technology in accounting education. Several items from Kurdziel (2005) looking at the impact of Interactive Technology in large biology lectures were also utilized. Another source was Seay, Rudolph, and Chamberlain (2001), who used items measuring perceptions of interactive television instruction. Finally, some of Massey, Brown, and Johnston's (2005) items measuring the impact of using games (such as crossword puzzles and Jeopardy) to review materials were also adapted. This approach examined research questions one and two (attitude towards the subject matter and attitude towards the use of Interactive Technology in the course) for the three sections of Subject IAC1204 Personality Improvement and Grooming that were taught after Interactive Technology was utilized. Attitude towards the subject matter was measured by comparing attitude scores towards the subject of Subject IAC1204 Personality Improvement and Grooming pre (the first day of class) and post (the last day of class). The thirteen-item attitude measure was adapted from that used in Economics (Agarwal and Day, 1998) with the subject "Personality Improvement and Grooming" substituted for "Economics" and scored on a five-point Likert scale. Attitude Contemporary Issues In Education Research – Third Quarter 2009 Volume 2, Number 3 34 towards the use of Interactive Technology was measured with twelve items; seven adapted from Carnaghan and Webb (2005) along with five items created by the authors.

The sample consisted of students in three sections of a Subject IAC1204 Personality Improvement and Grooming course. The group members were given pre- and post-surveys to measure the research questions. The pre-survey was given during the first week of class and the post-survey was given the last week of class. A total of 97 students completed the questionnaire at both stages (pre/post). Approximately 75% of the respondents were females. The respondent sample engaged in approximately 2-4 hours of study time per course per week. On being asked how often these students prepare for any course, the highest percentage of response was "often (60%)" followed by "sometimes (40%)."

RESULTS

Research question one related to whether students report a higher attitude rating for a subject that is taught using Interactive Technology. This was measured by comparing the attitude of students about the subject matter of IAC1204 Personality Improvement and Grooming course at the start of the course utilizing Interactive Technology to their attitude at the end of the term. The mean scores (standard deviation) for attitude toward the subject matter at the start of the semester was 3.56 (.50) and the mean score (standard deviation) at the end of the semester was 3.72 (.59). The differences between the two time periods was measured using a t-test and the t-value was 2.834 which was significant. This indicates that the attitude towards the subject matter in a course utilizing Interactive Technology increased over time.

Research question two examined whether students reported a higher attitude rating for Interactive Technology after utilizing it for a course. The mean scores (standard deviation) for attitude toward Interactive Technology prior to using it was 3.927 (.639) and after using it was 4.176 (.724). The differences between the two time periods was measured using a t-test and the t-value was 3.034 which was significant. This indicates that the students' attitudes towards utilizing Interactive Technology increased after they have had used it for the semester.

CONCLUSION

The results suggest that there are significant benefits to adopting Interactive Technology. Moreover, the benefits of Interactive Technology exceed the costs, particularly when considering the enjoyment of students in class and developing an active learning environment (Hoffman and Goodwin, 2006). Through the use of pre- and post-survey measures at the start and end of the semesters using Interactive Technology, the result showed that the students' attitude toward both the subject matter and the use of Interactive Technology is increased. Through the use of post measures taken at the end of the semesters using Interactive Technology, the researcher provided a benchmark that suggests, on average, students agree that a course using Interactive Technology is more interesting, more attention getting, and more satisfying. Finally, teachers have to be motivated to use the same because the use of educational technology in teaching provides better interaction with students, better reception of information because the students receive knowledge visual, auditory and kinesthetic way. Among other things, an educational technology motivates students to work independently where the student is more motivated to return to learning and working because modern technical equipment is widely available at any given moment.

RECOMMENDATION

From all of this is presented above we can conclude that the use of information and communication technology today has special importance, especially in education and in teaching where students take advantage of new knowledge. Information technology is a continuation and extension of previous knowledge in this field and has to do with the acquisition of knowledge and necessary skills for successful and independent use of technology with standard software applications used in everyday life. Teachers should not oppose change and must carefully plan the use and integration of technology in teaching. The use of technology will positively improve results faculty and students.

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IN-FLIGHT SERVICES PROJECT: CREATIVE EDUCATION FROM AIRLINE CABIN CREW'S SERVICES TRAINING

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ABSTRACT

Challenges were happening with traditional universities through Thailand when they have faced serious threats from the shrink of student populations and disruptive innovations. They are in highly competitive environment because they have excess supply over lesser demand from new students. In order to survive in the difficult time and attract more students, several universities focus on creating positive classroom environment and learning outcomes. The subject Cabin Crew Management in Airline Business Program and its in-flight services project are introduced in this paper as an example for successful integration between various teaching approaches and airline cabin crew services training to build creative education. Experience-based learning, problem-based learning, and cooperative learning are used for motivating and inspiring learners. A cabin service mock-up which is the imitation of Boeing 737-800 with necessary onboard facilities are used as a virtual laboratory for students to practice their customer service skills. Students are assessed and gain both feedbacks from lecturers, team members, and other guests who participated in the in-flight services project. This course is also designed to be a marketing tool to promote and to differentiate the program from competitors.

Keywords: In-flight Service, Creative Education, Cabin Crew's Services Training

INTRODUCTION

Challenge on Thai Higher Education

The drop of students enrollments to Thai universities have become one of challenges for Thai Higher Education because number of students means the revenue for operating the business. This is the threat that can lead several non-elite universities, traditional universities and unpopular one that failed to change, to the end of their businesses. The major causes of this problem is the declining birth rate in Thailand. Since the year 1997 or in the year of Thai financial crisis or 'Tom Yum Kung Crisis' to the year 2017, birth rate in Thailand decreased to be around 600,000 - 700,000 persons per year, while the average of the birth rate in Thailand before 1997 was 1,000,000 persons per year. Council of University Presidents of Thailand showed data that illustrated the situation of over supply from Thai universities to less demand of Thai students since 2010 to 2017. The worse year is 2017 because there were around 55,000 vacant seats, while Thai universities offered 136,030 seats.

Preparing and embracing for change is the best solution for Thai traditional universities to survive in the difficult time of the decrease of student enrollment and upcoming disruptive from online learning. Thailand Deputy Education Minister Udom Kachitorn mentioned some recommendations for traditional university to have new effective ways to teach and learn by teaching some soft skills such as leadership and communication, giving experience-based learning to students, creating inspiration and positive mindset, using teaching and learning method that focuses on learning outcomes, and designing more responsive curriculum to business and social requirement. Similar to Subhash Kak said that uuniversities will find themselves asked to build specific programs for particular companies[1]. Likewise the ideas of Dr. Willard R. Daggett said smart people in colleges are doing a good job preparing students for the futures[2]. Moreover, the article The Future of Universities: The Digital Degree supports that students like a course that help them to get a job[3].

In-flight Services Project which is a part of the course of Cabin Crew Management is designed as a group assignment to create remarkable learning experience for students. Wallas' four stage of the creative

[1] Kak, S. (2018). Universities must Prepare for a Technology-Enabled Future. Retrieved from https://theconversation.com/universitiespare-for-a- technology-enabled-future-89354
[2] Daggett, R. W. (2010). Preparing Students for their Technological Future. Retrieved from http://www.leadered.com/pdf/Preparing%20Students %20for%20Tech%20Future%20white%20paper.pdf
[3] The Economist. (2014). The Future of Universities: The Digital Degree. Retrieved from https://www.economist.com/briefing/2014/06/27/the- digital-degree

process consisting of "Preparation, Incubation, Illumination, and Verification" was applied to the course outline in order to prepare students to be able to understand the concept and processes before performing this complicated task.

METHODOLOGY

Empirical study was used from the beginning of the course to the final week that students presented their in-flight services projects. Lecturer observed the development of teaching and learning in each class, recorded on all activities, and described all movements on a weekly report. The assessment of students' learning outcome was conducted after they attended the Cabin Crew Management course and completed their in-flight services projects. All of 117 students were asked to answer questionnaires in order to assess their self-development in five domains following Thai Qualification Framework of Higher Education, including ethic and morals, knowledge, cognitive skills, interpersonal skills and responsibility, and information technology skills.

The objectives for this empirical study and assessment on student's learning outcome are as follows;

1. Investigating the level of learning success from learners, and
2. Analyzing the data for further development on creative education approach.

Creative Education Theory and Framework

If universities decide to manage something to increase the number of student enrollment and to promote their brands, building environment of effective teaching and learning by creative education, and blending with technology from free online media such as youtube, is practical and economical. Creative education is the approach that focus on creative thinking with the content of problem solving[4]. Students have freedom to learn, creating a new classroom atmosphere where thinking, questioning, and imaging is encouraged. Creative education also promotes student's motivation, self-esteem and the skills[5]. Teacher has significant role to help learners to develop their creative habits and skills by providing the appropriate level of challenge and using question to trigger creative thinking[6]. It is about children experiencing the joy of discovery, solving problem, and being creative[7].

Creative education is a main concept for designing the in-flight services project and the course outline of Cabin Crew Management. The objectives of the course are clearly aim to build competency and provide soft skills that match with airline business needs. In another word, this course aims to prepare students to their future workplaces. Both objectives and processes of building the course outline and the project were connected with Wallas' four-stage model of creative process consisting of "Preparation, Incubation, Illumination, and Verification". The model was created by Professor Graham Wallas, a social psychologist and educationalist, to show the development of the creative thinking. Wallas mentioned his idea of this model on his book 'The Art of Thought' as;

"The first in time I shall call Preparation, the stage during which the problem was 'investigated…in all directions'; the second is the stage during which he was not consciously thinking about the problem, which I shall call Incubation; the third, consisting of the appearance of the 'happy idea' together with the psychological events which immediately preceded and accompanied that appearance, I shall call Illumination. And I shall add a fourth stage, of Verification…[8]"

The four phases of Wallas' four-stage model of creative process can be described as follows;

Preparation - It is a time to gather information from various sources in order to understand and define the problem.

Incubation - The information is put together. It may take short time or long time during this stage to let the brain free from any interference. Then, subconscious mind will manipulate the problem until a new idea pops into the head.

Illumination - This is the moment when small ideas from Incubation become clearer and are connected for being a solution of the problem.

Verification - The solution is tested whether it is proper or improper to use with the problem.

[4] Tsai, K. C. (2015). A Framework of Creative Education. Retrieved from https://www.researchgate.net/publication/283083533
[5] Roddovic-Markovic, M. (n.d.). Creative Education and New Learning as Means of Encouraging Creativity, Original Thinking and Entrepreneurship. Retrieved from http://www.worldacademy.org/files/Montenegro_Conferences
[6] Cambridge International. (n.d.). Innovation and Creativity. Retrieved from http://www.cambridgeinternational.org/images/426483
[7] Shaheen, R. (2010). Creativity and Education. Retrieved from https://file.scirp.org/pdf/CE20100300004_79654079.pdf
[8] Amazon.com.(n.d.). The Art of Thought. Retrieved from https://www.amazon.com/Art-Thought-Graham-Wallas/dp/1910146056

Wallas' four-stage model can be use as a guideline for the lecturer to plan the course outline and the project. It helps the lecturer to understand the movement of thought before he can support, challenge, and encourage students, rather than put the pressure on them.

From Cabin Crew Services Training to In-flight Services Project

Most airlines invest a big amount of money on training for cabin crew because they are airlines' representatives who have direct involvement with passengers through the flight. There are two main areas of training for cabin crew, including safety training and service training. These trainings aim to provide knowledge and skill for cabin crew who have role, responsibility, and duties to ensure that passengers are safe and feel comfortable while they travel to their destinations. New cabin crew are required to join and complete the initial training before they start flying. Initial training consists of lessons on safety and services, rule and regulation in airlines, company's policy, occupational health and safety, first aid training, medical training, and dangerous goods. Other experienced cabin crew are required to join and complete recurrent training or annual training in order to refresh and update new information in airline's safety and service.

In the part of safety training, airlines need to follow flight attendant training standard for commercial and business aviation which is controlled by civil aviation authority such as ICAO, EASA, or civil aviation authority of each country. In the part of service training, cabin crew training department of each airline will conduct their own classes, provide their own unique style of in-flight services, in-flight products, company's culture and policies which are different from other airlines. The initial training also depends on each airlines' policy and requirement, such as Singapore Airlines requires new cabin crew to attend four-month training, while Thai Airways need only two-month training.

Meanings of In-flight services that are defined on dictionaries are services during flight in an aircraft or ones that are provided on board airplane, and happening or available during the flight. Travel website as Daunless Jaunter defined in-flight services as offerings by an airline, both free and paid, that add to passengers' flying experience. Services items that airlines offer to passengers may include meals and beverages, in-flight entertainment, duty free shopping, comfortable seats, and other amenity kits. Cabin crew are assigned to deliver service item, hospitality, and personal touch to comfort and satisfy passengers. Providing flight information and help passengers to solve some problems regard to traveling to the destination are considers as cabin crew's duties. Cabin crew are appointed to create relationship with passengers and turn them to be advocacies by providing superior in-flight services experience.

In-flight services can be classified into 3 phases, including pre-flight service or on ground preparation, in-flight service or services during the flight, and post-flight services that are happened after the airplane land at the airport destination. During pre-flight service or on ground preparation, cabin crew prepare passenger's cabin and service products such as passengers' seat, pillows and blankets, reading materials, welcome drinks, and menus before passenger board the airplane. After take-off and seatbelt signs are switched off, cabin crew start meals and beverages service, duty free shopping, and after meal service for passengers' comfort and privacy. After the landing, cabin crew farewell and ensure that passenger are safe when they disembark the airplane.

In-flight services seem to be complicated task, especially for brand new cabin crew without any flying experience and working experience in airline business. Thus, cabin service instructors need to teach both knowledge and skills that are necessary for new cabin crew to perform tasks. According to airlines' qualification requirement for cabin crew, Emirates wants persons who are adaptive, confident, flexible, friendly, very keen to help others, and can adapt to new people[9], similar to Thai Airways' requirement on persons who have pleasant personality with good human relations[10].

According to the data gathering from Abinitio Service Training: Emirates Service Delivery Manual, In-flight Service Operation Procedure (ISOP) of Thai Airways, their cabin services training programs aims to build cabin crew's qualification by these following topics.

[9] Emirates Group Career. (2017). Careers, Cabin Crew. Retrieved from http://www.emiratesgroupcareers.com/cabin-crew/
[10] Thai Airways. (2018). https://www.thaiairways.com/en_SG/about_thai/public_information/general.page

Emirates	- Interacting with passengers - Professional awareness - Cross cultural understanding - Airline terminology - Cabin familiarization - Galley operator's duties and responsibilities - Sequence to other meal service	- interacting with colleagues - Professional image - Cross cultural communication - Public announcement - Duty free - Food and beverage service skills - Service flow - Special meal service
Thai Airways	- Time table - Passenger handling - Aircraft familiarization - In-flight communication equipment - Cross culture communication - Manner and etiquette - Working routine	- Air traffic geography - Baggage in general - Aircraft system - Customer relations - Galley equipment - Basic food and wine knowledge , and service etiquette - Preparation for trainee flight

Cabin service simulator or cabin service mock-up is an important facility for cabin crew service training, and also for safety training. It is built and designed to offer a realistic passenger cabin environment, functional cabin service equipments and training devices, including multiple cabin class passenger seating, functional In-Flight Entertainment (IFE) systems, functional galleys, configured per customer specifications, lavatory mock-ups, functional cabin lighting, functional galley ovens, coffee makers, and other equipment, functional overhead bins, cabin aattendant stations, and camera and microphone systems for observation and post-training debrief[11]. Full functional simulator helps cabin crew to be familiar with working environment on the airplane and feel confident to deliver both safety and service when they work on the real flight. It is also an effective training tool that for developing passenger handling skills and giving experience of team working and team communication to trainees.

Bridging In-flight Services Project to Creative Process

A cabin service mock-up was build at International College of Suan Sunandha Rajabhat University, Nakhon Pathom Education Center since 2016, to promote new learning atmosphere that encourage students to gain knowledge, skills, and experiences for working at the airport and on the airplane. The simulator was equipped with 44 seats configuration, including 4 business class seats and 36 economy class seats. All seats were fitted with personal television screens. There are 4 emergency exits, a functional galley, a lavatory mock-up, functional cabin lighting, functional overhead compartments, camera and microphone systems which are controlled from cabin crew working station.

Students attend 3 hours classroom within 15 weeks during the course. They use the mock-up as a classroom since the first week until 10th weeks, to gain knowledge about cabin crew's role, responsibilities, tasks, and other aviation knowledge. Topics to teach students during this period were selected from Emirates Service Delivery Manual and In-flight Service Operation Procedure (ISOP) of Thai Airways. A group of three airline business lecturers who used to work as cabin crew and three active cabin crew, one of them is from Emirates and others from Thai Airways, assessed and identify knowledge and skills that are required for cabin crew position and also other service jobs in airline business. This is a co-creation and collaboration between academic world and industry to design the course and prepare students to be able to work in the future. Teaching them these knowledge and skills can be called as the Preparation phase of Wallas' four-stage model of creative process.

Group assignment sheets for in-flight services project were given to students on the 2nd week in order to inform them in advance and remind them about the problem that they need to help each other to solve. Instructions, objectives, grading criteria, and time limitation within two hours on this project are clearly shown and explained to students. This problem-based learning can help students to develop new skills and knowledge during the problem solving process[12], and it can help students understand the link between what they are learning that day with similar assignments for their entire post-secondary career and beyond, in real world situation[13]. The assignment is considered as a problem that is presented to students

[11] Newton Design. (2017). Cabin Service Trainers. Retrieved from http://newton-design.com/cabin-service-trainers/
[12] Northern Illinois University. (n.d.). Problem-Based Learning (PBL). Retrieved from https://www.niu.edu/facdev/_pdf/guide/strategies/problem_based_learning.pdf
[13] Downing, K. E. (2013). Using Problem-Based Learning to Facilitate Student Learning. Retrieved from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/2013/papers/Downing_Using.pdf

first, and then the lecturer will provide them topics which have information and details that students need to use to solve the problem. This is the period that students start engaging with problem and it is the start of the Incubation phase of Wallas' four-stage model of creative process.

Students are asked to show the first presentation of the plan on their projects on 11th week due to the lecturer wants to assess students understanding and their progress of learning. All group members are motivated to talk about their ideas, whether they are practical or unrealistic. Those ideas are about the design and concept of services, safety duties, each group member's role and responsibility, meals and beverages for serving to passengers, and activities for entertaining their passengers. This time the lecturer will take the role as a facilitator who guide students with reasonable solutions, and advise them to connect every idea with topics in course outline. Opinions from all class members are also welcomed because it is the way to promote peer-to-peer learning.

The lecturer also supports students to develop their creative thinking by organizing in-flight services demonstration for them. This demonstration is conducted by three active cabin crew, who are guest speaker, at the cabin mock-up. They perform as a team of cabin crew work on a flight and students perform as their passengers. The demonstration aims to provide in-flight experience for students. They can observe while three cabin crew working and interacting with passengers. They have chances to ask questions to cabin crew at the end of the demonstration and develop their deep understanding and extend their ideas at the same time with classmates. This is the period that students can explore and discuss with the group members of what information that they need more for developing their second presentations.

Some extra conditions and restrictions are added during the period of second plan development in order to challenge students. For example, some groups of students need to fill 44 seats at the mock-up with 44 high school students, while some need to fill all seats with graduated students from other colleges. The budgets for each group to run the project are also limited. Sometimes, the lecturer challenges them by assigning each group to prepare meals and beverage under the theme of Thai culture, Asian food, or international holidays destinations. To challenge students means to drive students to think in a convergent rather than divergent fashion[14], to encourage students to be expressive and innovative, and to let them play and experiment in learning.

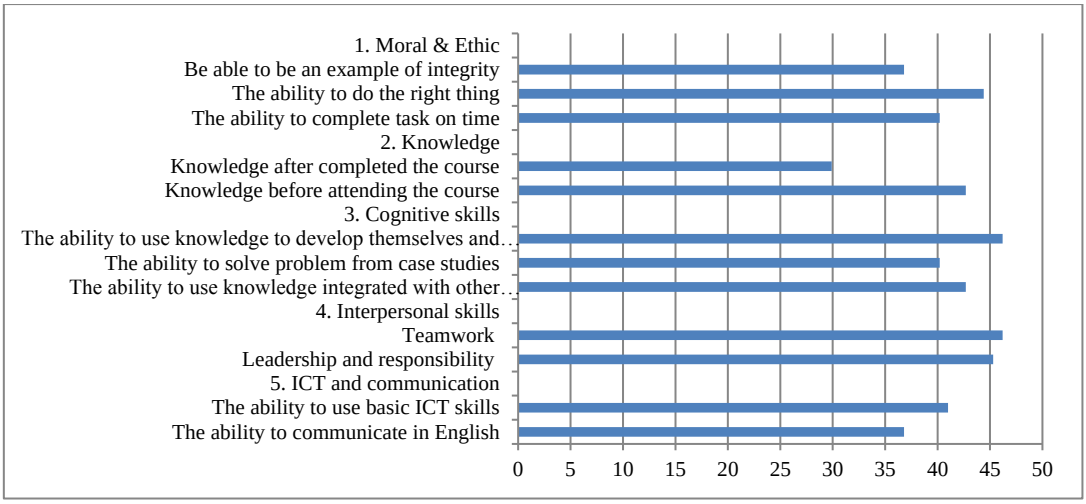
After students gained more information, experience, and confidence from in-flight services demonstration, they will be able to create more practical plan on their second presentations. This is the Illumination phase that they can connect knowledge, skills, and experience to promote their competencies. After the lecturer approved the second plan, students are allowed to practice in-flight services with their groups at the cabin mock-up for two weeks. This is Verification phase that students can test their plans and discuss more with the lecturer and group members to develop the project. It is a significant time for students to build their skills on team work, communication, leadership, and problem solving. Moreover, students are encourage practicing their social skills while exchanging ideas, and help each other to prepare for the day that they have to present the project on the final week.

Learning outcome assessment

The students were asked to express high level self-development and low-level self development (very low level of development - 1, very low level of development - 5).

[14] Tan, L. S. (2016). Fostering Creativity in the Classroom for High Ability Students. Retrieved from www.mdpi.com/2227-7102/6/4/36/pdf

TABLE I
LEVEL OF SELF-DEVELOPMENT



CONCLUSION

Creative education and in-flight services project work well on students learning development because it can change ordinary classroom to have more active, creative, and attractive environment. Although, students have more social activities with group members and the lecturer by cooperative learning and problem-based learning approaches while they are in the class, the lecturer need to introduce more ideas of blend learning for them in order to prepare them for digital era and to advance the course by using technology. Moreover, the lecturer should combine some on-line learning activities with in-flight services projects, such as group video conference, pre-recorded lectures, and on-line quizzes. If group discussion, lectures, and quizzes can be delivered to students on-line, the classroom time is more likely to use for structured exercises that focused on enhancing English communication skills which is the weak point for most students.

Lecturers in creative education also work extra because they need to think several steps ahead to create effective teaching and learning environment, designing both offline and on-line course content, and guiding the learning experience of individual students[15]. They need to change the role to be facilitators who help students to learn and encourage them to be active learners. The lecturer in the class of Cabin Crew Management also performs as a coach while students experienced some conflicts or problems during their group projects. Mindset of team spirits, leadership, people skills, and positive attitude are embedded into students' personalities.

Students have freedom to think and reflect their comments in creative education class. Listening attentively to students are another lesson that help the lecturer to find some brilliant ideas that can use for making the course better. Students used to tell that they expect to have more social activities in the class, such as group discussion, group presentation, and game, because they can break the ice and build good relationship among them before doing the in-flight services project together. They also tell the lecturer to use both individual grading for a group project instead of using only group evaluation because it can promote group participation, individual ideas contribution, and team cohesion. This is the fascinating outcome from creative education that turn students to become partners who have co-creation on the course with the lecturer.

To advance this course can be a small starting point to develop the whole Airline Business program. It is the beginning of the change for the challenges from on-line learning era. According to Clayton Christensen of Harvard Business School and the author of the book "The Innovative University: Changing the DNA of Higher Education from the Inside Out" predicted, "Fifteen years from now (2012), more than half of the universities (in America) will be in bankruptcy[16]". MOOC or Massive Open Online Courses have been grown rapidly and it has high possibility to replace some traditional universities and unpopular private universities that do not change and embrace new technology.

[15] Steward, S. M. (n.d.). What is Blend Learning?. Retrieved from https://www.mindflash.com/elearning/what-is-blended-learning
[16] Davis, J. & Farrell, M. (n.d.). Riding the Tide of Disruption in Higher Education. Retrieved from http://www.dukece.com/insights/riding-tide-dis ruption-higher-education/

Changing to better quality of teaching and learning is a solution for Thai universities. One part of better quality building comes from lecturer's dedications and passion to change traditional classroom to be an creative thinking space. Therefore, total quality is a keyword for developing Thai universities sustainably during the difficult time.

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RELATIONSHIP OF CORPORATE SOCIAL RESPONSIBILITY AND A FIRM'S FINANCIAL PERFORMANCE WITH JOB PERFORMANCE AS A MEDIATOR

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ABSTRACT

This paper examines the association between corporate social responsibility and financial performance with the mediating role of job performance. Based on a survey of 217 respondents of Industrial sector of Pakistan, results of the data analysis supported the positive and significant relation between these variable. Conclusion has drawn upon on experimental investigation of the different firms which confirms a positive relationship backed up with good supports for the proposed relationship.

Keywords: Corporate social responsibility, financial performance, job performance, Pakistan

INTRODUCTION

Corporate social responsibility (CSR) includes industrial practice of a company which are implemented to progress the social wellbeing (korschun, Bhattacharya and swan 2014). The corporate social responsibility has long history and the corporations spends billions of dollars for such practices (Smith, 2014). To understand CSR performance many of the organization explain CSR details of performance in their annual reports (Servaes and Tamayo 2013). The corporate social responsibility research has been conducted at aggregate level with the focus on the implications of CSR for Stockholders value (Wang, Tong, Takeuchi& George,2016). The relationship between CSR and Firm performance has attempted by many studies to identify the firm performance. The work that has been done by Barnett & Salomon (2012) indicates that the impact of CSR on firm performance is not naturally positive or negative but it is neutral or in other words is u-shaped across different CSR level. Furthermore, researchers indicate that's firms with lower CSR have lower financial performance and firms with moderate CSR have moderate performance and then firms with higher CSR have the highest performance. The management of any organization plays a very important role in the achievement of the highest level of CSR (Wang et al 2016). The role of management involvement towards CSR can be understood well by the following two aspects, first the effect of managers and employees on CSR perceptions (Martinko, Harvey, & Dasborough, 2011). If any organization management facilitates the Corporate Social responsibility to their employees than the employee's performance will be automatically enhanced. This concept appeared valid when an organization implements CSR activities in the walk of socially irresponsible actions (Ormiston &Wong 2013). Deeper under-standing of organizational psychology processes represents a promising approach to understanding "how" of CSR (Morgeson, Aguinis, Waldman, & Siegel, 2013). Similarly, in a recent review of the psychology of CSR literature, it has been noted that "… we know that CSR has an effect on

employees but we know less about why, how, and when" (Glavas, 2016). So the idea behind this concept is that a company focus should be on CSR stems from the values, preferences and decision making (Chin,Hambrick and Trevino 2013). If the management of a corporation pays attention towards the CSR then their financial performance will go up because the stockholder will earn benefits from potential investors. If any organization management facilitates the Corporate Social responsibility to their employees than the employee's performance will automatically be improved with its direct impact on corporation's financial performance.

LITERATURE REVIEW

Corporate Social Responsibility and Financial Performance

Beginning a hypothetical viewpoint, stakeholder supposition sets the structure for the association among CSR and FP, such as consideration for the surroundings and concern for fair and just employment relationships (Saeidi, S. et al. (2015). In those cases, where the corporation does not act with social responsibility, consequential expenses could become important and stand for a monetary load likely to decrease income, most importantly to a less socially conscious corporate body. In distinction, if firms that accept socially responsible policies are at advantageous position, then socially responsible funds will provide a motivation for business to enlarge investments in CSR programs Elouidani, et all (2015) ...However, the committee for corporations and financial services providers can define the corporate social responsibility as "the firm in view of, managing and corresponding the profitable, communal and environmental impact of its activities". The success of a firms aims and objectives is defined as the financial performance (Nollet, J et al.,2016) objectives and aim for a firms should be fruitful and well organized.

CSR and Financial Performance

(Rhou, Y et al. (2016) said that the only one responsibility of an any business is to generate profit for their shareholders and there is a positive relationship between CRP and CSR. Though, Rhou, (2016) mentioned that CSR lead to spirited benefit, since the boost in CSR will get better if the association with their monetary presentation will bellow firms' business cost (Chen, L et al. (2015). Increase bazaar opportunity and price premium ultimately will result in upper net monetary presentation. Also, experiential study established that the association stuck between CSR and CFP has been contradictory and some studies confirmed an unhelpful association (Flammer, C. 2015). A number of unbiased and a lot of encouraging associations have also reported in the past (Saeidi, et al 2015). On the basis of above discussion, following hypothesis has been developed;

H_1: Corporate Social Responsibility has a positive relationship with financial performance.

Corporate Social Responsibility and Job Performance

JP is a positive emotional condition resulting from the overall evaluation of an employee's job (Korschun, Bhattacharya, & Swain,2014).it has been a topic of interest in the context of CSR research for nearly three decades. For example, Vitell and Davis (Wang, H., Tong, L., Takeuchi, R., & George, G. (2016) identified a direct relationship between the ethical climate of a firm and various dimensions of JP. The outcomes of their research have indicated that managers may be able to increase JP by inspiring ethical behavior and by reducing the opportunity for unethical behavior among their employees. In accordance with this work, Schwepker Jr. (Story, J., & Neves, P 2015) observed the relationship between the ethical climate and JP, OC, and intention to leave. The said study used a cross-sectional sample of business-to-business sales executives in the southern region of the US. According to (Tamm,Eamets, & Mõtsmees, 2010) the five aspects of the employees job performance were observed in this paper and these five aspects take account of their presentation with job opportunities, pay, manager, workload and operational circumstances in their organizations. The accessible text on CSR and job Performance creates a positive connection between CSR and Job performance which is hypothesized as.

H2: CSR have significant positive relationship with Job Performance.

Job Performance and Financial Performance

Today, a wide-ranging journalism assessment shows that no agreement has been reached between scholars (Banes-Caballero, et al 2014) of job performance on financial performance. (Barrick, et al 2015) discovered an extensively optimistic relationship among Tobin's Q and a construct job performance guide which consists of 51 fundamentals of inside and outside domination mechanism. In the background of rising economy, Post, C., & Byron, K. (2015) has confirmed an important optimistic association among job performance and monetary representation, as calculated by Tobin's Q and surplus stock return. (joseph et al 2015) has researched on the job presentation index with marketplace worth of Korean communal company. (Banes 2014). examined the relationship among job presentation arrangement and firm presentation for 107 firms scheduled in the Nigerian Stock Exchange. These findings are reliable with the work of Varshney et al. (2012), who supply experiential proof that high-quality job presentation practice absolutely affects a firm's performance as calculated by financial worth addition. The worker's performance-profit sequence is a practical replica to improve and to be aware of the predictable association among job performance and financial performance (Williams and Neumann, 2011). Lazaroiu, et al. 2015 suggested that the organization would be more successful if they respond to the desires and performance of the customers to satisfy their needs. The universal agreement is that advanced purchaser presentation results to upper level of repurchase intent, customer advocacy and customer retention. According to Williams and Neumann (2011) higher satisfaction and loyalty resulted in higher revenue and profit for an organization and cash flows.

H_3: job performance will have a mediating effect on Financial Performance.

METHODOLOGY

Sample and Data Collection Procedures

Data was collected through questionnaires which were distributed to 217 respondents in different cities of Pakistan and 183 fully filled questioners were received back out of which 167 were useable questioners with the response rate of 76%. Data was collected from investors of private companies, textile manufacturing firm, offices of the government ministry, telecommunication sector and from different universities of Pakistan. There are 63 % of male respondent and 37 % female respondent, 43% are married and 57% unmarried, 50% female respondent, 33 % respondent age are 25-40, 71% are part time respondent. The majority of respondents (80.1%) were male with an average age of 31 years. The sample included several occupational levels comprising 31% entry level (clerical and information technology) workers, 80% supervisors and middle managers, and 4% upper middle and top-level managers. And 31% of manager has experience of about 5-10 years.

Measures

All the study variables of this study were measured at 5% Likert-type scale where 1 represented strongly disagrees and other 5 agree. For all measures, higher scores corresponded to higher levels of the construct.

Corporate Social Responsibility

Corporate Social Responsibility: Corporate Social Responsibility was measured using 16 items scales developed by Caroll, A. B., & Shabana, K. M. (2010). One sample item is "This Company supports culture and art activities of local community." Cronback Alpha reliability of this scale was .64 %.

Financial Performance

Financial Performance was measured by the use of 8 items scales developed by Venkatraman, N. (1989). One sample item is "Return on investment position relative to competition" the Cronbach Alpha reliability of this scale was .59%.

Job Performance

Job Performance was measured by the use of a 7 items scales developed by (Williams and Neumann, 2011). One sample item is "Engages in activities that will directly affect his or her performance evaluation." the Cronback Alpha reliability of this scale was .48 %.

Control Variable:

We used age, gender, Education, marital status and experience as control variables through one-way ANOVA that control the gender and DV using one-way ANOVA where ($F = .10$,and $P > .05$),then we control age and DV using one-way ANOVA where ($F = .44$ and $P > .05$) then we control work status and DV using one-way ANOVA where ($F = 1.42$ and $P > .05$) then we control position and DV using one-way ANOVA where ($F = 1.37$ and $P > .05$) then we control experience and DV using one-way ANOVA where ($F = .54$ and $P > .05$).

RESULTS

Table 1

Means, Standard Deviations, Correlations, and Reliabilitiess

	Mean	S. Deviation	1	2	3
Corporate Social Responsibility	4.26	.27	(.64)		
Financial Performance	3.62	.65	.11[s]	(.59)	
Job Performance	3.51	.73	.12[s]	.97[s]	(.41)

s. Correlation is significant at the 0.05 level (2-tailed).

Mean, Stander Deviation, Correlation and Reliability given in the table 01 shows descriptive statistics, vicariate correlations, and estimates of reliability (coefficient α) for all measures. Multiple linear regression analyses were used to test all main effect hypotheses. In table 01 it is interpreted that there are positive and significant relationship among all main variables.

Table 2

Moderated Regression Analyses

	JP			Financial Performance		
Step 1	β	R^2	ΔR^2	β	R^2	ΔR^2
Corporate Social Responsibility	.42[s]	.21	-	.53[s]	.42	.84
Step 2						
Corporate Social Responsibility				.11[s]	.57	
Job Performance				.98[s]	.95	

S= for significance

Ns= for non-significance

DISCUSSION

The first hypothesis of this study was about a positive and significant relationship between corporate social responsibility and financial performance and as per the results this hypothesis is supported which is very much in line with the past study conducted by Tang, Hull, & Rothenberg, (2012).The second hypothesis of this study was about the positive and significant relationship between corporate social responsibility and job performance and the results of analysis have supported this hypothesis which is very much in line with the previous findings of the study conducted by the (Ormiston & Wong, 2013). The third hypothesis of this study

was about the positive and significant relationship between job performance and financial Performance for which data analysis have given the positive and supportive results too.

Limitation and future research

Usage of convenient sampling techniques with small sampling size limits of the generalizability of our finding. For future research it is recommended to collect the data from large size sample and also to collect the data from the different sectors of Pakistan Stock exchange with other possible mediating variable like customer satisfaction or consumer loyalty etc.

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IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY ON BANK PERFORMANCE OF SELECTED BANKS IN ONDO STATE NIGERIA

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ABSTRACT

This study examined the Impact Information Communication Technology on Bank Performance of selected banks in Ondo State. The findings reveal that technology innovation has influenced Nigerian banking industry performance. The introduction of information technology communication has influenced customer satisfactions. Thus the followings are drawn. The implication of information communication technology had really enhanced the profitability of banks. Also it reduces management costs of banks. Also, it was concluded that information communication technology has contributed to the effectiveness of staff thereby aiding accuracy and speed. This study found out that the use of information communication technology had reduced stress in banks operations, despite all the implications of information communication technology had brought to the stakeholders, it was concluded that *the business environment in Nigeria hinders the smooth operations of internet banking in the country*.

Keywords: Information Communication Technology, Bank, Performance

INTRODUCTION

The financial system plays a crucial roles in promoting economic development by separating the saving and investment functions. Virtually, investment in all sectors of the economy, particularly the real sector, made possible by the financial resources in the financial system, could increase the quantum of goods and services (Ibrahim, Muhammad & Gani, 2012). Thus, application of information technology (IT) concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness (Agboola,2005), ICT directly affects how managers decide, how they plan and what products and services are offered in the banking industry. Accordingly, bank facilitate economic transaction between various national and international economic units and by so doing, it encourages trade, commerce and industry on the one hand, promoting globalization by easing global access to fund without any barrier. However, it is needless to say that, banking system is able to play the positive role of enhancing globalization only if it has robust Information Technology (IT) as a backstopped. Otherwise, it would constitute bad omen to the development of global economy. This is based academics unanimity of impossibility of globalisation without global agents of payments. The increased demand for ICT in banking sector became imminent and unavoidable in the world at large and Nigeria in particular. Invariably, the future lies in the ICT driven banking systems and

services. Banks have embarked on unprecedented deployment of ICT based banking products and services such as Automated Teller Machine (ATM), internet banking, mobile banking solutions, point of sale terminals, computerized financial accounting and reporting, human resources solution among others, of which plays salient roles in enhancing the performance of banks over the world (Ovia, 2005).

Also in recent years, banks have been investing more and more in information technology, not only as a means to reduce costs and improve operations, but presumably also as a key to profitability. With ICT, banks are able to improve on their management of consumer relationships, streamline operation, expand their activities, improve service and minimise risk exposure in a turbulent market (Hoffman, 2008), software solution is helping to optimise branch deliver through facilitating the planning of new site, relocations and closures based on a host of detailed data, such as population demographics and density (Amato, 2009).

The internet cash management services allows business to access balance and payment information, front statements and transfer money between accounts via bank's website (Cavano, 2008). Cavano (2008), noted that with the advent of the internet, speed had begin to overtake trust in client relationships, and innovation had surpassed tradition, forming a new paradigm economy. He warned that banks that have not rapt pace with latest technology would discover that they cannot deliver the information or services demanded by the new digital economy.

The banking sector is actually an old beneficiary of the offering of ICT. According to Grange Smith & Oppenaim (2004), ICT has played a central role in the development of banking industry for the following reasons. (1) Banks are not contrary to the popular image, primarily in the money busyness. They are in the information business. The primary responsibilities are the capture, distribution, analysis and processing of financial information., (2) It has enabled banks to widen the range of services offered to their customers and transform their operating system, (3) ICT is the largest fixed cost incurred by banks after personnel, (4) ICT has enabled banks to increase the volume of their services, operate at a higher level of efficiency and realise economies of scale (4)The banking sector in Nigeria has witnessed tremendous changes linked with the developments of ICT over the years (5)The struggle for survival, global relevance, maintenance of existing market share and sustainable development has made exploitation of the many advantage of ICT through the use of automated devices imperative in the country. The study attempts to evaluate the response of banks to the development in the world of ICT and to determine the extent to which ICT has contributed to the performance of banks.

LITERATURE REVIEW

2.1 INFORMATION COMMUNICATION TECHNOLOGY AND BANK PERFORMANCE

Information Communication Technology (ICT) has become the lifeblood of any corporate organisation for growth and development thereby making the entire world moving away from traditional banking to computerised banking applications. Consequently, there has been huge investment in ICT facilities and personnel with requisite skills necessary for the operation of ICT born devices. Banks have been facing the stiff challenges of required hefty fund for investments in human capital, capacity building, deployment of equipments, designing applications, etc due to the ever rapid changing in ICT devices as a result of breakthrough on the one hand and the dynamism of the global ICT industry on the other hand (Abubakar, Gatawa & Birnin-Kebbi, 2013).

However,over the years, banks have invested huge capital in deployment of ICT solutions for front office and back office automation alike. The internet and e-business has not only changed the way organization do business and communicate with their partners but has for many years become a requirement for business survival when it is an avenue to have competitive advantage (Babatunde, 2017 & oherem, 2000). Despite the integration of banking services and operation into information and communication technology, expected and projected performance of banks have not fully emerged as it would have been considering the level of information and commutation technology development. To which much is given, much is expected. Development in information and communication technology ought to bring a level of commensurate performance to the banking industry (Otle, 2009). However the ever-increasing challenges of ICT deployment in conformity with the banking best-practice had remained a burning issue in the banking industry and so need to investigate its relevance on banks performance becomes imperative (Oladele, 2003). It is against this background that this study sets to investigate the role of ICT on bank performance of selected banks in Nigeria.

2.2 Information and Communication Technology and Banking Industry

The application of information and communication technology (ICT) concepts, techniques policies and implementation strategies to banking services has become a subject of fundamental importance and concern to all banks and indeed precipitated for local and global competitiveness. ICT directly affects how managers decide, how they plan, what product and services are offered in the banking industry (Agboola, 2004).

Woherem (2000) opined that only banks that overhauls the whole of their payment and delivery system and apply ICT to the operations are likely to survive and prospect in the new millennium. Banking industry in Nigeria has witnessed tremendous changes (Agboola,2004), With the development in ICT over the years and this has led to be quest for survival, global relevance, maintenance of existing market share and sustainable development. This study makes adventure into the world of ICT and examines the extent to which banks have been impacted with this development

By and large, there exists a clear link between the adoption of new e-business technology and innovation (Koelinger, 2006). E-business and ICT investment in general can enable process innovations if the implementation of new ICT succeeds the routine are changed and the new system actually utilised. Over the years, businesses have been including significant investments in information and communication technology. OECD (2003) reveals that the investment in information and communication technology in its member countries has risen from 15% of the total non-residential investment in the early 1980s to between 15% to 30% in 2001.

2.1.1 The Internet

The internet is a global network that enables computers to share and communicate services around the world. The internet is an enormously shared global resource of information and knowledge as well as means of collaborations knowledge as well as means of collaboration and cooperation among countless diverse communities (Internet Society, 2001). Technically, what distinguishes the internet is the use of a set of protocol called TCP/IP (Transmission Control Protocol/Internet Protocol). TCP/IP is the basic communication language of the internet. The internet and e-business has not changed the way companies do business and communicate with their partners, but has many years become a requirement for business survival. In order to be competitive in today's networked business environment, companies must be able to deliver applications and services with real value for their partners (Ling & Yen, 2001). Internet based IT can manage the flow of goods, services and information inside and across organisation, this reducing the basic transaction costs involved in vertical flow of goods and services along a value chain (Bates, 2011).

2.1.2 Information and Communication Technology and Banking Services

Information communication Technology (ICT) is the automation of process and control information production using computers, telecommunication software and auxiliary equipment such as automated teller

machine and debit cards while communication is the conveyance or transmission of information from one point to another through medium (Khalifi, 2000). According to Alawode & Emmanuel (2008), an example of new ICT has had impact on the banking industry in that its emergence allows banks to apply credit-scoring techniques to consumer credits, mortgages or credit cards. Hence, products that used to be highly dependent on the banks evaluation of its customers have now become standardised. Other examples of ICT impact on the banking industry include the increased process efficiency which can reduce costs in banks and the branch reward where focus is gradually shifting away from traditional brick and mortar banks towards the dual bank concept.

However, Irechukwu (2000) lists some banking services that have been revolutionalised through the use of ICT as including account opening, customer account mandate, transaction processing and recording. Information and communication technology has provided self-service facilities (automated customer service machines) from where customers can complete their account opening documents. It assists customers to validate their account numbers and receive instruction on when and how to receive their cheque books, credit and debit cards. ICT products in use in the banking industry include Automated Teller Machine, Smart Cards, Telephone Banking, MICR, Electronic Funds Transfer, electronic Data Interchange, Electronic Home and Office Banking (Agboola, 2005). Several authors have conducted investigation on the impact of ICT on the banking sector of the Nigeria economy. Agboola (2001) discussed the dimensions in which automation in the banking industry manifest in Nigeria. They include: (i) Bankers Automated Clearing Services:- This involves the use of magnetic ink character reader (MICR) for cheque processing. It is capable of encoding, reading and sorting cheque. (ii) Automated Payment System:- Devices used here include Automated Teller Machine (ATM), plastic cards and electronic funds transfer. (iii) Automated Delivery Channels:- These include interactive television and the internet.

2.1.3 Information Communication Technology' Infrastructure used by Banks

From a survey on some selected Nigeria banks revealed their uptake in some ICT infrastructures. The outcome of his survey presents the table below.

Table 1

ICT Infrastructures by Banks in Nigeria

S/N	ICT Infrastructures	Percentages of Nigeria Banks that use a particular infrastructure within 2008-2017		
		2008-2010	2011-2013	2014--2017
1.	Internet Access	88%	89%	93%
2.	Internal Wire based network	72%	75%	82%
3.	Wireless	28%	60%	78%
4.	SMS Alert	78%	88%	89%
5.	Substitution of Posted Mail	88%	78%	92%
6.	ICT security measures	90%	92%	94%
7.	Authentication	85%	88%	95%
8.	Automated payment system	87%	92%	97%

Source: Authors Computation, 2018

2.3.1.1 Internet Access

An important indicator of the general uptake of Information and Communication Technology (ICT) in the banking relates to the use and availability of internet. Internet access is a precondition for e-business, as this is the main channel for e-banking. The general availability of internet allows for the analysis of overall ICT-readiness in the banking industry. The table shows that 91% of banks studied in Nigeria have access to the internet within year 2006 and 2008, while 27% and 88% from year 2000 to 2002 and from year 2003 to 2005 respectively was as the result of ICT awareness competitive products introduced by some of the so called new generation banks, virtually all other banks also based up to satisfy their customers and there was general improvement in the services and products of banking industry.

2.3.1.2 Use of Internet Network and SMS Alert

The application of networks is a vital part of an effective ICT enable system which is especially true in the case of banks with a branch network. Local Area Network (LAN) may also be seen as a basic indicator of the minimum infrastructure required to enable companies to conduct e-banking at a substantial level. Wire based LAN is currently the dominating technology. The survey shows that 92% banks surveyed use wire based LAN from year 2006-2008. The fact that LAN is relatively low-tech and easily attainable ICT solution

would be some extent explains the wide coverage of this technology from year 2000 to 2008. Wireless LAN is relatively new technology in the banking industry and is used to permit bank employees to access network resources from nearly any convenient location. The fact that wireless LAN is relatively new technology accounts for its low percentage uptake in banking industry. In addition, the instant notification of transactions made was another innovation brought by ICT through the use of smart phones in conjunction with the internet facility in the banking industry. Virtually all banks studied in Nigeria use SMS alert, except some of micro-finance banks. It was an ICT infrastructure that recorded no patronage between year 2000 and 2002.

2.3.1.3 Substitution of Postal Mails

The banking industry is currently being renewed in many areas. One of this areas relate to the digitisation of formerly paper based process. Electronic mail is increasingly being applied from especially non correspondence like account statements, marketing and sales. More than 80% banks surveyed by Alawode and Emmanuel (2009) have substituted electronic mail with old postal mail within year 3006-2008. The outcome shows that, efficiency gains from electronic mail are yet to be reaped and indicates that the industry is a bit fragmented in its update of electronic mail as means of communication.

2.3.1.4 Information Communication Technology Security Measures

The security measure is of special concern in the banking sector as banking is highly based on trust from its customers. The risk of hackers, denial of service attacks, technological failures, breach of customers privacy information and opportunities for fraud created by the anonymity of the parties to electronic transactions all have to be managed. Depending upon its nature and scope, a breach in security can seriously damage public confidence in the stability of a financial institution or of a nation's entire banking system. Hence, by introducing the appropriate security measures and putting security concerns at bay, the banking industry might be able to attract the segments among consumers who previously were inclined to use e-banking. Furthermore, it is also the banks own interest to improve security, as digital fraud can be costly both in financial issues and in terms of the damage it does to the brand of the bank in question.

2.3.1.5 Authentication of Users Information

The common concern among users of e-banking is related to the authentication of users and data collection. The use of digital signature is not a common as PIN codes or encryption and reason is the fact that digital is reactively new technology. The research even shows that none of the studied banks uses digital signature as

the form of authentication but the uptake in other types of authentication is generally high up to 85% within year 2006 and 2008.

2.3.1.6 Automated Payment System

Devices used in automated payment system include Automated Teller Machine (ATM) and Electronic Fund Transfer. ATM is still ranked higher in its spread this technology might be due to cost, fear of fraudulent practices and lack of facilities necessary for their operation. But generally speaking, the adoption of automated payment system increased dramatically.

2.12 Technological Perspective

In response to the demands for quick, efficient and reliable services, industry players are increasingly deploying technology as a means of generating insights into customers' behavioural patterns and preferences. Well developed outsourcing support function (technology and operations) are increasingly being used to provide services and manage costs (e.g. Automated Teller Machine networks cards processing, bill payment, software development, call centre operation and network management).

METHODOLOGY

A research questionnaire was designed by the researcher in order to elicit response from the respondents. The population considered in this study is hundred (100), all the staff of ICT department The sample size used is 25 staff of the ICT department and 25 senior staff from other departments of the bank so as to cut across all sector of the bank. Data analysis were carried out through the use of Ordinary Least Square (OLS) method as simple regression analysis. Simple frequency count and percentage will be employed to analyse and interpret the section A of the questionnaire while regression data analysis method will be employed in testing the hypothesis.

FINDINGS

Table 4.1

Regression analysis showing the examination of ICT development on banks' performance

Model	B	St. Error	T	Sig. T	R	R^2	Adj. R^2	F	Durbin Watson
Constant	41.000	8.687	4.720	0.133	0.926	0.693	0.481	-0.038	
X	0.192	0.200	0.962	0.512					

From the above table, the estimated model using Ordinary Least Square Regression is given as follows:

B.P = f(X,U)

B.P = a + bX + U

B,P = 41.000 + 0.192 X

C(8.687) (0.0200)

X = Standard Error in Parenthesis

t = (4.720) (0.9620)[8]

R = 0.962, R^2 = 0.693, Adj. R^2 = 0.481, F = -0.038

From the above OLS results, it could be inferred that the constant parameter is positively or directly related to Y. The coefficient of the constant parameter (B_0) is +41.000. This implies that if all the explanatory variables are held constant, Y which explained variable will increase by 41.000 units. Also, the coefficient of exchange rate (X) is 0.192 and this implies that a direct relationship exist between Y and X in the short run. The short run equilibrium relationship existing between Y and X conforms to the a priori expectation. The relationship shows that a unit increase in X will cause Y to rise by 0.192 units.The R^2 is relatively high at 0.481 as the explanatory variable (ICT development) in model accounted for 48.1% variation in the dependent variable (banks' performance). The relationship between ICT development and bank performance is high and positive as indicated with correlation coefficient of 0.0693. The overall significant of the model was tested at 5% level using F-statistics (F = 0.926).

4.2 Test for Statistics Significance of the Parameter (t-test)

The t-test is employed to test for the statistical significance of each of the parameter. The test is aimed at comparing the t-calculated with the t-tabulated. The decision rule is to accept the null hypothesis (H_0) if the t-tab is greater that t-cal while the alternative hypothesis (H_1) is accepted if the t-cal is greater than t-tab.i.e. H_0: α 0= 0. Statistically not significant, H_1: α 0 $\neq$ 0. Statistically significant, The tabulated t, for this study is given as: T_{95} = N – K

Where N = number of years

K = number of variable

N = 50, K = 2

(T_{95} in 100 – 2) degree of freedom (dof)

(T_{95} in 98) dof @ 0.025

t-tabulated = 2.145

Table 4.2
Regression analysis showing the examination of ICT development on banks' performance

Variable	t-cal	t-tab	H_0	H_1	Remark
Constant	4.720	2.145	Reject	Accept	Significant
ICT. D	0.962	2.77	Accept	Reject	Insignificant

The table above shows that the constant parameter is significant enough in the explanation of B.P because the t-cal (4.720) is greater that t-tab (2.145) therefore, we reject the H_0 and accept the H_1. In case of ICT.D, t-cal (0.962) is less that the t-tab (2.145) i.e. t-cal>t-tab. The null hypothesis (H_0) is accepted while the alternative hypothesis (H_1) is rejected which means that the statement is statistically significant.

4.3 Test for the overall significance of the model (t-test)

The f-test is a tool used in measuring the liability of the overall significance of the model. This will be tested under 95% confidence level with a tail test.
The f-test is presented in the table below, given the f-tabulated as:

(F_{95} in K – 1, N – K) dof

N = Number of Observation

K = Number of Parameter

Therefore, (V1, V2) = (K – 1, N – K) dof

= (2 – 1, 50 – 2)

= (1, 48)dof

F-tabulated = 3.6

DISCUSSION

F-Cal	F-Tab	H_0	H_1
0.926	3.60	Accept	Reject

The f-table above shows that f-tab (3.60) and f-cal (0.926). This means that f-tab is greater than the f-cal. Therefore, we reject the alternative hypothesis (H_1) and accept null hypothesis (H_0) which means the whole model is statistically significant to the study

RECCOMMENDATION AND SUGGESTION FOR FURTHER STUDIES

This study recommended that more attention has to be directed towards the use of information communication technology in the banking operations since the industry serve as a lubricant to the cog of the wheel of the nation's economy while appropriate policies must be put in place to ensure proper monitoring and the determination of the optimum size required to attain banks performance. The study recommend the followings (1) Banks should evaluate the significant impact of ICT development in bank's performance; (2) Operators in the banking sector should also endeavour to determine the rate at which ICT development has contributed to bank's performance in Nigeria; and (3) Finally, the y should determine the effectiveness of ICT development in Nigeria banks. However ,this study suggested that further study could be conducted to determine the effect information communication technology on employees' performance, customer's satisfaction, guarantees sustainable profit, increased return on investment, return on equity and its effect on the promotion of competitive in the Nigerian banking industry with the view to keeping the managers of banks in Nigeria to keep the pace with global ICT trends.

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THE RESULT OF ORAL MEDICATION EDUCATION PROGRAM FOR PREVENTING COMPLICATION IN DM. PATIENT

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ABSTRACT

Aims: To change the ability of self-efficacy, self regulation and self-care health behavior about Oral hypoglycaemic agents that are used in type 2 diabetes by education for prevention and control of diabetis complication

Methods: The sample of subjects at risk and patients with diabetes and high blood pressure. A total of 28 people from the Premruthi community 20 at Pravate Bangkok. Most are female have lower education. Entitled to healthcare Gold in Bangkok. The Vulnerable groups and groups with diabetes and high blood pressure 51.3 percent. Accounted for 10.6 per cent of the risk factors is important. Obese / BMI was 24.7 percent higher risk behavior is eating spicy food (sweet, sour, salty) 40.7 percent. Lack of exercise, stress, 12.7 percent to 28 percent, Genetic risk is 23.3 percent and 12.7 percent were smokers. By the method of participatory learning with Self Awareness Of Blood sugar controll .Research design 4 times meeting each time consisted of 4 steps (planning, action, observe and reflect). The main activities health education of Oral hypoglycaemic agents that are used in type 2 diabetes. program behavior Self Awareness of blood sugar controll were motivate compliance by ice breaker to know each other. Providing teaching& learning, Take feedback from group accepting &all suggestions. Care and share about experience and information, empowerment, story telling, two-way communication, reflective thinking, team-based learning, , active learning in the prevention and control of diabetis complication by Oral hypoglycaemic agents that are used in type 2 diabetes among participants in group.

Results: Most members were satisfied with the high level of 97.3 per cent suggested in the project next time. After receiving behavior modification ago have efficacy in their health behavior self-regulation and self-care in Oral hypoglycaemic agents that are used in type 2 diabetes behaviors better than before the event: 92.3 percent, 90.0 and 96.6 of the participants, respectively. It is a change in a better direction.

Conclusion: This research focused on the development of activities that encourage participants have the skills and knowledge through teaching& learning practical action. Make sustainable approach is organized in accordance with activities that blend into community everyday life. Obtaining social support to encourage volunteerism, , some extra incentive to participate. These factors resulting trust and cooperation from members and communities .

Keywords-- Self Awareness Of Blood sugar controll participatory action research, Health education

INTRODUCTION

Diabetes is one of the largest global health emergencies of the 21st century. Each year more and more people live with this condition, which can result in life-changing complications. In addition to the 415 million adults who are estimated to currently have diabetes, there are 318 million adults with impaired glucose tolerance, which puts them at high risk of developing the disease in the future death [1]. Of complications to the eyes, kidneys, nervous system, heart and stroke.

In Thailand are facing diabetes Data from the Bureau of Policy and Strategy Ministry of Public Health Meet people died from diabetes in the year 2009, about 7,019 people, or about 19 people per day, and a survey of the health status of people aged 15 years and over Thailand 2nd Year 1996-1997 compared to the three years from 2546 to 2547, prevalence increased from 4.4 percent to 6.9 percent for the fourth time as last time. Year 2551-2552 Found the same prevalence of diabetes is 6.9 percent. And a survey of the health status of Thailand found that one in three times, four of those with diabetes do not know they have diabetes before. For those who have been diagnosed by a physician as diabetes, 3.3 percent were not treated. And those who were treated with only 28.5 percent of the control of blood sugar levels in the less than 126 milligrams per deciliter had[2]. Reducing risk factors and encouraging people with diabetes to take care of themselves properly, so it is a measure that will reduce and slow down the disease and the effects..STENO2; In conclusion ,long-term follow-up of 21.2 years in T2D patiens with microalbuminoria where glicazide and metformin were part of intensive multifactorial treatment shows a median 7.9- year gain in life in parallel with an increase in time free from incident CV disease,and a huge reduction in retinal and renal complication. DIAFOCUS By helping vulnerable groups and people with diabetes understand and realize the threat of disease. Knowing the causes of disease know the early warning signs of diabetes. Knowing how to prevent delay diabetes. Learn self-care on diabetes control and prevent complications that arise as a consequenceThe objective of drug therapy is to help people with diabetes learn how to make appropriate lifestyle choices. Once made, these can help people with diabetes achieve optimum metabolic control and prevent diabetes complications. These choices include: Firstly, the treatment with blood glucose-lowering medicines should reduce the symptoms of hyperglycaemia.Treatment should be planned so as to minimize the adverse effects of treatment, such as hypoglycaemia.Quality of life and well-being should be improved where possible, or at least maintained.Secondly, treatment should lead to the best possible blood glucose levels in order to prevent or delay the development of complications such as: Cardiovascular disease and stroke (cerebrovascular disease) Eye damage (retinopathy) Kidney disease (nephropathy) Nerve damage (neuropathy) The blood glucose-lowering medicines can be divided into five groups by their mode of action: The insulin secretagogues – stimulate the pancreas to release more insulin. This group can be divided into:- sulphonylureas: release more insulin, unrelated to time or glucose level meglitinides: release more insulin, possibly related to blood glucose level. Those that reduce glucose production by the liver – Biguanides are the main group, although the thiazolidinediones (TZD) have some action on the liver. Those that reduce peripheral tissue insulin resistance – primarily the thiazolidinediones, but biguanides act similarly to an extent. Those (alpha-glucosidase inhibitors) that slow the absorption of complex sugars and therefore slow the rise in glucose. GLP-1 (incretins) – increase the response of the beta cells to circulating levels of glucose. changes todrug knowledge& in activity patterns. Health professionals need to apply their knowledge of medical and behavioural science to successfully counsel people with diabetes. slides will cover the action, side effects, contraindications and general information on each of the categories of medication.– all affect the diabetes treatment plan and play a role in achieving optimal diabetes outcomes[18]Education is very important for people with diabetes and those caring for them. People should be informed of the reasons behind the importance of eating regularly when taking insulin secretagogues. Importantly, they should also be warned not to double up on medication if a dose has been missed Organize the participants into pairs or small groups and ask them to brainstorm the question.

Summary

The oretical information alone cannot bring about the changes necessary for people with diabetes to look after their own health. Education providing practical learning opportunities will help to make the theory come alive. Through these practical experiences the person's motivation to change is stimulated and behavioural change strategies can be developed. Improvements in lifestyle skills, self-care strategies and decision-making abilities are the outcome of such changes. Given the socio-economic, cultural, educational and linguistic diversity of people with diabetes and differences in the quality of medical care available, it is clear that one single approach cannot work in all practices, let alone in all countries.

- We know that living with diabetes is not easy; people with diabetes must assimilate a great deal of information and complete a series of daily tasks in order to effectively self-manage their condition. Before deciding what form of drug intervention to make, a full evaluation of the past and present circumstances of the person with diabetes is necessary. Such an evaluation should take account of the following issues: The person's previous experience of diabetes: any prior diabetes education their knowledge and self-care skills Their current situation: self-managemepractices (drug and treatment plans) Any relevant objectives associated with the care of their diabetes: clinical goals (target blood glucose) Lifestyle factors: levels of physical activityThe great variety of education methods available to people with diabetes around the world is a result of cultural and ethnic diversity as well as differences in access to care and resources in different countries. Ask participants to discuss drug options available in their region It is important for the healthcare provider to evaluate personal outcomes, e.g. HbA_{1c} levels, quality of life, etc.. Organize participants into groups and ask them to consider the factors that are relevant to preparing an individual drug plan.
- Encourage participants to brainstorm their ideas before going through this list as a whole group: Clinical information . Lifestyle (including work, leisure, daily routine and physical activity) Ethnic/cultural/social/economic background This needs to be taken into consideration when providing drug health behavior thefirst step is to educate in order to facilitate informed decision making. Although many people with type 2 diabetes do not view their condition as serious, it needs to be acknowledged and understood that complications occur with all types of diabetes.Diabetes is largely managed by the person with the condition on a day-to-day basis. Thus, caring for diabetes is a personal responsibility.

We can think of education as the body of information, skills and technologies that a person with diabetes needs to learn. As discussed in the teaching and learning module, how they learn will have an impact on whether or not behavioural changes follow. In this module we will discuss how to help people take the steps to behavioural change once they have the necessary knowledge.

However, by a skilled multidisciplinary healthcare team in diabetes education, 'teaching and practicing can be perceived as offering people with diabetes the opportunity to learn.

A person cannot be forced to learn something; effective teaching creates an interest in a subject so that students will want to grasp the opportunity to learn.There are many risk factors for type 2 diabetes. Some are preventable and a great deal of work has been done to try to develop programmes to prevent diabetes. To maintain good health habits as a way of life of each individual, consisted as the follow[12]:

1. Positive reinforcement
2. Result based management
3. Optimism
4. Motivation
5. Individual or client center
6. Self- esteems

The efficacy of a behavioral change, therefore, the implementation of the project was to maintain good health habits as a way of life of each individual promote learning how to prevent diabetes complications.

Thus Self Awareness Of Blood sugar controll For Thai County DM . at Premruthai Pravate Community BangkokThis results in reducing complication, morbidity and mortality rates from diabetes complications, and maintain good health habits as a way of life of each individual promote learning how to prevent diabetes complications in Premruthai Pravate Community Bangkok

Objectives

The members who attended this program is maintain good health habitsdrug as a way of life of each individual promote learning to prevent diabetes complications.

Research design and samples

The research design by using Participatory Action Research (PRA) with 28 purposive sampling at Premruthai Pravate Community Bangkok, who at risk for diabetes or high blood pressure. They enroll in the participatory activity with Self Awareness Of Blood sugar controll during January 2013 –July 2013, for creating 3 S (self awareness, self regulation and self care) as in the step figure 2.

Figure 2

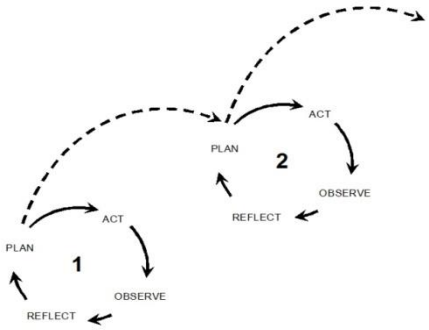

Fig. 2 shows a spin around the operating part for prevention and control of Diabetic complication

METHODOLOGY

The duration of the operation in January 6, 2558 - July 31, 2558. By the method of participatory learning with Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes Blood sugar controll program. Research design 4 times meeting each time consisted of 4 steps (planning, action, observe and reflect. The main activities in Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes program r were motivate compliance by ice breaker to know each other, teaching and learning, care and share about experience and

information,empowerment,story telling,two-way communication,reflective thinking, ,active learning about Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes among participants in group. The plan of activities for promoting health and behavioral modification in each time were in the following

1.1 The first meeting activity

- Icebreaker
- teaching and learning
- Group discussion, participation in solving problems of the participants.

1.2 The second meeting activity

- Icebreaker
- To Improve understanding of health behavior modification
- Training activities to educate about drug health behavior .
- Group discussion participation in solving problems of the participants, empowerment .

1.3 The third meeting activity

- Icebreaker
- Promoting knowledge to use in drug health behavior
- Evaluation activities individually by test phone and home visits by nurse.
- Group discussion participation in solving problems of the participants, empowerment of the Self regulation and Self Blood sugar

1.4 The fouth meeting activity

- Icebreaker
- Assessment activity after participating. and posttest.
- Summary of the activities and the benefits of participating.
- Group discussion and observation participation in solving problems of the participants, demonstration, practicing and the empowerment of the self to the self-regulatory. , Awards and souvenirs.
- Evaluate program
- Closed the program

Ethics

The research takes into account the right of the sample. The objectives of the research process, research. And a period of research The clarification of the right to accept or refuse to participate in this research. Without affecting in any way the lesson. In addition, during the research If the samples do not wish to participate in the research completed on schedule. Can be terminated Without affecting the learning of information obtained from this research are confidential. Presentation of data will be presented in an overview. There is no disclosure of the name and surname When samples are willing participants. The research sample Sign a consent form to participate in the study (informed consent form).

RESULTS

From the risk group with diabetes and high blood pressure 51.3 percent. Accounted for 10.6 per cent of the risk factors is important. Obese / BMI was 24.7 percent higher risk behavior is eating spicy food (sweet, sour, salty) 40.7 percent. Lack of exercise, stress, 12.7 percent to 28 percent, Genetic risk is 23.3 percent and

12.7 percent were smokers. The results showed that after receiving Thus Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes have efficacy in their health behavior (Self-regulation and Self-controll), better than before the event: 92.3 percent, 90.0 and 96.6 of the participants , respectively. It is a change in a better direction. And blood pressure drop 86 percent to 36 percent weight loss and BMI decrease of 20.7 percent. That health status has changed to the better . Most members were satisfied with the high level of 97.3 per cent

The behavior change after Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes were changed as following.

1. That the efficacy of behavioral change their health than before, increasing participation of 26 people, representing 92.8 percent of the total.

2. Directing the behavior of people at increased over the first 25 participants, representing 89.2 percent of the total.

3. Has the self-care behaviors. The increase over the first 26 people to attend the event 92.8 percent of the total.

Satisfaction of the Program

The satisfaction of participants in this program at the high level of 89.2 percent.

Data Analysis from Qualitative Data

By analyze qualitative data about Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes in the prevention and control of diabetes complication on a daily basis that involves behavior modification& health promotion. The study concluded by telling the members about controlling diabetes complication risk by teaching and learning The result concluded that most control blood sugar,

Table 1 *Numbers and percentages of the sample (n = 28 patients)*

Data	n	%	Data	n	%
Age (yrs)			**Sex**		
40-49	8	28.6	Female	20	71.4
50-59	8	28.6	Male	8	28.6
>60	12	42.8	**Satisfaction of Program**		
Education			Moderate	3	10.7
High school,Vocational	15	53.6	High	25	89.2
Bachelor.	13	46.4			
Right of Medical Care					
Gold Card	12	42.8			
Social Security	14	50.0			
Government	2	7.2			

Data **The risk for diseases (more than one risk)**	n	%
Diabetes Mellitus	25	89.2
Hypertension	15	53.0
Cerebovascular	8	28.5
Obesity	20	71.4
Sample with disease		
Diabetes Mellitus	20	71.4
Hypertension	14	50.0
Cerebovascular	8	12.5
Obesity	8	28.6

Table 2 Blood sugar of participants at baseline and after 3 month participation in the Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes Of Blood sugar controll

Variables	n	Mean	SD	t-value	p-value
DTX at 3 month	38	110.66	45.615	-1.759	0.047*
DTX at baseline	38	120.58	31.249		

* Difference is significant at the 0.05 level ($p < 0.05$)

After 3 months of applying the Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes ., the participants showed significantly decreased blood sugar (DTX) from the baseline ($p < 0.05$), as noted in Table 2.

It was concluded that the Self Awareness in health education of Oral hypoglycaemic agents that are used in type 2 diabetes could enable participants to control their blood sugar.

DISCUSSION

The result from this research shows that the biodata of samples mostly 71.4 % is female and 28,6 is male. This results is according to the study of Intharakamhang, A. et.al (2010) [5] " Study of Administration and Evaluation to Health Adaptation of Health Center in Bangkok 21 projects in 2009 found that DM person is female 67.68% and male is 32.32 % compare with World population (2015) DM person is female 199.5 million and male is 215.2 million, contrast with this study and finding of Intharakamhang, A. et.al study[8]. It may be the different from race context in many areas include economic, life style, nutrition, exercise, sleep and rest, working.

The sampling's BMI decreased 50%, BP decreased 85.7%.. This results is according to the study of Intharakamhang, A. et.al (2010)[8] " Study of administration and evaluation to The health adaptation of Health Center in Bangkok 21 projects in 2009 found that participation group decrease BMI 65.36% , BP 61.45% , BS (DTX) 59.49% , mean that they can modified behavior must good self awareness so they can got self regulation at last they can self management to prevent complication both acute and chronic complication mean that they got self efficacy.

. This results is also according to the study of Sumnuk, N. "Study of effective program modification behavior people health risk group to hypertension in community, Pakpanung district, Nakornsrithamaraj" *and Boonsri Kittichottipanich* et.al[17] (2013)The Nutritional Health Behavior Moification for Controlling Hypertention at Ruampattana Communinity Bangkok found that participation got more knowledge, activities, exercises, means of self management behavior about eating exercise increase after the study significant. The satisfaction of participants in this program at the high level of 89.2 percent . *Robert Scales, PhD* and Joseph H. Miller, MSW*[10] Motivational Techniques for Improving Compliance with an Exercise Program: Skills for Primary Care Clinicians *F*ound that it is one of several useful approaches that can be used by a primary care clinician to improve patient compliance.

Thus in this program, the most participant increase knowledge&self regulation behavior. That is the one guideline for controlling and prevention diabetis complication.

CONCLUSION AND RECOMMENDATIONS

This research using participatory action research make sustainable approach is organized in accordance with activities that blend into everyday life. Obtaining family friend and social support to encourage remind control and avoid participant for you are what you eat, some extra incentive to participate. These factors resulting trust and cooperation from members and communities of healthy community to promotion and modification health behaviors which focused on the development of activities that encourage participants have the skills and knowledge through practical action.

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LIFESTYLES AND HEALTH PERCEPTION IN THE RETIRED ELDERLY

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ABSTRACT

The objective of this survey research is to study lifestyles and health perception in the retired elderly. The 93 samples were selected by simple random sampling from the elderly of Suan Sunandha Rajabhat University who were retired in 2000-2017. The research tool was the questionnaire constructed by the researchers and consisted of 3 parts: 1. Personal information 2. Life styles and 3. Health perception. The questionnaire was validated for content validity and reliability (r = .70). Data were collected by post and analyzed by percentage, means and standard deviation (SD).

The research results showed :

1. Lifestyles of the retired elderly of Suan Sunandha Rajabhat University were rather good.

There were 51.6% of the samples who had average level and 46.2% had good level of lifestyles.

2. Health perception

Most of the retired elderly of Suan Sunandha Rajabhat University had average level of health perception. 77.4% of the samples had moderately strong physical health, 47.3% could do activities of daily living (ADL) with relying anothers in some activities and 45.2% could do ADL without relying on others. There were 69.9% of the elderly who had chronic diseases. However,50.5% of the elderly had similar physical health compared to others of the same age.

Keywords-- retired elderly, lifestyles, health perception

INTRODUCTION

The current statistics of Thai population in 2015revealed 65.1 million population of which 11 million people (16%) were 60 years old and above. The numbers of Thai elderly population increased rapidly and Thailand had become the ageing society since 2005. The ratio of the60 years old and above population was 10% and the increased rate of elderly group was more than 4% while the increased rate of Thai population was only 0.5% (Siri panich, B. 2015, p.8). The increased elderly population could affect lifestyles of Thai people. Lifestyles of the elderly affected their health because degeneration of their bodies increased risks of non-communicable diseases due to inappropriate health behaviors and environment. The health risk behaviors could be avoided if the elderly understood and practiced correct health care. The retired elderly should have appropriate lifestyles according to their ages and should perceive the changing of health status in order to face physical, mental and social problems. They should appropriately adapt during their later period of lives. The university lecturers and personnel were expected to be well prepared for retirement and to have better lifestyles and health perception than the general population. Therefore the researchers was interested in studying lifestyles and health perception of the retired elderly of Suan Sunandha Rajabhat University.

OBJECTIVE

To study of lifestyles and health perception in the retired elderly of Suan Sunandha Rajabhat University.

RESEARCH METHODOLOGY

The research is a survey research.

Samples: The samples were the retired elderly of Suan Sunandha Rajabhat University selected by simple random sampling from the 300 registered list of the retired university personnel in October 2000-2017. The 171 samples were calculated by Taro Yamane Formula (1973) and 93 samples responded with completed questionnaire.

Research tool:

The research tool was the questionnaire constructed by the researcher and consisted of 3 parts.

Part 1- personal information

Part 2 -lifestyles containing 5 categories: occupation, exercise, diet, physical and mental health care and daily social activities

Part 3 - health perception

The questionnaire consisted of yes-no answers with score 1 for yes and score 0 for no answers. Score interpretation of lifestyles and health perception was based on Bloom Criteria (Bloom BS, 1986). There were 3 levels of scores: good level for $\geq$ 80%, average level for60-79% and low level for $\leq$60%. The questionnaire was measured for validity and reliability with KR-20 of 0.70.

Data collection:

171 questionnaires were sent to the samples by post and 115 of them (68%) were returned in due time. There were 93 questionnaires with completed data.

Protection of the samples' right:

The research recruited the samples by volunteer with ethical consideration and protection of the samples' right.

Data analysis:

The data were analyzed by percentage, and standard deviation (SD).

RESEARCH RESULTS AND DISCUSSION

1. Personal information

The samples of the retired elderly of Suan Sunandha Rajabhat University were more female than male (69.9% and 30.1% respectively), 38.7% were between 60-69 years of ages with average of 72.0 years, 58.1% of their marital status were widows, 55.9% had Masters Degree of education, 87.1% had worked in academic departments, 50.5% had average incomes of 10,001-30,000 Baht per month, 57.0% had adequate incomes with savings, and 97.8% had government officer health care scheme.

2. Lifestyles

Overall the samples of the retired elderly of Suan Sunandha Rajabhat University had rather good level of lifestyles as 51.6% had average level, 46.2% had good level and only 2.2% had low level of lifestyles. (Table 1)

Table 1 Numbers and percent of the retired elderly classified by lifestyle levels (n=93)

Lifestyle level	n	%
Good	43	46.2
Average	48	51.6
Low	2	2.2

The result showed that most of the retired elderly of Suan Sunandha Rajabhat University had good level of lifestyles since only 2.2% had low level. This could be explained by the samples were the group of people who had good basic needs of living (Maslow, 1954, p 14-15) which included the followings:55.9% had Masters Degree of education, 87.1% had worked in academic departments, 50.5% had average incomes of 10,001-30,000 Baht per month, 57.0% had adequate incomes with savings, and 97.8% had government

officer health care scheme. This was consistent with the research of Khamwong, W., Hnoosawatt, J., Pratanvorapuny, V. &Siripanya, J. (2011) which found that educational level, incomes and economic status were associated with lifestyles of the elderly with statistical significance. Lifestyle levels of the retired elderly classified by categories were the followings: (Table 2)

Table 2 Numbers and percent of the retired elderly classified by lifestyles (n=93)

Lifestyles	Yes		No	
	n	%	n	%
1. Current occupation				
1.1 Work in government higher education institutions	29	31.2	64	68.8
1.2 Work in private higher education institutions	24	25.8	69	74.2
1.3 Work in non-education institutions	1	1.1	92	98.9
1.4 Private work	5	5.4	88	94.6
1.5 Social work	9	9.7	84	90.3
2. Exercise				
2.1 Exercise at least 3 times per week	9	10.0	84	90.0
2.2 Exercise 30 minutes per session	64	68.8	29	31.2
2.3 Daily physical activities to burn calories at least 30 minutes, such as walk up and down stairs, house works	65	69.9	28	30.1
2.4 Muscle stretching 10-15 minutes at least 3 times per week, such as Yoga, Tai Chi	77	82.8	16	17.2
2.5 Sport activities	40	43.0	53	56.9
3. Diet				
3.1. 3 meals daily with adequate and varieties of food	82	88.2	11	11.8
3.2 Daily vegetables and fruits	80	86.0	13	14.0
3.3 Avoid high fat and high sugar diets, such as fried food, carbonated drink and sweets	76	81.7	17	18.3
3.4 Avoid eating snacks between meals	64	68.8	29	31.2
3.5 Eat favourite food regardless of values	17	18.3	76	81.7

Table 2 (cont.)

Lifestyles	Yes		No	
	N	%	N	%
4. Physical and mental health care				
4.1. Yearly check up	68	73.1	25	26.9
4.2 Regular follow up for medical problems	77	82.8	16	17.2
4.3 Spend time for hobbies	82	87.2	11	11.8
4.4 Spend time reading	77	82.8	16	17.2
4.5 Regular merit making or give alms to the monks	44	47.3	49	52.7
4.6 Keep five precepts in Buddhism	70	75.3	23	24.7
4.7 Keep eight precepts in Buddhist Holy Day or special religious days	26	28.0	67	72.0
4.8 Pray	55	59.1	38	40.9
4.9 Practice meditation	24	25.8	69	74.2
5. Social contribution				
5.1. Political activities	4	4.3	89	95.7
5.2 Volunteer work	22	23.7	71	76.3
5.3 Donate to charity	87	93.6	6	6.4

Occupation: Most of the retired elderly did not work. There were 31.2% and 25.8% who worked in the government and private higher education institutions respectively (Table 2). The research result showed normal lifestyles of the elderly since the elderly were physically degenerating particularly muscle strength. Therefore the post retirement jobs must be non-power work. Usually they were allowed to work in the government or private sectors between 20-60 years old. This was consistent with the research of Hongsachat, O., Rungsayatorn, S. & Jaiaree, A. which studied the occupation after retirement in academic staff of government higher education institutions in Bangkok and found that most of the academic staff would like the retired elderly to work with knowledge and experiences, not with force, and not to work on all required workloads. (Hongsachat, O., Rungsayatorn, S. &Jaiaree, A., 2015, p.2885). It was also consistent with the factors which affected post retirement jobs in academic staff of government higher education institutions in Bangkok. The samples were 87.1% academic staff and the factors were personal factors for 88.7% and academic factors for 41.2%.

Exercise: Most retired elderly practiced exercise at good and average levels which included 3 items from 5 items. They were muscle stretching 10-15 minutes at least 3 times per week (82.8%), daily physical activities to burn calories at least 30 minutes (69.9%) and exercise 30 minutes per session (68.8%).

Diet: Most samples had proper diet at good level which included 3 items from 5 items. They had 3 meals daily with adequate and food varieties (88.2%), daily vegetables and fruits (86.0%) and avoid high fat and high sugar diets (81.7%).

Physical and mental health care: Most samples had proper physical and mental health care at good level which included 3 items from 5 items. They spent time for hobbies (87.2%), spent time reading (82.8) and had regular follow up for medical problems (82.8%).

Social contribution: Most samples had good level of social contribution which included 1 item from 3 items.It was donation to charity (93.6%).

The research results showed good levels of lifestyles in the retired elderly of Suan Sunandha Rajabhat University for all categories: exercise, diet, physical and mental health care and social contribution which were consistent with Plodpluang, U., Srijan, A. &Kaewpraphan, S.who studied "A Study of Lifestyle of Active Aging: Narrative Study". They found that good lifestyles in the elderly consisted of 5 main issues: 1) proper diet 2) regular exercise 3) love and ties with families 4) devotion for society and 5) making peace of mind with Dharma. (Plodpluang, U., Srijan, A.&Kaewpraphan, S., 2017). They were also consistent with the research of Sukadisai, P., Maphud, C. & Kityanusan, R.which studied the lifestyles and healthy practice in the elder/y in the eastern part of Thailand.(Sukadisai, P., Maphud, C. &Kityanusan, R., 2014). They found thatthe healthy lifestyles in the elderly consisted of: 1) living in good environment with health care service, health personnel, health promotion, clean food and safe housing 2) health responsibility 3) exercise 4) proper and adequate diet of 5 items with vegetables and fruits and avoiding unhealthy food 5) stress management, hobbies and Dharma for peace of mind 6) good family and social relationship and 7) spiritual goals.

3. Health perceptipn

The research results showed that most samples had average level of health perception as the followings: 77.4%of them had moderately strong physical health, 47.3% could do activities of daily living (ADL) with relying on others in some activities, 45.2% could do ADL without relying on others, 69.9% had chronic diseases and 50.5% had similar physical health compared to others of the same age. (Table 3)

The above health perceptions reflected thatthe retired elderly of Suan Sunandha Rajabhat University y had well prepared before retiring since the samples had higher education with Masters Degree (55.9%), worked in academic departments (87.1%) and earned monthly pension. They did not have stress. They were interested in their own health cares. They had knowledge in diseases and had good practice when becoming elderly. This was consistent with Khamwong, W., Hnoosawatt, J. Pratanvorapuny, V. &Siripanya, J. who studied factors associated with life quality of the elderly living insuburban area of Bangkok. They found that education, income and economic status were positively associated with life quality and ability to perform ADL of the elderly.(Khamwong, W., Hnoosawatt, J. Pratanvorapuny, V. &Siripanya, J..2011). It was also consistent with the research of Lokavit, K. which studied health and health promotion behavior of the elderly in a community, PathumThani Province and found that the elderly had good, moderate and low level of health of 87.70%, 10.50% and 1.80% respectively.(Lokavit, K., 2013, p.199)

Table 3 Numbers and percent of the retired elderly classified by health perception (n= 93))

Health perception	n	%
Physical health		
Not strong	7	7.5
Moderately strong	72	77.4
Very strong	14	15.1
Ability to perform activities of daily living (ADL)		
Rely on others for all activities	7	7.5
Rely on others for some activities	44	47.3
Can take care of their routines	42	45.2

Health perception	n	%
Chronic diseases		
no	28	30.1
yes	65	69.9
Physical health compared to others of the same age		
worse	7	7.5
Not different	47	50.5
Better	39	42.0

Recommendation

Policy recommendation: There search results showed that very few retired elderly of Suan Sunandha Rajabhat University still worked after retirement. As Thailand hasbecome ageing society with average life expectancy of 72 years, there are less people in working age group who work which is not enough for the market needs. People of 60-65 years old are still strong enough to work. Therefore the government and concern agencies should reform Thai society to have 60-65 years old people continue working at the same jobs.

Recommendation for further research: The research should be conducted in other Rajabhat Universities in Thailand to reflect clearer pictures of lifestyles and health perception of the retired elderly.

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CHARACTERISTIC NEEDS OF NEW REGISTERED NURSES FROM COLLEGE OF NURSING AND HEALTH, SUAN SUNANDHA RAJABHAT UNIVERSITY BY NURSING SUPERVISOR'S PERSPECTIVES

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ABSTRACT

This study was aimed to study the nursing supervisors' perspectivesof characteristic needs of nurses who graduated from Suan Sunandha Rajabhat University in according to the Thailand Qualifications Framework for Higher Education (TQF). The samples in this study were 38 nursing supervisors of the new nurses, who already workedfrom6 months to1 year. The instrument used in the study was questionnaire which divided into 3 parts as follows: part 1 general information of the respondents; part 2perspectivess of desirable characteristic of new graduated nurses; and part 3comments and suggestions about the weaknesses of nursing graduates from Suan Sunandha Rajabhat University. Statistics to be used in this study were percentage, average, and Standard deviation. Results from Nursing Supervisors showed that the most important characteristic that they need from new graduates was the ethics, followed by the interpersonal skills, and responsibilities for Professional Practice Skills. Moreover, they also need new nurses with Intellectual skills, numerical analysis, communication, and information technology.

Keywords: Nursing Supervisor, Thailand Qualifications Framework for Higher Education (TQF)

INTRODUCTION

College of Nursing and Health is expected to deliver graduate students in according to the Thailand Qualifications Framework for Higher Education (TQF), including the identity and desirable characteristics of Suan Sunandha Rajabhat University. The quality of the graduates is one of the main standards as announced by the Ministry of Education. The graduates in higher education must be knowledgeable, ethical, ability to learn, andself-development. They possible to apply knowledge to stands with such happiness in the society both physically and mentally [1].In addition, nursing institutions need to produce the graduates in according to the standards of higher education by followed The Thailand Qualifications Framework, 2015 B.E., which composed of six aspects: Ethics, Knowledge, Intellectual skills, Interpersonal skills and Responsibilities, Numerical Analysis, Communication, and using Information Technology Skills, and Professional Practice Skills[2].These standards are one of the 19 indicators for the Nursing and Midwifery Institute's Accreditation for Nursing [3]. Therefore, the graduated from nursing institutions can be guaranteed their knowledge and ability which qualify in the standards established by the Nursing Council and the Higher Education Commission.

The users, supervisors or employers, are the important persons who work closely to produce graduates together with each institute. Needs, expectations, or perspectives of the users are the mirror to reflex the outcome of the institution.Each institution was dedicated to deliver graduate students whoacquire ability in the academic and professional skills. Is the quality acceptable to the community, society, and the nation? The question is whether College of Nursing and Health, Suan Sunandha Rajabhat University,can produce nurses into society to meet the requirement of the labor market as well? Can compete with graduate students from other academic institutions, both domestic and oversea? How did the academic and professional skills of the college be increase? We used to develop the user satisfaction surveyby collected data from the supervisors in the hospital. The new registered nurse just work for 6 months to 1 year.Results

from this surveyoften satisfied with its performance and personality, has been deployed to improve the quality of teaching every year. However, it has never been explored the General characteristics in according to the Thai Qualifications Framework for Higher Education (TQF), which focuses on the learning outcomes of nursing students by using the supervisor' perceptions. Researchers are directly responsible for supportingthe Teaching and Curriculum Development in College of Nursing and Health, Suan Sunandha Rajabhat University. Weagree that the institutional research was played the key rolein managing development. This is a continuous improvement process. The characteristic needs of new registered nurses from this research will lead to the development of graduate quality and to develop teaching and learning in accordance with the needs of users.

OBJECTIVE

1) To study the level of the nursing characteristic needs bynursing supervisors' perspectives in according to the Thailand Qualifications Framework for Higher Education (TQF).

2) To study comments and suggestions about the weaknesses of nursing graduates from Suan Sunandha Rajabhat University.

METHODOLOGY

The samples in this study were 38 nursing supervisors of the new nurses, who already worked from 6 months to 1 year. The instrument used in the study was questionnaire which divided into 3 parts as follows: part 1 General information of the respondents; part 2 perceptions of desirable characteristic of new graduated nurses; and part 3 comments and suggestions about the weaknesses of nursing graduates from Suan Sunandha Rajabhat University. Statistics to be used in this study were percentage, average, and standard deviation. The mean score define as followed:4.51-5.00 was the highest level of the nursing characteristic needs;3.51-4.50 was significantly high level of the nursing characteristic needs; 2.51-3.50 was the average level of the nursing characteristic needs; 1.51-2.50 was low level of the nursing characteristic needs; and 1.00-1.50 was lowest level of the nursing characteristic needs.

RESULTS

Part 1. General information showed that samples were nursing supervisors. The average age was 48 years old. The average tenure was25 years and5 months. 16 respondents, or 42.11 percent, finished in undergraduate degree, 22 respondents, or 57.89 percent, finished in Master's degree 22 students. The questionnaire also requested the respondents to reveal the important characteristics to consider the candidate which can choose more than one answer.The results showed thatmost of them choose education level(32.65 percent), followed by personality(22.45 percent), special knowledge(19.39%), majorsubject(11.22%), and institutions(7.14%).

Part 2: Questions about the need for qualification in according to the framework of higher education qualifications of the new graduate nurses.

Items	**Characteristic Requests**	
	X	SD
2.1 Ethics	**4.73**	**0.09**
1. Knowledge in the principles of religion, ethics and professional ethics as well as human rights, children's rights, consumer rights, paternity rights, as well as the rights of nursing professionals who are related to nursing practice.	4.58	0.55
2. Can distinguish between good and bad.	4.80	0.40
3. Respect the values and dignity of humanity.	4.80	0.40
4. Responsible for their actions.	4.86	0.35
5. Discipline and integrity.	4.77	0.42
6. Following the ethicalpractice, professionalism and ability to deal with	4.72	0.45

Items	Characteristic Requests	
	X	SD
ethical issues in living and working in the nursing profession.		
7. Present a good role model for others, both in their own lives and in their work.	4.66	0.47
8. Encourage patients / users to know and understand their rights to protect against abuse	4.69	0.46
2.2 Knowledge	**4.46**	**0.12**
1. Having knowledge and understanding in basic of life and health sciences that cover science, humanities, social sciences, law and democracy.	4.52	0.56
2 Having knowledge and understanding the importance of nursing science, health systems and factors affecting the societal change and the health system.	4.58	0.55
3. Having knowledge and understanding the importance of the nursing process and its application.	4.61	0.49
4. Having knowledge and understanding of knowledge management, research process, management process and organization management.	4.33	0.71
5. Having knowledge and understanding of nursing information technology and nursing information system.	4.41	0.60
6. Having knowledge and understanding of culture, changing situations of the country and global society affecting health and people.	4.33	0.63
2.3 Intellectual skills	**4.52**	**0.04**
1. Ability to recognizedour weaknesses in according to develop yourself in terms of nursing practice, teaching, effective knowledge acquisition, and leadership.	4.55	0.50
2. Ability to searched and analyzed from a variety of sources.	4.55	0.50
3. Ability to use data and evidence to refer and resolve critical issues.	4.55	0.50
4. Ability to systematically analyzed by using professional and relevant knowledge as well as experience as a base to produce safe and quality results in nursing services.	4.58	0.55
5. Ability to use the scientific process of research and appropriately innovation to solve the problems.	4.44	0.60
6. Ability to develop the effective problem solutions in according to the changing health contexts.	4.50	0.61
2.4 Interpersonal skills and responsibilities	**4.71**	**0.06**
1. Responsible for assigned tasks.	4.80	0.40
2. Adapt and collaborate with others.	4.69	0.46
3. Acting and expressing opinions appropriate to the roles and responsibilities.	4.66	0.47
4. Ability to plan and maintain continuous learning and development.	4.66	0.47
2.5 Numerical Analysis, Communication, and using Information Technology Skills	**4.41**	**0.07**
1. Ability to apply the mathematical and statistical logic to the nursing practice appropriately.	4.36	0.63
2. Ability to convert data into quality information as well as read the analyzing result and convey information to the others.	4.44	0.65
3. Ability to communicate effectively in Thai, including speaking, listening, reading, writing and presentations, as well as reading English journals and textbook.	4.50	0.56
4. Ability to use the basic computer program.	4.44	0.65
5. Ability to select the effective and appropriate technique to present the information, information technology, and communication.	4.30	0.74
2.6 Professional Practice Skills	**4.61**	**0.11**
1. Ability to practice in holistic nursing skills by applying nursing science and artistry, including apply nursing process, empirical evidence, and communication in nursing individuals, families and communities.	4.58	0.55

Items	Characteristic Requests	
	X	SD
2. Ability to perform health promotion, disease prevention, medical treatment, and rehabilitation for all health conditions and ages, including midwifery at all levels of the health servicefollowed by Professional Nursing and Midwifery Act (BE 2528) and amended by the Nursing and Midwifery Professional Act (No. 2) BE 2540	4.58	0.55
3. Ability to practice nursing care with compassion and generosity by adhering to ethics, ethics, human rights and patient rights.	4.69	0.46
4. Ability to practice nursing care with regard to generosity, patient rights, individuality and multiculturalism.	4.66	0.47
5. Expressing leadership in nursing team, multidisciplinary team, and work in community health units.	4.41	0.73
6. Health Services from Heart	4.75	0.43

The table above showed that the general characteristics of the Thailand Qualifications Framework for Higher Education, supervisorratethe Ethical behavior in highest score(4.73) followed byInterpersonal skills and responsibilities (4.71), Professional Practice Skills (4.61), intellectual skills (4.52), Knowledge (4.46), and Numerical Analysis, Communication, and using Information Technology Skills (4.41).

When consider in detail, it found that all of the item were the most desirable attributes as followed; the highest score within the characteristic of Ethics was responsible for their actions (4.86); the highest score within the characteristic of Interpersonal skills and responsibilities was responsible for assigned tasks (4.80); the highest score within the characteristic of Professional Practice Skills was Ability to practice nursing care with compassion and generosity by adhering to ethics, ethics, human rights and patient rights (4.69);); the highest score within the characteristic ofIntellectual skills was Ability to systematically analyzed by using professional and relevant knowledge as well as experience as a base to produce safe and quality results in nursing services (4.58); the highest score within the characteristic of Knowledge was Having knowledge and understanding the importance of the nursing process and its application (4.61); and the highest score within the characteristic of Numerical Analysis, Communication, and using Information Technology Skills was Ability to communicate effectively in Thai, including speaking, listening, reading, writing and presentations, as well as reading English journals and textbook (4.50).

Part3 comments and suggestions about the weaknesses of nursing graduates from Suan Sunandha Rajabhat University. Results from this research revealed that 18 supervisors, or 47.3percent, suggest improving knowledge and skills in nursing practice. In addition, 41.05 percent revealed that the identity of new graduates, from Suan Sunandha Rajabhat University, was gentle, humble, dignified, good personality, good adaptability, patience, and virtue.

CONCLUSION AND FUTURE WORK

The nursing supervisor's perspectives of characteristic needs of nurses in according to the Thailand Qualifications Framework for Higher Education (TQF) showed that, the most important characteristic that they need from new graduates was the ethics.[4],[5],[6]. Normally, the nursing activities concerned with health promotion, illness prevention, care and rehabilitation of individual, family and community.Moreover, the nursing practice is directly related to the human body and mind. Therefore, the nurse practitioners must be aware and adherence to the ethics to anchor the mind to a sense of responsibility and professional responsibility [7] .In addition, the nursing supervisors revealed that the item number 3 within the characteristic of ethics,responsible for their actions, was the highest score. Meanwhile, the item number 1 within the characteristic of interpersonal skills and responsibilities, responsible for assigned tasks, also showed the highest score as well.This may explained that nursing activities is concerned with the life and health of the peoplewith care.So, the responsibility also plays the key role of nurses' characteristic needs. Normally, self-responsibility refers to a person's perception of his or her role, appropriately, intentionally, attentively, and attentively, whether it is good or bad and ready to improvehim or herself. Responsibility towards the community means recognizing their roles and responsibilities towards the public in order to be

socially orderly by properly observing the rules, contributing to their full potential in cooperating with the group including the ability to distinguish good or bad, work with the respect for the values and dignity of humanity, discipline and faithful service from heart,follow professional ethics and be able to deal with ethical issues,and practice in the professional manners.

The comments and suggestions from supervisors on the weaknesses of new graduates from Suan Sunandha Rajabhat University revealed that 18 of them, or 47.3percent, suggest improving knowledge and skills in nursing practice. This problem may came from the tenure of work was 6 months to 1 year. Thus, nursing practice may not meet the expectation of the supervisor. In addition, the identity of new graduates, from Suan Sunandha Rajabhat University, was gentle, humble, dignified, good personality, good adaptability, patience, and virtue. [8]

College of Nursing and Health is expected to deliver graduate studentsin according to the Thailand Qualifications Framework for Higher Education. The college definitely recognized the importance of graduate quality in terms of ethics through teaching activities that develop moral ethics in the curriculum. Additionally, she provides the extracurricular activities that enhance knowledge, ideas, attitudes, values, understanding of the rules, and experience from the ward practice, which will promote both education and livelihood. Therefore, these would benefit both themselves and society. Moreover, she also encourages students to improve their nursing skills by organizing a project to improve their teaching and learning. This can allow students in the 2nd to 4th year to practice in a standard practice center to gain knowledge. The experience should be made to ensure that students are well-placed in the professional labor market. However, the College of Nursing and Health, Suan Sunandha Rajabhat University, [9] should continue to study the relationship between student learning achievement and teaching activity and, therefore, bring the results to improve the teaching and learning.

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ETHICAL PRACTICE BEHAVIORS OF THE 4TH YEAR UNDERGRADUATE NURSING STUDENTS, COLLEGE OF NURSING AND HEALTH, SUAN SUNANDHA RAJABHAT UNIVERSITY

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ABSTRACT

This research aims to study the ethical practice behaviors of the 4th year undergraduate nursing students. The conceptual framework is developed on the basis of the Tree Moral Theory. This study is a survey research that is composed of 117 undergraduate nursing students, College of Nursing and Health, Suan Sunandha Rajabhat University. All data were collected by using 2 instruments including a demographic characteristic questionnaire and an ethical practical behavior questionnaire. Descriptive statistics including frequencies, percentages, and standard deviations were used to interpret the demographic characteristics and the ethical practice behaviors of the 4th year undergraduate nursing students. The results reveal that the majority of students were female (n = 104) and more than 70 percent of them were 22 year old (n = 86). More than 50 percent of the students got the PGA in the 3.01 – 3.50 range (n = 67). The majority of students lived in a rural area (n = 85). The majority of the 4th year undergraduate nursing students replied often and always in questions of good ethical practice behaviors; moreover, the majority of them answered seldom and never in questions of bad ethical practice behaviors. The recommendation for the future research are further on the study the relationship between the demographic characteristics and the ethical practice behaviors of the 4th year undergraduate nursing students as well as should be studies the ethical practice behaviors of the other years nursing students in more variety of contexts to confirm the results.

Keywords: Ethical Practice Behavior, Undergraduate nursing students, College of Nursing and Health

INTRODUCTION

Nurse is a person who is very important in the health team and works closest to the patient. Nursing work easy to get stress which can lead to perform by using emotions with patients, expressing inappropriate manners, scold and angry for the patients, even if intention or not which lead to destroy the good images of nurse in public. Actually, the nurses can express themselves well and have a good personality should come from own emotional control, passion in their job, morality and ethics by extending the professional ethics of nursing. The Nursing Council has defined four ethical concepts for promoting ethics in nursing professional organizations which as followed; acting on behalf of the patient to protect the rights of patients; responsibility to care for patients to the extent prescribed by the law; collaborative multidisciplinary collaboration in patient care maximizes patient benefits; and good interpersonal relationships between nurses and patients. [1[

In order to provide patients with quality service and efficiency, the moral and ethical values of nursing practice must be established and developed since being an undergraduate nursing student.

Undergraduate nursing students have to learn the ethical behaviors and ethical of caring for patients under the Nursing and Midwifery Profession Act. The Nursing Science Program in Thailand has taught in two parts which are; Theoretical is the important way to provide students the experience, enhancing knowledge, and accuracy of academic content; the second part is practice which the students require to apply their knowledge in real practice with the patients. In addition, students will receive the model of the work from mentors and senior nurses working in the ward. Therefore, if the students see a good example, they will have the opportunity to learn and demonstrate good and ethical behavior. Maytapattana has defined the ethical nursing behaviors of nursing students as referring to the nursing behavior that focuses on the importance of nursing clients, taking into account the quality and efficiency which shows the respect for patient rights, honest in caring for patients, honest in the job and take full responsibility, including the ability to communicate in order to make a mental note between the health team and patients and relatives. [2 [As mentioned above, the researchers were interested in ethical behavior in undergraduate nursing students in order to gain basic information to reinforce the ethical behavior of them. Moreover, the results of this research may help to prepare students to be qualified nurses in the future. In addition, it is also consistent with the needs of employers who want to hire new graduates with moral and ethical behavior, honesty, and responsible for compliance with professional ethics. [3[This research uses the concept of ethical tree theory, which states that the behavior of the good man and the intellect man based on the psychological, fundamental, and psychological elements of ethical behavior. [4[

OBJECTIVE

The objective of this research is to study the ethical practice behaviors of the 4th year undergraduate nursing students, College of Nursing and Health, Suan Sunandha Rajabhat University.

METHODOLOGY

This study is a survey research. Population was composed of the one hundred and seventeen undergraduate nursing students, College of Nursing and Health, Suan Sunandha Rajabhat University.

The instruments for the data collection included 2 instruments as follows:

1. A demographic questionnaire consisting of socioeconomic characteristics of the 4th year undergraduate nursing students including gender, age, grade point average (GPA), and domicile.

2. An ethical practice behaviors questionnaire assessed the ethical practice behaviors of the 4th year undergraduate nursing students. This questionnaire had 2 dimensions of ethical practice behaviors including 12 positive messages and 12 negative messages. A 5-point Likert-scale and 24 items questionnaires yielded scores ranging from 2 4 to 120. The Cronbach's alpha was calculated to test the internal consistency and the total scale was .635.

Before the data were collected, this study was reviewed and approved by Suan Sunandha Ratjabhat University. The Dean of the College of Nursing and Health permitted the researchers to collect the data at the college site. The 4th year undergraduate nursing students were assessed the demographic and the ethical practice behaviors questionnaires in their classroom. The data were cleaned and checked for error and missing before entering the analysis procedures. The Statistical Package of Social Science software (SPSS) was used to analyze demographic characteristics and ethical practice behaviors of the 4th year undergraduate nursing students

RESULTS

The research results are presented in 2 Tables. The first Table shows the characteristics and the second Table presented the ethical practice behaviors of undergraduate nursing students

1. *Demographic characteristics of the 4th year undergraduate nursing students*

Table 1
Demographic characteristics of the nursing students

Characteristics	n	%
Gender		
Female	104	88.9
Male	13	11.1
Age (year)		
21	6	5.1
22	86	73.5
23	20	17.1
24	1	0.9
Characteristics	**n**	**%**
Age (year)		
25	1	0.9
27	1	0.9
26	0	0.0
28	2	1.7
Grade point average (GPA)		
2.00 - 2.50	0	0.0
2.51 – 3.00	39	33.3
3.01 – 3.50	67	57.3
3.51 – 4.00	11	9.4
Domicile		
Rural area	85	72.6
Urban area	32	27.4

Table 1 summarizes the descriptive characteristics of the 4th year undergraduate nursing students, College of Nursing and Health, Suan Sunandha Rajabhat University. There were 104 female (88.9%) and 13 male (11.1%) and the majority of them were 22 year old (n = 86, 73.5%). About 57 percent of the students got the PGA in the 3.01 – 3.50 range (n = 67) as well as 33 percent of them got the GPA in the 2.51 – 3.00 range (n = 39) respectively. Moreover, the majority of the undergraduate nursing students lived in a rural area (n = 85, 72.6%).

2. Ethical practice behaviors of the 4th year undergraduate nursing students

Table 2
Ethical practice behaviors of the nursing students

Questionnaire Item	Never	Seldom	Occasionally	Often	Always
1. During practice in the ward, I used to give patients the wrong medicine.	n = 112 (95.7%)	n = 3 (2.6%)	n = 1 (0.9%)	n = 1 (0.9%)	n = 0 (0.0%)
2. I used to reject the patient when I got the job	n = 108 (92.3%)	n = 5 (4.3%)	n = 4 (3.4%)	n = 0 (0.0%)	n = 0 (0.0%)
3. When I later learned that I had misrepresented myself, I'll quickly fix it.	n = 7 (6.0%)	n = 23 (19.7%)	n = 7 (6.0%)	n = 19 (16.2%)	n = 61 (52.1%)
4. Before treatment or nursing a patient, I always study the patient's information.	n = 1 (0.9%)	n = 2 (1.7%)	n = 7 (6.0%)	n = 32 (27.4%)	n = 75 (64.1%)
5. I always care for the patient with regard to patient safety.	n = 2 (1.7%)	n = 0 (0.0%)	n = 1 (09.%)	n = 2 (1.7%)	n = 112 (95.7%)
6. I have always given critical nursing care to complete the task in time.	n = 50 (42.7%)	n = 32 (27.4%)	n = 24 (20.5%)	n = 5 (4.3%)	n = 6 (5.1%)

7. I do not use sterile techniques with patients.	n = 94 (80.3%)	n = 15 (12.8%)	n = 5 (4.3%)	n = 1 (0.9%)	n = 2 (1.7%)
8. I will tell the truth when it goes wrong to prevent effects on patients.	n = 3 (2.6%)	n = 5 (4.3%)	n = 5 (4.3%)	n = 13 (11.1%)	n = 91 (77.8%)
9. I have, sometimes, rushed to care of my patients without ever telling the patient.	n = 43 (36.8%)	n = 45 (38.5%)	n = 28 (23.9%)	n = 1 (0.9%)	n = 0 (0.0%)
10. I care for the patient, taking into account the needs of the patient, together with the treatment plan.	n = 4 (3.4%)	n = 0 (0.0%)	n = 5 (4.3%)	n = 32 (27.4%)	n = 76 (65.0%)
11. I always consider patients' rights while nursing.	n = 3 (2.6%)	n = 0 (0.0%)	n = 2 (1.7%)	n = 15 (12.8%)	n = 97 (82.9%)
Questionnaire Item	**Never**	**Seldom**	**Occasionally**	**Often**	**Always**
12. I used to scold and angry for the patients who did not cooperate in the treatment.	n = 74 (63.2%)	n = 31 (26.5%)	n = 12 (10.3%)	n = 0 (0.0%)	n = 0 (0.0%)
13. I never disclose the patient's secrets.	n = 17 (14.5%)	n = 1 (0.9%)	n = 5 (4.3%)	n = 4 (3.4%)	n = 90 (76.9%)
14. When someone I know comes to the service, I will give the special care of him/her.	n = 98 (83.8%)	n = 11 (9.4%)	n = 6 (5.1%)	n = 2 (1.7%)	n = 0 (0.0%)
15. I always aware of the patient's mental needs	n = 1 (0.9%)	n = 0 (0.0%)	n = 4 (3.4%)	n = 28 (23.9%)	n = 84 (71.8%)
16. Sometimes, I used a traumatic speech to the patients.	n = 91 (77.8%)	n = 18 (15.4%)	n = 7 (6.0%)	n = 0 (0.0%)	n = 1 (0.9%)
17. I always describe the procedure for the patient to listen periodically in order to help the patient get confident and well behaved.	n = 1 (0.9%)	n = 5 (4.3%)	n = 8 (6.8%)	n = 44 (37.6%)	n = 59 (50.4%)
18. I only listen to the patient's specific words related to the disease of the patient at that time.	n = 38 (32.5%)	n = 30 (25.6%)	n = 18 (15.4%)	n = 11 (9.4%)	n = 20 (17.1%)
19. I always give consult with the patients in order to prevent him/her back to the disease again.	n = 1 (0.9%)	n = 2 (1.7%)	n = 21 (17.9%)	n = 47 (40.2%)	n = 46 (39.3%)
20. I always up to date my knowledge on prevention, treatment and health promotion in order to able to recommend many patients.	n = 0 (0.0%)	n = 1 (0.9%)	n = 17 (14.5%)	n = 54 (46.2%)	n = 45 (38.5%)
21. When I have to explain the symptoms to the patient, I would say the truth without regard of the patient's feelings.	n = 68 (58.1%)	n = 21 (17.9%)	n = 19 (16.2%)	n = 4 (3.4%)	n = 5 (4.3%)
22. I always encourage the patients and let them accept the reality in sickness and adaptability.	n = 0 (0.0%)	n = 3 (2.6%)	n = 10 (8.5%)	n = 53 (45.3%)	n = 51 (43.6%)
23. I always feel irritated when the patients are not properly treated themselves and unsuitable for the disease.	n = 55 (47.0%)	n = 44 (37.6%)	n = 17 (14.5%)	n = 1 (0.9%)	n = 0 (0.0%)
24. I only talk to patients at the time of history and symptoms assessment to avoid to waste of my time.	n = 74 (63.2%)	n = 35 (29.9%)	n = 6 (5.1%)	n = 1 (0.9%)	n = 1 (0.9%)

Table 2 presented the summation on the results of the ethical behavioral which collect data from the 4th year undergraduate nursing students. Results showed that most nursing students choose "Often" and "Always" in the item about positive ethical behavior. The item that most students say “Always” were item number 5, I always care for the patient with regard to patient safety (95.7 percent), followed by item number 11, I always consider patients' rights while nursing (82.9 percent), item number 8, I will tell the truth when it goes wrong to prevent effects on patients (77.8 percent). On the others hand, the positive ethical behavior

that less students say “Always” was item number 20, I always up to date my knowledge on prevention, treatment and health promotion in order to able to recommend many patients (38.5 percent).

In addition, most nursing students choose "Never" and "Seldom" in the item about negative ethical behavior. The item that most students say “Never” were item number 1, During practice in the ward, I used to give patients the wrong medicine (95.7 percent), followed by item number 2, I used to reject the patient when I got the job (92.3 percent), item number 14, When someone I know comes to the service, I will give the special care of him/her (83.8 percent). In contrast, the negative ethical behavior that less students say “Never” was item number 18, I only listen to the patient's specific words related to the disease of the patient at that time (32.5 percent).

CONCLUSIONS AND FUTURE WORK

A study of the ethical behavior of the 4 th year undergraduate nursing students in Colleges of Nursing and Health, Suan Sunandha Rajabhat University, most nursing students have properly ethical behavioral. As the results showed that most nursing students choose to answer "Often" and "Always" in their positive ethical behavior and, conversely, choose "Never" and "Seldom" in the negative ethical behavior. As a result of the ethical behavior questionnaire, it was found that most nursing students were sensitive to ethical behavior in terms of patient safety. As Fry mentioned the ethical concept of nursing in the context of advocacy for the rights of patients that provide patients with the best possible care when critical events occur. The behavior that is essential to the role of advocacy is the development of nursing profession, based on ethical and scientific knowledge, and the enhancement of patient well-being. [5 [This research results consistent with many studies, Kliamanee and colleagues who studied the ethical behavior of nursing students at Boromarajonani Nursing College, Nakhon Ratchasima. The ethical behavior of nurses was rated at 5 . 77 and honesty was at 5 . 0 5 from the sixth grade. [6 [Moreover, results also consistent with Khumtorn and colleagues who studied the ethical behavior of nursing students at Boromarajonani Nursing College, Trang. The results showed that the 4th year nursing students had good moral behavior at good level, with a score of 4 . 36 out of 5 .]7[In addition, Arpanantikul and colleagues examined Thai registered nurses’ professional ethics as perceived by nursing administrators and found that protection of patients’ right, honesty, and generosity towards patients were the top three aspects of nursing administrators’ perception of Thai registered nurses’ professional ethics. [8]

Based on this study, the recommendation for the future research are further on the study the relationship between the demographic characteristics and the ethical practice behaviors of the 4th year undergraduate nursing students as well as should be studies the ethical practice behaviors of the other years nursing students in more variety of contexts to confirm the results.

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THE PILOT STUDY: ADAPTATION OF LECTURERS AFTER RETIREMENT

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ABSTRACT

The objective of this study is to explore adaptation experiences of lecturers after retirement. This qualitative study was conducted based on Edmund Husserl's Theory of Phenomenology. Respondents included 5 retired lecturers who were selected by purposive sampling. The data were collected by the in-depth interview. The data analysis was made by means of the content analysis. The results of the study revealed major issues regarding experiences of lecturers after retirement as follows: 1) Changing roles; 2) How to adapt themselves to remain strong; and 3) Live a meaningful life. The results of the study encouraged nurses and health team members to understand elderly people after retirement, and to plan how to take care of elderly people in Thailand for their well-being.

Keywords: Lecturer, Retirement, Elderly people

INTRODUCTION

Background and Rationale

Currently, elderly people in Thailand were substantially rising. According to the statistics, elderly people in Thailand at the age of over 60 were likely to increase from 6.8% in 1994 to 14.9% in 2014. The statistics indicated that there were as high as 10,014,705 elderly people in Thailand in 2014 (National Statistical Office, 2014). Therefore, elderly care for their well-being was an interesting issue that should be emphasized in Thai society. Elderly people were referred to as people at the age of over 60 who had experienced changes in each stage of life physically, emotionally, and socially, especially those who previously worked and had to retire from their permanent job. The retirement caused elderly people to lose their social status and role, directly having a psychological impact on elderly people. Thus, the adaptation in the older age needed to be clarified. In addition to the psychological impact, elderly people also had physical declines as a result of organ defects. Some diseases from physical declines in the older age included cataract, masticatory system disorder, hearing impairment, and visual impairment[1]. As a result, elderly people started to face health problems. Moreover, elderly people also suffered hypertension, myofascial pain syndrome/back pain/waist pain[2], and Alzheimer's disease which was diagnosed in 8.1% of elderly people at the age of over 60[3]. Due to physical declines, health care and physical adaptation were significant.

Considering the health status of elderly people in Thailand, it was found that their health status was at a moderate level [4]. As for health care provided for elderly people in Thailand, most elderly people could access to health care services subsidized by the government (National Statistical Office, 2014). It was found that a variable which could predict health status of elderly people was the income, while the figure which could best predict health status of elderly people was the average annual income amounting to 50,000 baht and over[5] However, the study on the income of most elderly people in Thailand revealed that the income did not reach 50,000 baht/year. In this regard, most elderly people in Thailand (25.5%) had an average annual income of only 20,000 - 39,999 baht, followed by 18.6% whose average annual income was 40,000 – 59,999 baht only [6] Moreover some studied was found that a personal financial planning behaviors for retirement in elderly people aspects existed in moderate level [7] probably affecting quality of life among elderly people after retirement. Apart from the aforementioned health status of elderly people, it was found that 88.9% of elderly people in Thailand did not have caregivers/took care of themselves [8]

In Thailand, there were elderly people from multiple professional fields who were competent and able to work after retirement, especially lecturers which required specific competencies. Therefore, the researcher were interested in exploring how lecturers in Thailand lived there life after retirement. Health declines in the older age, loss of social status, and economic problems collectively affected quality of life and sociability of senior lecturers. Therefore, the researcher conducted the pilot study in order to seek the information on adaptation of elderly people who formerly worked as lecturers before retirement. Those who should be able to answer the questions and reflect the truth most clearly were retired lecturers themselves. The phenomenological study was adopted in order to ensure that the results of the study reflect direct experiences of retired lecturers. The results of the study could be applied to preparation and adaptation for well-being of lecturers from the early adulthood, as well as providing the information for nurses and health team members to plan how to take care of and give advices to elderly people in Thailand so that they would live happily in the future aging-society.

Objective: To explore experiences of lecturers after retirement.

RESEARCH METHODOLOGY

This is a phenomenological study, aiming to explore experiences of lecturers after retirement based on Husserl's Theory of Phenomenology (2007).

Population and Sample

The study explored experiences of lecturers after retirement from public agencies who were selected by purposive sampling. The inclusion criteria are as follows: 1) Be elderly people at the age of over 60 who were retired from their permanent job; 2) Be able to communicate well in Thai, and willing to give information, totaling 5 persons.

Research Instrument

In the qualitative research, the researcher is a key instrument for the data collection. This study used semi-structured questions to conduct an in-depth interview with lecturers after retirement. The questions were developed by the researcher based on the literature review. The semi-structured questions were validated by experts who had an expertise in the qualitative research. Moreover, the observation form and the field note were also used.

Data Collection

When the research proposal was approved by the Ethical Review Committee for Human Research, the researcher contacted lecturers in public agencies in order to find the samples who met the inclusion criteria. Then, the appointment was made with the samples to conduct the in-depth interview. The researcher adopted the bracketing technique for the data collection prior to the interview. In the in-depth interview, the researcher used the semi-structured questions which were validated by 3 experts. The questions involved experiences of lecturers after retirement. The interview took approximately 40 minutes. The researcher started the conversation based on the question guidelines which could be flexible, but to align with and meet the objective. To collect the data, the researcher also used the in-depth interview along with the observation. The conversation was recorded throughout the data collection process.

Data Analysis

In this study, the researcher collected and analyzed the data concurrently throughout the research conducting process. The data analysis was made by means of the content analysis in order to enable the researcher to describe and explain each phenomenon without bias or personal feelings[9] as follows:

1. Open coding – The researcher read the message recorded from the interview with lecturers, while analyzing word by word, line by line, and phrase by phrase in order to find issues, subdivide the data, and check whether there were any message containing issues regarding the elderly people. Short codes were allocated to represent significant meaning of each message by keeping the same meaning of the message. The codes were recorded in the coding sheet created by the researcher.

2. Creating categorization – The researcher grouped the data by gathering similar codes to be under the same group for data reduction purpose. Such categorization would help create understanding about the meaning of each phenomenon based on the data interpretation made by the researcher.

3. Abstraction – In this stage, the researcher gave explanations about the content in the study by creating the category. Each category would be named by using content-characteristic words. Each sub category which was similar or alike would be categorized, and each category would be formed into a main category.

Sample's Rights Advocacy

The researcher adopted the methods of Lincoln & Guba (1985) to ensure the content validity and reliability. The researcher investigated the credibility throughout the research conducting process. The data were collected through several methods, namely, the in-depth interview along with the observation and the data record for further interpretation of the recorded data and the field note. The data were rechecked through various methods in order to ensure trustworthiness. As for dependability, the researcher planned all research processes. All processes of the qualitative research were recorded, and the data would be submitted to be checked by experts once again. Regarding confirm ability, the researcher accepted the data from retired lecturers only. The data recorded from the interview and the field note would be sent back to retired lecturers so that they confirmed whether the data were exactly the same. Then, the data would be submitted to experts for verification purpose again.

RESULTS

Personal information

Respondents in this study were retired lecturers at the age of 60-74, totaling 5 persons. All of them we retired government officials. 1 person was married, 3 persons were single, and 1 person was widowed as her spouse passed away. Most of them lived with their families, parents, or siblings. There were averagely 2-4 family members in their families. After retirement, their average monthly income ranged between 20,000-40,000 baht. With regard to current health status of retired lecturers, they had some non-communicable diseases, such as knee osteoarthritis, hypertension, and dyslipidemia. All of them were self-reliant and could perform daily routines on their own.

Issues regarding experiences of retired lecturers

The study on experiences of retired lecturers aimed to explore adaptation of lecturers after retirement. The results of the study revealed that retired lecturers reflected their thoughts and feelings toward their adaptation after retirement which could be summarized into 3 major issues as follows: 1) Changing roles; 2) How to adapt themselves to remain strong; and 3) Live a meaningful life.

Major issues	Minor issues
1. Changing roles	1) Remove one's mask
	2) Responsibilities after retirement
2. How to adapt themselves to remain strong	1) Eat and live healthily
	2) Exercise for well-being
	3) Mental training
3. Live a meaningful life	1) Apply knowledge to supporting others
	2) Self-reliance

1.Changing roles

Retired lecturers shared their experiences that upon the retirement, it was time to remove one's mask. However, responsibilities after retirement would be changed, depending upon the context of each person as described below.

1.1 Remove one's mask

Retirement was the termination of their teaching role, while having no position, duty, and people who would pay respect to them. These were experiences to be encountered by retired elderly people.

Khun Sri: "When I was working, I was somebody, not nobody, so I had to behave properly, as well as be aware of my way of life, my dressing, and so on. However, after retirement, I was nobody, so I did not have to be worried about these things. It seemed like I removed my mask."

Khun Pom: "Actually, when I was working, I was happy with taking a role as a lecturer who provided teaching for those who wanted to learn. However, after retirement, my role was changed. I was not a lecturer any more. If I wanted to teach, I wondered where I could teach, whether it was necessary to teach students in class, whether I could teach everyone in the community, in the market, or teach those who wanted to learn when I did not take a role as a lecturer. After retirement, my role was not a lecturer, but to take a role as a person who wished to make contributions to other people."

1.2Responsibilities after retirement

After retirement, we no longer took responsibilities in our regular jobs, but we still had other responsibilities. After retirement, many elderly people were burdened with other duties, such as taking care of their grandchildren and ill parents, or working part-time jobs as expected by the society.

Khun Sri: "I was quite old, but still had to take responsibilities in taking care of my family members and grandchildren. Sometimes I was stressful because I was not as strong as before. After retirement, I felt more comfortable as I did not have to wake up early to go to work, but I had to help take care of my grandchildren as other people in my family viewed that I had spare time after retirement."

Khun Porn: "After retirement, I had to work but less frequently, reducing from 5-6 days/week to 3 days/week because they requested me to do and I had no idea how to refuse. I needed to work as a consultant, speaker, and thesis defense committee. Even though I had less responsibilities, but not to stop working. I still worked, but to change the position and reduce the responsibilities."

2. How to adapt themselves to remain strong

Elderly people were in the transition period from adulthood to old age. Their physical condition should be normally declined, so they needed to change their daily routines, eating habits, exercise, and ensure emotional balance so as to remain strong. Their adaptation included the following:

2.1 Eat and live healthily

Eating habits of retired elderly people were changed to ensure healthiness as follows:

Khun Saijai: "I changed my eating habits due to my older age. In the morning, I picked up vegetables in my garden to make a smoothie as my breakfast. During lunchtime, I would not consume too much. As for dinner, I had some fruit juices or mixed-nut milk, without having rice. I was more cautious as obesity would lead to unhealthiness."

Khun Pom: "I was more aware of my eating habits. I would not eat red meats, such as pork and beef. I mostly chose to eat fish, but not fried fish, preferably steamed or boiled fish. I usually chose pesticide-free vegetables. I would grow my own vegetables as much as possible. I did not have a meal out of home if not necessary since it might be unclean. Diarrhea in elderly people would be more severe than usual."

2.2 Exercise for well-being

After retirement, elderly people had more time to exercise. Some persons exercised together with other people in the community, such as aerobic dance, and running. Some other persons chose to exercise by walking, flower gardening, and tree planting.

Khun Saijai: "After breakfast each day, I took a rest, and exercised by doing gardening works, such as watering plants, mowing, and growing trees."

Khun Jongdee: "After retirement, I kept exercising, such as playing badminton, and ballroom dancing, but not as often as when I was a lecturer due to my older age. I reduced frequency of exercise to be appropriate with my age, but still continued to exercise. Also, I controlled my weight as obesity caused a lot of problems."

2.3 Mental training

Khun Jongdee: "Elderly people should go to the temple. We had to be prepared, detached, and practice how to accept changes. Happiness had to start from ourselves. If we controlled our mind to be happy, then we would be happy. We should be free from stress, and listen to the Dhamma at the temple in our spare time."

Khun Sri: "We had to be mentally prepared after retirement, to be prepared to die happily, to acknowledge that life was uncertain, and to realize that we removed our mask and people no longer paid respect to us. All of these needed to be prepared before retirement. Keep in mind that every day you woke up to live your life, it's profitable."

3. Live a meaningful life

Most retired lecturers spent their remaining time meaningfully. Some persons dedicated themselves to the society. Meanwhile, they tried to be self-reliant as much as possible in order not to rely on other people and to perceive their self-esteem.

3.1 Apply knowledge to supporting others

Respondents shared experiences of retired lecturers that after ending their role as a full-time lecturer, they would like to give back to the society. Some persons applied professional knowledge to taking a role as a consultant, while some other persons worked as a special lecturer for the same institute without receiving any compensation.

Khun Porn: "After retirement, I worked as a consultant, thesis defense committee for PhD program, and speaker. Even though I had to have a very long trip, I agreed to help them because I could not refuse any request. I was willing to help whenever receiving the invitation."

Khun Saijai: "Upon the retirement, I submitted a letter to the Director requesting to continue teaching without receiving any compensation despite the fact that other institute offered me a teaching job after retirement. However, I did not want to be hired any more, but preferred teaching for free of charge as I was happy to help others. My motto was "Remember what they gave us, but forget what we gave them". Some retirees asked me whether I was tired from teaching, and whether I received any compensation. I replied that I was not tired, but enjoyed teaching, and I did not receive any compensation. Then, they said they wondered why I taught for free of charge. I told them that what I got was worthier than money."

3.2 Self-reliance

Respondents shared experiences of retired lecturers that to live happily after retirement, we had to be well prepared so as to rely on other people as least as possible, at least in respect of accommodations and finance. Some persons who were not retired government officials had to be prepared to work part-time jobs after retirement in order to earn sufficient income, as well as to reduce expenses.

Khun Sri:"I had a chance to have money savings while I was working as a government official, but employees of private companies did not have the said saving schemes. The society should involve in formulating plans to generate income for retirees. For me, I was capable of hanging out with my friends, but those who had no income could not do that. Elderly people had to plan how to be self-reliant. As I had my own pension, I did not have to be financially dependent on other people."

Khun Saijai: "I lived a self-sufficient life. After retirement, I had no salaries, but I had money savings, a house, and a garden. I had a moderate life; not being extravagant, growing vegetables, and exercising in the garden. When falling ill, I was entitled to basic health insurance benefits at a community hospital in the neighborhood. My children and grandchildren lived not far from my house. I tried to take care of my health in order to alleviate burdens of my children and grandchildren.

CONCLUSION

According to the study on experiences of retired lecturers, 3 major issues could be summarized as follows:

1. Changing roles – The minor issues included "Remove one's mask", and "Responsibilities after retirement", which involved the role adaptation after retirement. The role adaptation was a part of adaptation in the Adaptation Theory. Experiences as shown in the results of the study were the secondary role adaptation which was an individual social role relating to the primary role.

2. How to adapt themselves to remain strong – The minor issues included "Eat and live healthily", "Exercise for well-being", and "Mental training". This was in the physiologic mode which involved basic necessities of life, namely, air, water, food, and sleeping of retired lecturers based on Roy's Adaptation Theory.

3.Live a meaningful life– The minor issues included "Apply knowledge to supporting others", and "Self-reliance". The results of the study indicated that retired lecturers adapted themselves to make contributions to the society. They still socialized with others, but adapted their role, and tried to be self-reliant. However, probably because all interviewed elderly people were lecturers, they planned their life after retirement properly, and avoided relying on the society. It was found that most of them tried to be self-reliant as they did not want to cause difficulties against others. This was in the self-concept mode. Nevertheless, the adaptation of retired lecturers in respect of sociability, and interaction with families and communities was also a part of the interdependence mode.

RECOMMENDATIONS

Recommendations for applications

The results of the study on experiences of retired lecturers under the context of Thai society reflected the truth that some senior lecturers had been able to work and apply their knowledge to making contributions to the society. Related agencies could utilize the data to take care of rising elderly people in other professional fields in Thai society, for example, mental health-related agencies should focus on promoting mental health in order to minimize psychosocial problems. Meanwhile, the results suggested that senior lecturers were competent. Any agencies in charge of social development could apply the data to planning how to provide vocational training for elderly people in order to raise income of elderly people in Thailand.

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ABILITY TO COMMUNICATE WITH CUSTOMERS IN BASIC ENGLISH: A CASE STUDY OF GUEST HOUSES EMPLOYEES IN THAILAND

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ABSTRACT

Ability to communicate in basic English is an essential of job functions for many employees working in guest houses all over Thailand. The purposes of this research was to examine the ability of employees, working at guest houses in many important tourist destinations all over Thailand, to communicate with their customers in basic English and was to find out what kinds of English training do they need to improve their ability to communicate in basic English effectively. Survey questionnaire was collected from 400 foreign tourists who had been staying in the guest houses in many areas of major tourist destinations such as Bangkok, Chiang-Mai, Pattaya, and etc. Data analyses revealed that the majority of respondents were able to understand basic English from employees at the guest houses at a medium level. In addition, an in-depth interview with the focus group revealed that employees of the guest houses need a training in speaking and listening areas.

Keywords: Basic English, Guest Houses, Communication

INTRODUCTION

With the growth of tourism industry in Thailand for many decades, English plays in important role in communication with foreign tourists. The growth of tourism has influenced the need to get more training to improve the people who are working in tourism and service industry to be able to interact with customer effectively (Wongleedee, 2013). Even though English is not the official language of Thailand, it is the second important language of Thailand. In the Thai job market, candidates are always asked about their ability in English as well as the proof of their test score. This means it is common accepted that ability is a must and requirement of success in the job market.In comparison with the four or five stars hotels which have a proper training in communicate in English regularly, the employees in guest houses have to learn basic English by themselves and collecting more words from every day experience in the job.

The majority of students in primary schools and high schools often study English as a second language for many years. The focus of learning English is on the grammatical and comprehension reading, and less focus on writing, speaking and listening. In addition, the majority of teachers are not native English speakers or have a direct degree in the English teaching. In Thai society, the middle class and upper class families often require their children to study more English after school and in the weekend. However, the lower income families often have less learning opportunities than middle and upper income family. The fact is most of the middle and upper income do not work as employees for guest houses. These employees mainly come from lower income family and people from the villages of Thailand. Therefore, these employees often have a limited ability in communicating in basic English. This research put the focus on both sides of the communication which are employees of guest houses and foreign tourists. The author of this research was interested in studying the level of satisfaction of ability in communicating in English from the perspective of foreign tourists who were staying at many guest houses all over Thailand as well as the need for specific training from the perspective of employees who were working in the guest houses.

LITERATURE REVIEW

The concept of communication competency is one of the most important areas that many teachers, professors, academicians, and educational policy makers are interested and often appears in the national debate. Clair (1991) stated that there were three communication principles. This means learning to visualize

the surrounding and the nearby environment, learning to experience the different things in the environment, and learning to understand the global situation.

Communication competency includes grammatical and vocabularies knowledge, psycholinguistic knowledge, socio-culture knowledge, practical English usage knowledge (Hall, 1976). In the globalization era, ability to communicate in English serves as the ability to communicate in all over the world and inter cultural communication. Obviously, there is a rapid growth in high demand regarding the learning of English skills. The high demand of employees with ability in English means the high demand for proper training curriculums. English for specific purposes (ESP) is a system to identify the initial need for English communication and it is important to design English training to match with learners' specific needs and rational for learning (Hutchinson & Waters, 1987). In fact, the need to develop specific training program that suits for a particular group who have specific need in order to motivate them to learn effectively and be able to use their training knowledge to use directly in their everyday working hours.

In fact, many experts in English communication agree that ESP courses are one of the best tailored English communication training courses designed primarily to meet with employees' need. ESP courses are widely used and accepted in Thai academic training and Thai educational system. The most common courses are business English, tourism English, service industry English, technical English, and major based training for specific purposes. In fact, the foundation of EPS is an approach to language training in which all decisions as to specific contents, materials, and methods are based on the learner's reasons for learning (Hutchison & Waters, 2001).

ESP courses should be designed to improve certain language skills that are required to perform during the process of doing their jobs. In addition, learners of ESP courses are expected to enhance their English communication skills by practicing, role playing, and modelling in activities which requires the use of certain English skills.

METHODOLOGY

The purposes of this research paper were to survey for information and to examine the ability of Thai employees, working at guest houses in many important tourist destinations in all regions of Thailand, to communicate with their foreign customers in basic English and also was to find out what kinds of English training do they need to improve their ability to communicate in basic English effectively. English survey questionnaire was designed and collected from 400 foreign tourists who had been staying in the guest houses in many areas of major tourist destinations such as Bangkok, Chiang-Mai, Pattaya, and etc.This was a case study of 400 guest houses, Thailand. The population of this study included all employees who were working in guest houses around Thailand during the first quarter of 2016. A Likert scale questionnaire was developed as the research tool. Based on 400 respondents who answered the questionnaire in detail of three parts, the data of their experiences and opinions was collected. Mean and Standard Deviation were utilized in analyzing the data.

FINDINGS

The demographic data revealed that most of the foreign tourists who were staying at guest houses in many different parts of tourist destinations in Thailand were men for 65 percent while the foreign tourists were accounted for 35 percent. Most of foreign tourists preferred to travel with their friends about 55 percent, with their families about 29 percent, and other about 16 percent. The majority of tourists from EU countries about 67 percent, 25 percent from ASEAN nations, the rest are from all over the world. Even though the Chinese tourists are a major group of tourists coming to Thailand, they tend not to stay less than one week at three star hotels, rather than guest houses, while the EU tourists often prefer to stay longer at guest houses. In terms of the motive to travel in Thailand, the study revealed that pleasure or relaxation was about 45 percent, business or work related about 34 percent, education about 7 percent, and other.

Table 1. Foreign tourists' perception toward guest houses' employee English communication skills

English Communication skills in	Mean	S.D.
1. Employees can understand your requests.	4.27	.893
2. Employees can greet you in English	4.55	.793
3. Employees can speak to you with basic English	4.23	.516
4. Employees can respond to you clearly	3.88	.764
5. Employees can explain about their activities and services	2.45	.873

Based on the results of table 1 regarding foreign tourists' perception toward guest houses' employee communication skills, the findings revealed that the foreign tourists agreed that the majority of guest houses' employee can greet them in English with the highest mean. Second, the foreign tourists rated the ability of guest houses' employees to understand their request as the second in the rank with the mean of 4.27. Third, the foreign tourists rated the ability of guest houses' employees to speak to them with basic English as the third in the rank with the mean of 4.23. Fourth, the foreign tourists rated the ability of guest houses' employees to respond them clearly as the fourth in the rank with the mean of 3.88. Finally, the foreign tourists rated the ability of guest houses' employees to explain about the activities and services as the fifth in the rank with the mean of 2.45.From the in-depth interview with some of the guest houses' employees, they were unable to speak to their foreign guests effectively at the level that they needed to communicate. They are in need of training to improve their English communication ability in order to provide more information about their activities, festivals, games, local products and services to foreign tourists. Moreover, they also need from experts to help them write some information in proper format of English such as menu, games, activities, including rules and regulations of using guest houses.Printed media can be created with the need to explain some detailed of activities and information in proper English to make sure that foreign tourists can understand by reading themselves which will help both senders and receivers of the communication to understand each other better and save time and trouble from miscommunication. Even though these guest houses' employees had a limited English communication ability, they can offset by providing a high quality services and their attentive to serve and to make customers happy as much as they can which is one of their strengths.

DISCUSSION

The result is very easy to understand since greeting in English is very easy to practice or train, therefore, the guest houses' employees can perform this task easily. Moreover, it is the friendly custom of Thai people to greet and try to make their guests happy. While the ability to explain about their activities and services requires these employees to explain large amount of information in English which require many long sentences of English. Therefore, it is hard for them to perform correct and try to explain effectively.

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INTERNATIONAL HIGHER EDUCATION IN BUSINESS – 'PIGS MIGHT FLY'

(An approach for system review)

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SUMMARY

'If You Want Different Results, You Have to Try Different Approaches' – Albert Einstein

In this presentation I will attempt to emphasise the need for a different approach towards International Higher Education in business studies.

Since now many systems have been implemented and various changes took place in order to reassure that Higher Education is Leading the development of business and society. But as society changes itself the question 'what the role of a University is' remains. Examples of attempts; 'William von Humboldt did it in 1810, Cardinal Newman did it in 1852 and Lord Robbins did it in 1963. Now recent changes to UK higher education policy have led to a surge of interest in doing it again – with concern in some quarters that it is not being done enough – that is, defining what universities are for' (source; https://www.theguardian.com/education/2011/oct/10/higher-education-purpose)

But nowadays we are facing a unique phenomenon; In some cases, Universities are leading the change but in many other cases – first - 'Change itself' takes place in the business world, making the **Universities 'followers'**. There is a Hypothesis that our 21st century world requires a faster transformation of higher education.

My objective is to raise awareness – at the maximum possible audience – upon the challenges that International Business Education faces under Globalisation, Digital revolution, new generation's expectations and job market's future demands.

FACTS (from various sources)

- Classroom does not really differ from what it was 200 years ago (instead of blackboard we have whiteboard and instead of writing only, we also use projectors)
- We teach and test everyone as if they were the same (despite the fact that we recognize 'Learning Styles')
- At school you take the lesson first and the test after. But in real Life you take the test first and the lesson after (are we willing to change from pedagogy to andragogy, treating University Students as adults? Note; I am really surprised when I see Lecturing job vacancies requiring a 'teaching qualification' and NOT recognising a 'training one')
- Is the fashion of 'distance learning' the future of higher education? Film director Ridley Scott mentioned that 'teaching is the most important of all professions', indicating the importance of human interaction. From the company's side telecommunications seem to move towards a more work-life balanced model. Let's see some examples from education and business world;

    - France is not allowing mobile phones at school
    - It also develops a school 'without teachers' – actually teacher's role is changing from 'instructor' to 'facilitator'
    - French workers can ignore company emails outside of business hours
    - South Korea will shut down computers to force people to leave work on time (source; BBC Seoul Metropolitan Government)

From the above indicative examples, we can see that the role of 'digitalisation' is not yet 'clear'. From one side it saves our time (through distance learning, tele-work, work from home options), but from the other side its use is 'controlled' to allow human contact, culture exchange and face to face interactions.

Before getting in more details, I would like to present a common view upon the role of 'International higher education in business'.

> The main objective of any Business Course is to prepare students for a successful career in the labour market (either as managers or as entrepreneurs).

One question is 'what defines the labour market'? Of course – as any other free market – the law of Supply and Demand. I.e. If the market requires more Accountants then Universities need to adjust to this demand. But, nowadays the market changes quickly. After 5 years (I estimate the adjustment time of educational bodies and the study period till we have the first graduates of accounting) the job market may be completely different. Some other bodies come to fill the gap providing more up-to-date knowledge (additional to a degree) like ACCA and other 'professional certification organisations'.

In order to organize the various specialty demands of the labour market we established the 'European Qualifications Framework' surrounded by a set of other relevant 'certification bodies'.

So, if you want to teach 'you have to obtain a teaching qualification'

If you want to achieve a high position within HR its better to be CIPD qualified

In other worlds we set up **'boxes'** as we are still living in industrial Age……forgetting the fact that **our business labour market is not anymore 'specialty oriented', but it is actually a 'stock market of skills'!**

We all know that Higher Education is seen to play an essential role in society, by fostering innovation, increasing economic development and growth, and improving more generally the wellbeing of citizens.

'In the coming years, many commentators predict that there will be increased demand for highly skilled people; indeed, skills gaps already exist in some EU Member States. Driven by digital technology, jobs are becoming more flexible and complex. This has resulted in a growing number of employers seeking staff with the necessary capacities to manage complex information, think autonomously, be creative, use resources in a smart and efficient manner, as well as communicate effectively. Indeed, Europe's future prosperity depends, at least to some degree, on nurturing more dynamic, high-achievers who can develop innovative products and processes.

Across the EU-28, 32.2 % of all students in tertiary education were studying social sciences, journalism, information, **business administration** or law in 2015' (source; http://ec.europa.eu/eurostat/statistics-explained/index.php/Tertiary_education_statistics)

In general, a large percentage of the world's students that want to become either Managers in large companies or entrepreneurs follow a degree in Business /Management related orientation. 'Degree programs also look at how and why organisations work, as well as **the global business environment**. Students can expect to gain knowledge of the different areas of a business and how they function together as well as strategy and management skills'. (source; www.timeshighereducation.com/student/what-to-study/business-management)

If we take a look at most of business administration /management programmes we can easily observe many similarities among them; I hereby present indicative business course structures from 2 high-ranked Universities from each of the following countries; UK, Germany, Finland, Singapore, Hong Kong, Australia and the US (table will be shown during actual presentation).

Now let's have a look at 'our boxes'

- Most modules require a 12-week class attendance (lecturers and tutorials, where it is supposed students learn through 'ready-made' case studies)
- Most of research is done through internet (so we are facing problems with '**plagiarism' as the 'science' is not to obtain critical ability but to paraphrase information**)
- Most of business books look the same.
- University rules are also very similar
- Most of the work is done in class or library

And the question is; Are we really preparing our students for the future?

You can anticipate that we teach 'best business practices'. But we forget (again) that business case studies come from research that analyses real business success stories. Results take time to be published and incorporated in the educational literature. But external conditions have already changed. Are Universities 'leaders' or followers'?

The guru of management Professor Minzberg says 'you can't teach Management in a class'.

Furthermore, the labour market is going to change dramatically. It is predicted that by 2030 around 80 % of the jobs have not yet been invented (this comes in accordance with some thoughts of Mr. Dieter Zetsche – head of Daimler Benz).

For the above reasons we have some to disagree with the idea of getting a business degree (https://www.cbsnews.com/news/8-reasons-not-to-get-a-business-degree/).

That's one of the bombshell conclusions of Academically Adrift, a new blockbuster bestseller that suggests that 45% of college students don't learn much of anything in their first two years of college, while more than one out of three students graduate with no improvement in writing and analytical skills.

Among the students who learn the least in college are social work, education and **business majors**.

'You're kidding yourself if you think a business degree gives you the skills to work in the corporate world'.

An employer survey conducted by the National Association of Colleges and Employers indicates that workplaces most value these three skills that you are usually more likely to find with a liberal arts education:

Communication skills, Analytic skills and Teamwork skills.

CONCLUSION

In the 20th century, urbanization and industrialization made a university education available to the mass populace.[Rudy, Willis (1984), The Universities of Europe, 1100–1914, pp. 136–37] Throughout, the basic structure and research purposes of the **universities** have remained constant; per Clark Kerr, they "**are among the least changed of institutions**".[Trow, Martin (1987) "The University at the End of the Twentieth Century and Trends Toward Continued Development", pages 323 to 337 in Tradition and Reform of the University under an International Perspective. edited by Hermann Röhrs. New York: Berlag Peter Lang.]

Last year I asked my final year students 'what is the highest level of success'. One of my best students answered 'Happiness'!! …….

Its time to understand that labour market is changing so fast, that the basic skill youngsters should learn is the ability to CHANGE. In order for the Universities to become again 'leaders in business field' we need to DEVELOP relevant education AS WE WANT – not only as the market indicates through past statistics. For example, it is predicted that by 2027 most of the US workers will become freelancers. Do we prepare our students with relevant skills (building personal brand and Selling)? Another fact is that millennials are moving close to nature. Are we ready to introduce 'the real meaning of sustainability' instead of teaching just a CSR lesson?

And the most important question; How can we restructure our 'International business studies', so as to achieve the best outputs in a future world? What is our vision for our graduates?

- We want creative thinking (not 'cut and paste ideas')
- We want 'applied research' and curiosity (not searching and paraphrasing)
- We want diversity and team spirit (can't be done in class)
- We want real life practices (maybe through experiential learning)
- We want innovative ideas (can't be produced in current **'boxes'**)
- We want environmental sensitivity
- We want self-confidence and compassion
- We want 'global managerial skills and attitudes' (maybe through on-the-job training)

Finally, we want Healthy, Caring, Creative, Cooperative and HAPPY graduates that will contribute to the betterment of our global village. Proposals are welcomed!!

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WHETHER THE ADULT ATTACHMENT STYLES WOULD AFFECT LEADER-SUBORDINATE RELATIONAL IDENTITY?

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ABSTRACT

The demands of successful leader-subordinate relationship in organizations had increased due to technological advances and global economic changes in today's work environments (Gilley, McMillan, & Gilley, 2009), which was an important suggestion that the effectiveness of organizational functioning depends on the effectiveness of these relationships. An organization can be benefited from placing the matching leaders to positions based on their and subordinates' interpersonal styles. We took perspective of social cognitive schema to clarify the dimensions and contents of leader-subordinate relationship. By using two dimensions of equal/unequal and close/distant, the contents of the leader-subordinate relational identity (LSRI) are classified into four categories: CARI-communal affection RI (equal and close), IERI-instrumental exchange RI (equal but distant), CRRI-care-repay RI (unequal but close), and AORIauthority-obedience RI (unequal and distant). Furthermore, we explored how adult attachment styles with their parents in family affects subordinate's leader-subordinate relationship in organizations. Using 204 employees as sample in Taiwan, the results of regression analysis showed: The secure attachment was positively associated with CARI and CRRI; The insecure attachment was positively associated with IERI and CRRI. Theoretical and practical implications for organizations and for the model of LSRI were discussed.

Keywords: Attachment Theory; Leader-Subordinate Relational Identity; Social Cognitive Theory; Pan-familism; Stimulus Generalization

INVESTIGATING CHINA AND UNITED STATES STUDENTS CULTURAL LEARNING BELIEFS: FOCUS ON HABITS AND TIME DACTOR

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ABSTRACT

Chinese students are generally known to be working harder, spending more time on academic activities and having a stronger commitment to educational goals than their American counterparts. The Confucian culture of learning, coupled with social and economic pressures, compel Chinese youths to place much greater emphasis on educational attainment. Drawn on survey data gathered from university students in both the USA and China, this study explores how study habits formed during school years affect time allocation decisions made by university students. We use samples of Shanghai and NYC college students to investigate young adults' perceptions and attitudes toward the allocation of time between independent academic activities (studying and reading) and non-study activities (social networking, video gaming, and TV watching). The results appear to support claims that Chinese university students spend a greater time on independent academic activities than their US counterparts.

Keywords: USA – China, College students, Time use, Academic activities, Study time,

Reading time, Digital media, Video gaming

INTRODUCTION

The objective of the present study is to shed light on the differences between Chinese and American college students' attitudes toward learning. In addition, this study explores students' perception of the trade-off between the time they spend on digital media and the time they spend on reading and studying. This topic is important because in the race between China and the USA to improve their economic competitiveness, educational outcomes are imperative. Technological sophistication, financial erudition, and political acumen that are expected from today's students are very much a function of their academic performance, which, in turn, depends on the students' attitudes toward learning.

It is often assumed that Chinese students spend more time studying, especially in comparison to their American counterparts as the latter are more involved in extracurricular activities and are not as much under pressure from their parents. This paper attempts to answer the question of how these "stereotypical" intercultural differences are reflected in the differences in study habits of college students in China and the USA. The authors compare two samples of college students with similar backgrounds and majors at two urban universities with comparable academic levels, settings, and national rankings. The study provides empirical evidence that helps to understand how American and Chinese college students differ in the way they allocate their time between activities that lead directly to their scholastic achievement (independent studying and

reading) and those activities that either crowd out their time away from studying or do not provide direct explicit benefits toward their academic performance, such as computer gaming and surfing social networks.

Previous Empirical Evidence

Growing up in a culture that has been rooted deeply in a tradition of learning and scholastic competition for thousands of years and pushed hard by their parents, Chinese students work more diligently than their American counterparts (Chen & Uttal, 1988; Stevenson, 1994; Li, 2003; Li, 2005). They are also more avid and proficient readers. According to one study, in 2009, a Chinese citizen on average reads books for 15 minutes, newspapers for 21 minutes, and magazines for 16 minutes every day. This amounts to almost an hour of reading daily. For young people, readership rates are much higher (Reading Worldwide, 2012).

American culture does not place the same emphasis on the importance of education or reading. The National Endowments for the Arts (2007) reported that in the U.S., 15- to 24-year-olds (high school and college students) spend only 7 minutes reading on weekdays and 10 minutes on weekend, on average. By contrast, they spend 2 to 2 1/2 hours per day watching TV (NEA Report, 2007). The same report pointed out that 65% of college freshmen read for pleasure for less than one hour per week or do not read at all (NEA Report, 2007). Contrary to the assumption that the students' main focus should be studying, leisure activities take up most of their time. Moffatt (1989) polled students at Rutgers University and found that most of them spent 8-12 hours per week studying and twice as much time on leisure activities. He also found that 25% hardly study at all.

Studies cite that the major culprit behind the recent trends in students' reading and studying habits is the development of digital technology and the Internet (Liu, 2005). College students are heavy users of the Internet and digital media and they have more access to the Internet than most other population segments (Kim & LaRose, 2004). On the one hand, by introducing new free and easily accessible information media, shifts in digital technology have broadened the pool of potential readers. A study of 124 EFL (English as a foreign language) students in a university in southern Taiwan, for example, found that 83.9% of students read online information often every day, while only 31.4% of them read newspapers and 33.1% of them read magazines often every day (Shen, 2006). On the other hand, learning, whether in school or anywhere else, requires time (Bloom, 1974). There is often a trade-off between digital media and studying and/or reading, which is substantial in cases of addiction to video games, a rather common phenomenon among young people nowadays (Morahan-Martin & Schumacher, 2000; Burgess et al., 2012). Research shows that the majority of free time is spent on non-study activities, such as watching TV and playing video games (Larson & Verma, 1999). A study of Taiwan college students (Chou & Hsiao, 2000) found that students who are addicted to the Internet spend on average 5.47 hours on games every week. While this is a general trend among both, American and Asian students, the former ones seem to be more likely to be engaged in non-academic activities. Research shows that in the U.S. approximately 82% of full-time and 69% of part-time students admit playing video games (Gentile, 2009), which is the case for only 38% of Chinese students (Abidin et al., 2011).

Video gaming and social networking addiction also may be the reason why reading rates have plummeted in the U.S. In fact, research depicts a rather gloomy situation: literary reading among 18- to 24-year-olds declined by 28% between 1982 and 2000. At the same time, home Internet use by this demographic group soared 53 percentage points from 1997 to 2003 (NEA Report, 2007). Social networking dominates as a leisure activity

among 18-34-year olds, who spend 3.8 hours a day chatting on Facebook, tweeting, etc. (Pew Report, 2013). The Pew Internet Project's research (2013) states that 83% of 18-29-year-olds (prime college age) use social networking sites. An additional corollary of the explosion in digital technology is multitasking. Research indicates that most students use other media while reading or studying (NEA Report, 2007). This may have an adverse effect on their comprehension of the material and ultimately on academic performance.

Robert Putnam (1995) has hypothesized that media, particularly TV, crowds out the time that could otherwise be spent on functional activities. Partial support for the time displacement hypothesis can be derived from research related to a relationship between the time spent on reading and studying and academic performance. Interestingly enough, the impact of this trade-off on academic performance remains a highly debatable issue. Some studies show that there is either no relationship or a weak positive relationship between study time and grade-point average (Lahmers & Zulauf, 2000; Rau & Durand, 2000; Plant et al., 2005).

Others find a strong relationship between students' effort and their GPAs, especially among freshmen and sophomores (Michaels & Miethe, 1989; Nelson, 2003). In addition, some studies support the time-displacement hypothesis by indicating a strong positive relationship between grade-point average and time spent on leisure readings (Gallik, 1999; Kim & Anderson, 2011). There are few studies about college students' choices of time allocation between independent academic and non-academic activities. These studies focus either on college students' leisure choices (Yang et al., 2010) or on the students' reading habits or study time (Abidin et al., 2011). Moreover, there is currently no body of literature that offers cross-national comparisons of the use of time comparing Chinese and the US students. Yet, in the light of the current 'race to the top', it is important for educators and political leaders to be aware of the efforts that are put forth by today's college students in both superpowers.

Theoretical Background

Why do Chinese students, from their early years till college life, spend so much more time studying than their American counterparts? A major reason for this striking difference is the motivation for excellence. This characteristic, in turn, is a result of cultural, economic, and historical forces that have shaped and continue shaping the learning attitudes of the youth. The Chinese have been placing a great value on education since the time of Confucius (551 B.C. - 479 B.C.), a great philosopher and educator, whose emphasis on virtue, natural order, respect for authority, self-growth and learning has had a profound impact on the values of Chinese for more than 2,000 years. Promotion of education by local officials educated local elite, and central governments date back to Han Dynasty (200-100BC) and meritocracy and bureaucratic organization of the society have endorsed Confucius principles for centuries to come (Ebrey, 2010).

This historical meritocracy and Confucius traditions have now mingled with modern economics. The Chinese also value education so much because opportunities for the uneducated in a country of more than a billion people are limited (Dahlman & Aubert, 2001). Although in the United States education is also viewed as a stepping stone to success, one does not necessarily have to graduate from college in order to become wealthy. Bill Gates and Steve Jobs, however exceptional, are more likely to be an American phenomenon than a Chinese one. Therefore, Chinese children - especially only children due to the One Child Policy - are under a lot of pressure to excel in school and are more likely to spend longer hours studying than American students (Fong,

2006). The underdevelopment of China's financial system and inefficiency of the social safety net add to the pressure as well. Lack of a variety of financial instruments as well as institutions that would ensure a steady flow of income, especially for the elderly, often means that a child, usually a boy, becomes a better and often the only insurance for the old age of the parents (Fong, 2006).

In addition, there is also an unspoken code of conformity that is most singularly manifested in a concept of 'face,' an idea that can be somewhat related to a Western concept of 'honor,' although not literally analogous. (Yuan & Knapp, ed, 2010). Since Chinese culture emphasizes learning and cultivating self-growth, doing otherwise may result in 'losing face.' Therefore, Chinese youths feel more pressure than their American counterparts in order to avoid humiliation and embarrassment. Their parents feel this pressure too since a bad student will bring about embarrassment to the family, their ancestors, and everyone affiliated with them (Lowe & Corkindale, 1998). Chinese parents, therefore, are more likely to enroll their children in a variety of after-school activities to enhance their academic development and to establish an environment conducive to learning. Television, computer games, and playtime are often given low or no priority in favor of academic pursuits. Intense pressure and a competitive atmosphere abate slightly once the child enters college. Yet, the general pattern remains the same as social, economic, and traditional influences keep pushing students toward academic excellence in the hope of securing a good future.

Key Research Questions

This study explores differences between samples of Shanghai and NYC college students' perceptions and attitudes toward the allocation of time between out-of-classroom academic activities (studying and reading) and non-academic activities (social network surfing, video gaming, and TV watching). Are there significant differences in the time students in the two countries spend on average on studying and reading? Do they feel that non-study activities crowd out their valuable time spent on academic ones? What would they do if they are not permitted to engage in some of the non-academic activities? Because college students' study habits are formed much earlier in life, when children were under their parents' guidance and control, the study also probes parents' attitudes toward the use of time while the college students were young children. When did they allow their children to start playing video games? Does the starting age differ in the two nations? In which country were parents more likely to restrict the hours of playing and the content of video games? The next section describes the research methodology which is then followed by a depiction of the results and the implications for research and practice.

Data Description and Methodology

Participants

The respondents in this case study were 201 U.S. students and 156 Chinese students enrolled in business/economics courses at Pace University in New York City and at the University of Shanghai for Science and Technology in Shanghai (USST). Chinese students were enrolled in the joint U.S. -China program between School of Foreign Languages at USST and Queens College of CUNY (City University of New York), under which the students take a number of business/economics courses taught by American instructors in English. American students were mostly business, finance, and economics majors. About 55% of U.S. students and

51% of Chinese students have at least one parent with a university degree. Both groups exhibited similarities in a sense of middle-class parentage, the relative level of income, and urban educational setting. In addition, the two universities share the same inception date and have a somewhat similar ranking. (Note 1). There were 42.3% male and 57.7% female respondents at the US university, 43.7% of whom were freshmen, 26.9% sophomores, 10.9% juniors, and 18.5% seniors. There were 23% male and 77% female responders at a Chinese university. The overrepresentation of females is due to the traditional population break down on the campus of the School of Foreign Languages (54.5% of them are sophomores, 43.6% are juniors, and 1.9% are seniors). Because the students at this university are required to take intensive English Language coursework prior to their enrollment in business/economics courses, no freshmen could participate in the study.

METHODOLOGY

A 16-question survey was designed for this study to determine how students use their time. The respondents were asked how many hours a week they spend on average at different activities, including working/interning, studying, reading for leisure, social networking (Facebook, RenRen (Note 2), etc.), watching TV or shows on the Internet, and playing video games. In addition, the survey had questions related to parents' attitudes toward video games. It probes whether or not the parents allowed them to play video games when they were kids, whether they limited the hours played and/or censored the content, whether or not they played with them, as well as the age at which the students started playing the games. These questions offer insight into the earlier development of attitudes of university students in the US and China towards studying and leisure time.

In order to check the perceived trade-off between study time and time spent playing video games, the students who played video games were asked the question "How to have video/computer games impacted your study habits?" The answers "not at all", "somewhat", and "very much" were assigned numbers 0, 1, and 2 respectively. Weighted averages were then calculated to compare the Chinese and American students. The students were also asked what activity they would most likely get engaged in as an alternative to video/computer games. Among the answer, choices were "study more," "read more," "watch TV more," "exercise more," "socialize more," and "try to find a way to play video games anyways." To ensure that students in both countries understood the questions clearly and in a similar fashion, a pilot survey was given to a random sample of 20 students in the United States and 20 students in China. The final survey was adjusted based on the answers to the pilot survey.

6. Findings

The use of time

The results of the survey indicate that both the US and Chinese students spend almost the same amount of time working or performing internships (19.3 and 18.5 hours per week, on average). Yet, American students are more likely to have a job or internship than their Chinese counterparts (44% of US sample students work or intern, as opposed to 30% of Chinese students). They also spend the same amount of time watching movies/shows via TV or the Internet – about 9 hours per week, on average. It is interesting to note, however, that in the U.S., male students tend to spend more time watching movies/shows than female students do (10.7 and 7.8 hours per week, on average), while in China it is the opposite (male students spend 8.3 hours per week,

on average; female students spend 10.4 hours per week, on average). The fraction of students who play video games and the amount of time spent playing them are essentially the same in both countries – 72% of Chinese students and 73% of American students play video games, for about 6 hours per week, on average. In both countries, male students tend to spend more time playing games. Chinese male students spend almost twice as much time, while American male students spend almost three times as much time playing video games as their female classmates. Chinese students spend more time on social networking -- almost 10 hours a week, on average, compared to 6.4 hours, on average, spent by the American students. In the U.S., both genders seem to spend the same amount of time on Facebook. In China, however, social networking seems to be a predominantly female activity – female Chinese students spend almost 2 hours more on RenRen than their male classmates. Chinese students also are a little more likely to shop online – about 3.1 hours a week, on average, compared to 2.3 hours per week, on average, spent by their American counterparts.

The most striking difference, however, is manifested in the hours spent on out-of-classroom learning activities – studying and reading for leisure. Chinese students spend much more time doing both. In fact, they spend more than twice as much time both reading and studying. On average, they read for 9.6 hours per week, on average, and study for 22.3 hours per week, compared to 4.4 hours per week of reading time and 9.1 hours per week of studying time for US students. Female students tend to study longer hours in both countries than males do. The results also indicate that there are very few students in China who don't read (less than 1% said "0 hours a week" and 5.1% said that they read for one hour or less per week) or don't study (only 1.3% said that they study for one hour or less per week). In the U.S., 10% of students reported 0 hours of reading per week and about one-quarter of students say that they read for one hour or less per week. Seven percent of US students basically don't study at all (less than one hour a week).

It is possible that some differences between the samples' responses related to their study time could be attributed to the specifics of the program Chinese students are in. Since they are taught in a foreign language, they might spend more time studying, as they need to devote additional time to master the language or because learning any subject in a language other than their native one might require more time. In addition, study time might increase as students must overcome problems of studying in a quasi-English environment, with no native English-speaking classmates. However, it is reasonable to assume that an increase in study time due to these factors is not substantial since, in order to be enrolled in a Foreign Language College, the students had to be already proficient in English. Also, due to the fact that USST has well established formal collaborations with many universities in America and Europe, Chinese students in the USST-Queens College program study side by side with international students. This alleviates some of the difficulties associated with learning in a language other than native and thus makes the US sample and the Chinese sample more comparable.

Overall, a greater number of US students (63.2%) than Chinese students (42.3%) spend more time on non-academic activities (social networking, watching TV and YouTube, playing video games, and Internet shopping) than on independent academic ones (studying and reading). However, the students in the two countries differ in terms of how many hours they spend per week on average on each category. While Chinese students spend 32 hours per week studying and reading and 28.5 hours per week on non-academic activities, the US students spend only 13.5 hours per week studying and reading and 23.7 hours per week playing games,

social networking, Internet shopping, and watching movies and shows. A total sum of hours spent on both types of the activities together reveals that Chinese students about 22 hours more (a total of 78.9 hours, compared to 56.6 hours spent by American students).

But what about parents' attitudes toward some of the non-study activities during the students' early years, at the time when their study habits were being shaped? The results of the survey confirm the differences in parents' attitudes toward those activities, reflecting the differences in the two countries. American college students who were polled started playing games earlier than their Chinese counterparts. On average, the starting age for the American sample was 7.7 years, while for Chinese it was 11.3 years. In both countries, boys seem to have an earlier start than girls. American boys start playing games as early as 7 years old, while American girls start a year later. In China, boys start when they are 9.4, while girls do not play games until the age of 12. In addition, Chinese parents are more likely not to allow their children to play any video games. In fact, 26% of the Chinese responders said that they were forbidden from playing video games, compared to only 4% of their American counterparts. In China, parents are also more likely to limit the hours of playing (61% of them do so, compared to 41% of American parents). Twice as many American parents do not care about the hours or the content of games played (23% compared to 11.5%). Given these striking differences in parental attitudes toward the allocation of time between independent academic and non-academic activities during the early years when their children's study habits are developing, it is not surprising to find that by the time children enter college, their use of time is reflective of the different upbringing.

Students' Perceptions and Attitudes toward Video Game Playing and Restrictions

The differences in values placed on reading and education, in general, are also manifested in the ways the students perceive the existing trade-off between academic and non-academic activities. The U.S. college students who play games are less likely to report that video games have an adverse impact on their study habits than their Chinese counterparts. In fact, 57.6% of American college students reported that there is no effect whatsoever, compared to 48.7% of Chinese students who think so. Only 35% of American students think that there is "some effect" and 5.5% think that there is a "strong effect," compared to 55.8% and 6.2%, respectively, of Chinese students who chose these answers.

What are the students' attitudes toward the restrictions imposed on them by their parents? What if there is no easy access to video games? The differences between the two groups of students are stark. An overwhelming majority of Chinese students reported that in this case they would either study or read more (91%), while only 13% of American students chose this answer. Moreover, American students are more likely to find another way to play video games (7.6%), while much fewer Chinese students chose this answer (1.8%). The results confirm the difference in the emphasis on studying and reading in the two cultures.

Chinese students place an exceptionally high value on educational activities. In 2009, the Chinese publishing institute conducted a nationwide study on the reading habits of adults aged 18 to 70 years. The findings that were disclosed to the press in 2010 revealed that more than two-thirds (69 percent) of Chinese people believe that reading is important for their own development and that this trend is predominantly manifest in the 19 -

29-year-olds. The report concluded that younger and better educated Chinese read considerably more books than the rest of the population (Reading Worldwide Report, 2010).

The results of our survey indicate that American students have priorities different from those of their Chinese counterparts. The majority of polled American students said that if they have no easy access to video games, they would watch TV more (31.8%). Their next favorite 'trade-off' activity is exercising (26% of American students in the sample said they would exercise more). Socializing is in the third position (17.4% said they would socialize more). Watching TV is the second most frequently chosen activity for Chinese students (30% said they would watch TV more). This was followed by socializing (28% chose this answer). Exercising was in the fourth position, which confirms the general observation that the Chinese do not pay as much attention to sports or exercising as the American youths do. The Survey of American College Students that polled 400+ randomly selected American college students reported that 22.47% of the students in the sample participate in intramural athletics, including more than 28% of students aged 19 or younger (Primary Research Group Report, 2009). Chinese parents are not as much interested in sports activities for their children unless those activities lead to the participation in Olympic Games.

CONCLUSION

This case study helps to investigate differences between the attitudes of Chinese and American college students toward learning. It also explores the students' perception of the trade-off between the time they spend on non-academic activities (watching TV, surfing the net, playing video games) and independent study. Survey results indicate that both U.S. and Chinese students spend almost the same amount of time working or interning, watching movies/shows via TV or the internet, and playing video games. There are, however, some gender differences. Chinese male students spend almost twice as much time, while American male students spend almost three times as much time playing video games as their female classmates. While in the U.S. both genders seem to spend the same amount of time on the social media website (Facebook), in China, RenRen is mainly utilized by female students.

The most remarkable difference was found in the hours spent on independent academic activities – studying and non-homework reading. Chinese students spend more than twice as much time on both activities. Female students in both countries tend to study more hours than male students do. An overwhelming majority of Chinese students reported that if they had no easy access to video games, they would either study or read more, while most of the sampled American students said they would watch TV more. In addition, American students are more likely to find another way to play video games. The survey also probed the attitude of parents toward video games at the time when college students were still in school. According to the results, American parents allow their children to start playing at an earlier age and are less likely to limit play hours.

These findings confirm the striking differences in the two cultures' positions on educational attainment and commitment to educational goals. These differences are possibly a result of historical traditions, economic and demographic forces, and social values. It is probable that the Confucian philosophy of learning, high marginal returns on education in the fast growing economic environment, and extremely competitive labor markets, force Chinese college students to spend much greater amounts of time on study. Chinese students might face

fewer job market opportunities if their academic credentials are not very strong. In addition, the weak structure of saving institutions, especially pension funds and mutual funds, in combination with cultural tradition of saving one's "face" and the need to care for the elderly, might encourage Chinese parents push their only children harder as they view their offspring's success as a guarantee of their own financial security during old age. Literature shows that Chinese families place a great value on education; thus children since their early age spend considerable time studying and reading. Our study presents empirical evidence that suggests that these tendencies are exhibited among university students, free from parental influence when studying at college.

Studies show that American students, in contrast, do not spend as much time studying and reading during earlier school years. As this study demonstrates, the trend continues into their college experiences as well. Although American and Chinese college students spend approximately the same amount of time on the internet and digital media, the results of the survey indicate that on average Chinese students start playing video games at a later age (there is more than 3 years' difference). Because study habits are formed during this period (primary school age), it is safe to assume that video games and digital media have a larger detrimental effect on time management of American students than that of their Chinese counterparts. By the time they are in college, Chinese young adults are capable of managing their time in a more efficient, academic-focused, way.

Overall, there is a greater number of U.S. college students who spend more time on non-academic activities than on academic ones. It is interesting to note that Chinese students spend about 22 hours more on both types of the activities together. This poses a paradox. Where does the time go for American students? Why do American students spend less time, on average, on both, independent academic and non-academic activities? Further research is necessary to explain this paradox. Perhaps, there is a need for a more detailed survey in which the responders not only report the number of hours spent on digital media, but also on the activities that are beyond the scope of this study, such as exercising and socializing. These activities, as well as some other co-curricular and extracurricular activities, may have some indirect or not easily discerned benefits for college students' academic success. Some studies suggest, for example, that students who use social media more often are more likely to be self-confident and have a sense of social trust and citizenship responsibility (Valenzuela et al., 2009; Ellison, 2007).

There is certainly room for further investigation and a larger sample of students would perhaps improve the validity of conclusions drawn here and help answer other important questions such as: How much social capital do college students in the United States and China accumulate, if any, when they spend time in their relative social networks (Facebook and RenRen)? What are marginal benefits of extra time spent on extracurricular activities by American students? How does a much stronger emphasis on sports benefit American students when they are about to compete in labor markets? Does time spent playing video games affect students' academic performance similarly in both countries? In addition, further studies may explore the effects of the extra time spent by Chinese students on out-of-classroom academic activities on their academic performance and a comparison can be made with the scholastic performance of American students. To improve stereotypical understanding of Asian and particularly Chinese students, it is also important to go beyond the cultural

explanations to explore the reasons behind Chinese students' willingness to devote so many hours to academic-related activities.

Although it draws from fairly small samples of students at two colleges in the United States and China, this research does raise concerns regarding the relative future competitiveness of the two superpowers in global labor markets. Education and skills will ultimately determine the preparedness of the youth for the real world and if American college students do not invest as much time in studying and reading as their Chinese counterparts do, they might limit their access to better-paying and more rewarding jobs globally.

Notes

Note 1. The ranking system in China is very different from the one in the USA. Although the USST is nominally a Gaokao (national college entrance examination) Tier 1 university, students from provinces have different standards of marks on a Gaokao examination for entering USST. This lowers the USST's ranking to Tier 2, which makes USST and Pace University students more comparable. Although USST is a public institution (as opposed to Pace University), students who are enrolled in USST-CUNY program have to pay an additional tuition fee.

Note 2. RenRen is an equivalent of Facebook in China.

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COPING WITH RECESSION: THE CROATIAN EXPERIENCE

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ABSTRACT

Over the last twenty years, Croatia's macroeconomic performance was characterized by a low average rate of economic growth and unstable growth rate dynamics, high and increasing government and private sector borrowing, a high level of unemployment, but a stable inflation. The recession started in 2009 on a yearly basis and lasted six years. During this period, Croatian gross domestic product was reduced by approximately 13%.

This paper analyzes its causes and consequences focusing on the role of macroeconomic policy, fiscal and monetary in particular. It also captures the changes that have occurred over the last decade, and identifies a set of key trends in basic macroeconomic indicators. Based on this analysis, the paper discusses the major Croatia's macroeconomic challenges. They highlight that macroeconomic fundamental instability and persistent imbalances (internal and external), low international competitiveness and weak macroeconomic performance are not only the short-term issues but rather a significant system-wide issues. They demand an urgent redesign of the existing economic growth model and consequently a sharp turn in macroeconomic policy.

Keywords: recession, macroeconomic policy, macroeconomic challenges, Croatia.

STRENGTHEN PROGRAMOF THE MORAL AND BASIC GOODNESS FOR THE FIRST-YEAR NURSING STUDENTS IN COLLEGE OF NURSING AND HEALTH, SUAN SUNANDHA RAJABHAT UNIVERSITY

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This participatory action research aims to study the strengthen, the moral and the five basic goodness (Cleanliness, Orderly, Gentle, Punctuality, and Work Determination) in 120 first year students at College of Nursing and Health, Suan Sunandha Rajabhat University, through moral and meditation training and practice programs. The sample size of this research is 120 first year nursing students participating in the project three times from 20th June to 20th July 2016. Quantitative data were collected by using a questionnaire and qualitative data by observation, field notes, interviews, photos and writing narrative sense. The analysis of the data and summary lead to the creation of a the strengthen, the moral and the basic goodness.

The results showed that three factors have increased statistically significant ($p < 0.05$ and $p < 0.01$) following the program. They are Self-efficacy in maintaining the moral goodness, the confidence in self-care on the five basic goodness, and satisfaction in this program. Strengthen the moral and the basic goodness consisted of 1) the creation of student leaders to promote the moral and five basic goodness, 2) establishment of policy, budget, and student participation in the program, 3) strategy development through participatory activities consisted of awareness-raising activities, 4) the flexibility and diversity in practices that incorporate activities with pleasure, and 5) demonstration and practicing good habits of the five basic goodness.

The result from this research showed the importance of promoting morality and five basic goodness consistently and participatory in all stages, and that can contribute to continuous improvement and promotion of the culture of moral and five basic goodness which can be extended to other nursing institutions.

Key Word: Participatory Action Research, Moral Promotion Behaviors, 5 Basic Goodness

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INTRODUCTION

The College of Nursing and Health has its main mission to produce a nurse practitioner, expertise with ethics and ethics and can lead the society. It is based on the mission of the university, which has the core mission of accelerating, developing and transforming education and teaching, to keep up with the changes that have taken place. The University Development Policy statesthe institution's commitment to identity as practitioner, expert,Communicator, Thinker and Public mind. A practitioner means a graduate with academic or professional ability with skills and commitment to work and commitment to self-progress with public mind, morality, ethics, help others,do good to the community, society and the nation.

The College of Nursing and Health, as a part of the policy drive, is responsible for the production of graduatesin nursing and health withthe knowledge and ability in both the theory and practice in accordance to professional standards. In addition, graduates should have moral and ethics in life and work, and

leadership. There is an important mission in addition to producing quality nursing graduates; focusing on creating knowledge in nursing and health. It also provides academic and nursing services to the community and society, andto improve the quality of life for people in the community and society - including preserve, promote, develop and maintain art and culture.

The College of Nursing and Health has organized the moral and ethical activities of the first year students by training them to have basic goodness for nursing. Such goodness consists of cleanliness, orderly, politeness, punctuality, commitment to work, and the precept 5. These characteristics are used as a main model for the training courses and thus conduct a project about basic goodness and satisfaction prior to and following the training nursing students of the first-year Nursing and Health College. SuanSunandhaRajabhat University

The main objectives of this study are to:

1. Study Self-Efficacy, Self-Regulation, and Self-Care about basic goodness prior to and following dharma training for nursing students of the first year Nursing and Health College. SuanSunandhaRajabhat University
2. To compare self-efficacy, self-regulation, and self-care about basic goodness of first-year students at College of Nursing and Health, SuanSunandhaRajabhat University between prior to and following dharma training.

METHODOLOGY

This research is a survey on Strengthen Program for Self-efficacy, Self-regulation and confidence in self-carebefore, and after, the dharma training ofthe first-year nursing students. Thepopulation and sample is 120 first-year students in Bachelor of nursing science program, College of Nursing and Health, Academic Year 2016 . Theresearch tool is The self-efficacy, self-regulation, and self-care questionnaire. In addition to written questionnaire on self-efficacy, self-care, and self-regulation from the strengthen program, focus group interviews with selected students also take place in order to gain insight understanding regarding the effect of the program on the students' self-efficacy, self-care, and self-regulation and to correlate findings from focus group with the results from questionnaire. With regards to consent of participants, all participants have signed the informed consent form prior to participation in the survey.

RESULTS

The results from the survey show that:

1. Basic knowledge on basic goodness for students prior to the dharma training the results are as follows:
   a) Self-efficacy: The students' self-efficacy at the high level ($\bar{x}$ = 2.52S.D. = 0.35). It was found that students had self-efficacy on high level of good in ability to apply knowledge of cleanliness in everyday life (x = 2.57SD = 0.50), Knowledge about orderly in everyday life ($\bar{x}$ = 2.62SD = 0.49). The ability to apply knowledge of modesty to everyday life ($\bar{x}$ = 2.60SD = 0.49). Meanwhile, the ability follows the advice of almost every speaker and subject andthe ability to apply knowledge to concentrate in daily life are at medium level ($\bar{x}$ = 2.31 and 2.46 S.D.= 0.48 and 0.34).
   b) Intention to self-regulation: Before training it was found that the students had intention to self-regulation on basic good before the training as a whole at medium level (x = 2.44, SD = 0.38). For each sub-section, the students' self-regulation at high level onnoticing the care and improvement of cleanliness ($\bar{x}$ = 2.52SD = 0.52), andalways keep an eye on the improvement ($\bar{x}$ = 2.53SD = 0.50). The medium level is daily meditation - each day at least 10 minutes ($\bar{x}$ = 2.08SD = 0.57).
   c) Self-care on basic goodness before training: Overall, they are at the high level ($\bar{x}$ = 2.54, S.D. = 0.41). It was found that the students' intention to self-control was at the high level (x = 2.61, SD = 0.49). Confidence in self-regulation (x = 2.57, SD = 0.57). In addition, the self-care and punctuality (x = 2.55, SD = 0.52). The medium level was self-confidence in daily meditation ($\bar{x}$ = 2.37, S.D. = 0.52).
2. Basic knowledge on basic goodness for students following the dharma training the results are as follows:
   a) Self-efficacy: The students' self-efficacy at the high level ($\bar{x}$ = 2.89S.D. = 0.22) was found. It also found that students are perceived Self-efficacy on the high level in all aspects, with the highest is the ability to follow the instructor's instructions almost everything ($\bar{x}$ = 2.85SD = 0.36). ($\bar{X}$ = 2.93SD = 0.24). The ability to apply knowledge in everyday life ($\bar{x}$ = 2.91SD =

0.29). The ability to apply knowledge of modest politeness to go in everyday life, ($\bar{x}$ = 2.90SD = 0.29). The ability to apply the knowledge of time to life in daily life ($\bar{x}$ = 2.90SD = 0.29) and the ability to apply meditation knowledge to life (x = 2.84SD = 0.37).

b) Intention to self-regulation: Self-regulation on self-discipline of the students after the training was found at a high level ($\bar{x}$ = 2.84, SD = 0.22) in all aspects. Notice the care and improvement of the cleanliness ($\bar{x}$ = 2.89SD = 0.32). Keep observing the improvement of the rules ($\bar{x}$ = 2.95 SD = 0.23). Modesty is gentle ($\bar{x}$ = 2.88 SD = 0.32) and daily sitting meditationeach day at least 10 minutes ($\bar{x}$ = 2.54S.D. = 0.55)

c) Self-care: The results show that the students areat the high level (x = 2.88, SD = 0.19). It was found that the students' self-control behaviors were at the high level. (X = 2.92, SD = 0.27) Self-confidence in self-regulation ($\bar{x}$ = 2.92, SD = 0.27) Confidence in self-care regarding politeness (x=2.89, SD = 0.32). The self-regarding punctuality ($\bar{x}$ = 2.89, S.D. = 0.31). The confidence to care about meditation daily ($\bar{x}$ = 2.73, S.D. = 0.44).

3. Comparing the Self-efficacy, Self-regulation, and Self-Care about basic goodness and satisfaction of the first-year nursing students from The College of Nursing and Health, SuanSunandhaRajabhat University prior to and following dharma training: The results found that the level of Self-efficacy, Self-regulation, and Self-Care and satisfaction of students in participating in the program after joining the program is higher than before joining the program, as shown in Table 1. The focus group interview conducted also relate the points as proposed from the interpretation of the written questionnaire.

Table 1 Comparing the Self-efficacy, Self-regulation, and Self-Care about basic goodness and satisfaction of the first-year nursing students from The College of Nursing and Health, SuanSunandhaRajabhat University prior to and following dharma training
(n=120 students)

Aspects of Basic Goodness	Prior to Training		Following Training		Interpretation
	$\bar{x}$	SD	$\bar{x}$	SD	
Self-efficacy	2.52	0.35	2.89	0.22	Average following training higher than prior to training
Self-regulation	2.44	0.38	2.84	0.22	Average following training higher than prior to training
Self-Care	2.54	0.41	2.88	0.20	Average following training higher than prior to training

CONCLUSION AND FUTURE WORK

The analysis of data find that prior to the training, Self-efficacy of the students was at a high level, while self-regulation and self-care of the students were at a medium level. This indicates that before the training, students are unsure of their willingness to self-regulate their behavior and also unsure about confidence in self-care on basic goodness that are essential for the nursing students to receive the Dharma training. This is in line with Shrestha and Jose (2014) whostates that nursing education requires the production of graduates to have a moral and ethical knowledge that will serve as a basis of ethics for nursing practice.

The results of this research showed that after the training. The level of students in self-efficacy, self-regulation and self-care get higher and higher than before the training. As Bandura (1986) discusses that learning is born of interaction between students and the environment. Most people's behavior is learned by observation from the good. The development of students' good deeds through the practice of meditation is a good model. Students can imitate and implement effectively.

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THE RESEARCH EVALUATION OF HEROES PROJECT BY CIPP MODEL

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ABSTRACT

This researched aimed to examine an assessment of the Heroes Project, to compare development of perceptions of their own ability and self-control to avoid using addictive substances of youths, and to compare knowledge and negative attitudes toward using addictive substances of youths. The sample in the study consisted of 200 youths who were under 19 years of age in risk groups with these behaviors: smoking using amphetamines, alcohol drinking or risk. 1. The instruments used in the study were a questionnaire and a test. The statistics used for analyzing the collected data were mean, standard deviation, and t-test. The results of assessment were as follows :

1. The youths viewed about the project in terms of context as a whole at a high level.
2. The youths viewed about the project in terms of input as a whole at a high level.. The first 3 top ranks were : 1) The staff of resource persons had knowledge and abilities in training. 2) The area of spaces is adequate for training. And 3) The trainees felt about addictive drugs that drugs were bad things.
3. The youths viewed about the project in terms of process as a whole at a high level
4. The youths viewed about the project in terms of product as a whole at a high level.
5. The youths had morality and ethics at a medium level. The firth were responsibility.
6. The youths after being trained had higher perceptions of their own abilities to avoid using addictive substances than before being trained at the .01 level of statistical significance. These youths, after being trained, had higher self-control to avoid using addictive substances than before being trained at the .01 level of statistical significance. The youths, after being trained, had higher knowledge about using addictive substances then before being trained at the .05 level of statistical significance. Finally these youths, after being trained, had higher negative attitudes toward using addictive substances than before being trained at the .01 level of statistical significance.

Keywords: Project Evaluation Research, addictive substances of youths, CIPP Model

INTRODUCTION

It is a place of globalization has a big effect on every unit of the country. People have more stress from living the modern life. Many people, including teenagers, chose alternative way or relieving stress by using addictive substances and alcohol. Not only internal stimulators, external sources such as TV commercials about alcohol, are the main influence on young people to try drinking. It is scientifically proven that alcohol can lead to other drugs. [1] It is very worrying to know that Thailand ranks no. 5 of most drinking country. Thai government put alcohol consuming and alcoholism to be the top 3 priority. Many organizations have been working so hard to prevent the spread of drug users. Unfortunately, addictive substances have been spreading into all provinces by illegal network and transportation. Target group of the drug dealers are mostly teenagersand out patient increase inThanyarak hospital.[1]From the survey in Udonthani, the numbers of people who are addicted to drug were 3,647. and1,795 people were still teenagers. 106 teenagers were suspicious of using drug while 579 teengers admitted that they were using amphetamine. More importantly, 1,000 students in the area were in the high risk of using drug [2] From the "non smoking youth camp" in 2015 by Udonthani Hospital, 80 teenagers participated. Among them, there were 40 teens stating that they had tried addictive substances. From the monthly report of psychiatric department, we could see the number of young people using drugs was increasing. [3]There was a research

paper supporting the theory of drug-using teenagers can be cured by the cooperation of families and school, but drug-addict teenagers should get help from rehabilitation.

Thus, the research team has realized how crucial drug problem is, and how urgent it has to be managed. We would like teenagers in high risk of using drug realize the danger of using drug and the effect of drug on their lives. We also hope to see them turning away from it, pay attention to study, and creating the supportive network in their schools. We set up the "new age superhero program" to help these young people as a celebration of the 87th birthday of His Majesty the King. We hope that after attending this program, teens in high risk will have better quality of life and live happily in their neighborhood. We hope that children who pass the program will realize the danger of drugs, be able to control themselves and find alternative way to improve their competencies. The program was based on Bandura[5] about the perception of self competency to avoid drug and self control[6] the perception of self competency to avoid drug andCIPP Model [6]

The program was recommended by the community and school that it should be continued next year in order to help more teenagers who have the same problem

OBJECTIVE

Research objective was

1. To study and evaluate the heroes program based on the comments of teenagers attending the program in terms of context, input, process and product
2. To study the level of moral among teenagers after attending the program
3. To compare the development of self-competency perception and self control to avoid using drug and to compare the knowledge and attitude toward using drug before and after the program .

RESEARCH METHODOLOGY

Study design

This research used mixed method to conduct the operation. It was the mixture of qualitative research and quantitative research.

Independent Variable *Dependent Variable*

The evaluation of CIPP Model

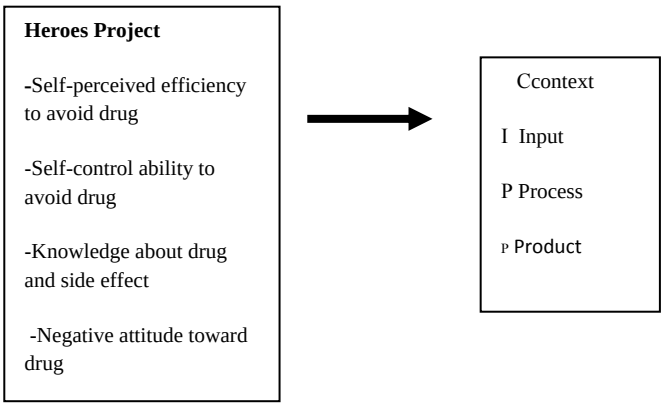

Figure I The Conceptual framework of the study

Participants

By Systematic Random sampling of 200 *youths* who volunteer to attend the the Heroes Project *at*Udonthani.from 2th May 2016 – 25st May 2016.

Procedures

Data collecting were, personal select factors,Self-perceived efficiency questionnaire having reliability at 0.81,0.82 and CIPP with the confidence of 0.85

Measurement

1. Personal information was collected by questionnaires.
2. Self-perceived efficiency ,Self-control to avoid drug measured with questionnaires.
3. CIPP measured with questionnaires.

Data analysis

Statistical analyses were carried out with the statistical package program. Descriptive statistics for characteristics data of participant were given as, frequency and percentages.

For all analyses by statistical package analysis, a p-value of < 0.05 was considered statistically significant.

RESULTS

The results showed that, most teenagers participated in this program were male (65.83%). They were studying in secondary school (74.17%). 66.95% live with their parents. 71.43% of parents were still together.

The participants' opinions on this project in terms of context were on the high level of agreement. When consider into each section of the questionnaires, the top 3 sections that got highest score were 1) The project granted an opportunity for them to be accepted in community again 2) the project got enough support and coordination 3) the project's purpose has served the community in terms of preventing drugs. In input section, the participants scored this part in high level. The top 3 sections were 1) Project instructors were expert and skillful 2) The location was big and suitable for the project 3) Participants acknowledged the danger of drugs. In the process term, the overall opinions from participants were high as well. The top 3 sections were 1) Project instructors have clarified the danger of drugs clearly 2) seminar excursion to hospitals has increased the knowledge of drug and helped them avoiding the drug 3) Instructors presented the punishment of amphetamine and methamphetamine dealers and users. Lastly, in terms of product, the overall score was also in high level. The top 3 sections were 1) The project has taught them how to choose the right type of friends 2) Participants learn better about drug and its side effect 3) The knowledge from this project can be adapted among participants to live happily with others in community. Below is the comparison of mean, SD and T-Test before and after the project.

Table I The association of *the project* before and after by T-Test

Evaluation topics	**Before**		**After**		**t**
	$\bar{x}$	**SD.**	$\bar{x}$	**SD.**	
1.Self-perceived efficiency to avoid drug	3.57	1.04	4.78	1.50	4.02**
2.Self-control ability to avoid drug	3.85	1.05	5.02	.99	3.74**
3.Knowledge about drug and side effect	4.72	1.69	5.39	1.81	2.60*
4.Negative attitude toward drug	3.42	1.25	4.26	1.40	9.02**

****Statistical Significance =.01 *Statistical Significance level p-value < 0.05**

From the table I, participants' level of self-perceived efficiency after attending the project was obviously higher than before with the Statistical Significance of .01.
Their ability to control themselves from using drug was also higher with Statistical Significance of .01. They also gained more knowledge about drug with Statistical Significance of .05, and earned more negativity toward using drug with Statistical Significance of 01.

DISCUSSION & CONCLUSION

The result from this research shows the participants' opinions on this project in terms of context were on the high level of agreement. The reason why this section gains high score is because the project was supported very well by many sectors in the area because drug preventing is one of the priorities in the province. The project also aimed to help young people to be aware of the disadvantages of drugs and try not to use it. Since drug is one of the concerns among teenagers, creating network of friends to help one another about drug preventing is also the ideal project of the province.

In input section, the participants scored this part in high level. The top 3 sections were: 1) Project instructors were expert and skillful 2) The location was big and suitable for the project 3) Participants acknowledged the danger of drugs. It might be from the design of the project where dangers of other addictive substances were presented and taught among teenagers as well, not only tobacco. We invited various instructors from many fields, including teenagers who had experience in drug before, to share their stories with the participants. [8]

In the process term, the overall opinions from participants were high as well. The top 3 sections were 1) Project instructors have clarified the danger of drugs clearly 2) Seminar excursion to hospitals has increased the knowledge of drug and helped them avoiding the drug 3) Instructors presented the punishment of amphetamine and methamphetamine dealers and users. This section was very successful because the instructors used interesting visual aid to present the danger of drug by videos, Power Point, flip chart, project guidebooks and brochure. Besides materials, real-life instructors were also very fascinating .The participants also learned how to stop themselves from trying drugs, practice self control, manage stress, perform role play, and encourage themselves not to use drug again. Not only individual learning, the participants also shared ideas in groups, created bonds with their friends and helped one another in the camp. The project was run by friendly instructors and full of fun and knowledge, which had the same atmosphere with the previous heroes project observed [7] [8] [9]

Lastly, in terms of product, the overall score was also in high level. The top 3 sections were 1) The project has taught them how to choose the right type of friends 2) Participants learn better about drug and its side effect 3) The knowledge from this project can be adapted among participants to live happily with others in community. The project was created based on the self-perceived efficiency of Bandura [5] and self-control theory of Thorensen.[6] We would like the participants to learn from direct experiences of various instructors each day. We stimulated participants to share, brainstorm and discuss in small group to find out the best practical solution for themselves, friends and families. We made sure that the activities were run in fun and lively style, not so strict or too academic.

The morality levels among the participants were generally in average level. The strongest 3 morals among the participants were responsibility, justice and diligence. The weakest one was patience. It is because this group of teenagers was not emotionally strong. That's why it is hard for them to deal with stress and resist the temptation. They did not have enough knowledge about rules, law and orders. However, Piaget(1965) [12] believed that children's morality were grown at the same time with intelligence. We believe that at least this group of teenagers were taught by families when they were children, and that part of moral were still there with them.

After attending the project, teenagers gained so much more knowledge of how to avoid drug than before attending. They also had more self-control (statistical significance of .01), more knowledge about danger of drug (statistical significance of .05) and more negativity toward drug (statistical significance of .01) It might be from the special instructors, who are in the same age with the participants, had shared their successful experience about quitting drug. [5] Persuasive message from celebrities, visual-aid presentation

and all activities had given more information about the danger of drug to the participants. This will help them avoiding drug and won't put themselves in risky situations. This is coherent with the research of)[4] [10]which said that self development came from 4 sources, but mastery experiences would be the most powerful and effective influence because it is realistic and inspiring for other people. Also, vicarious experiences can also be another powerful source if we learn from successful people.

for the use of the research

1.This Heroes project gives information about the danger and disadvantages of drugs and other addictive substances and tends to create self-perceived efficiency among teenagers in risk. For next time, there should be more morality emphasis on the program, especially activities that can make participants be more patient. For context section, friendly instructors and special instructors who have mastery experience can't be missed.

2.This research can be part of the drug prevention campaign in every part of the country. It should be promoted widely and all visual aid made for this project can also be used in schools.

for further research In-depth study should be conducted among teenagers in the project and study about factors that keep teenagers to continue their drug use.

ACKNOWNLEDGMENTS

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THE EFFECT OF THE PROGRAM OF PRACTICAL SKILLS PREPARATION IN MATERNAL AND NEWBORN NURSING ON ACHIEVEMENT OF NURSING STUDENTS

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ABSTRACT

This quasi-experimental research aims to study the effect of the Program of Practical skills preparation in Maternal and Newborn Nursing on achievement of nursing students. The content for prepare nursing students consist of maternal and newborn's Health assessment, breastfeeding, breast examination, postpartum care, newborn care, tub baht, discharge planning for maternal and newborn. Samples of this research which were purposive sampling using 106 nursing student in the third year of academics year 2010 who study in college of nursing and health Suan sunandha Rajabhat University. Data were analyzed by descriptive statistic and open-end question were used for reflection.

The main result of this study was after receive the program of practical skills preparation in maternal and newborn nursing, the nursing students can apply the knowledge to practice in high average level. Moreover, in the group of nursing also achieved in the level of good to very good in receiving benefit from the program. The most advanced skill development were the procedures by following, wearing gloves and gown, maternity delivery, delivery circulation, umbilical cord tie, inspection uterine contractions, empty bladder procedure. For postpartum nursing care, the most advanced skill development were assessment of postpartum mothers and newborn, breastfeeding in all procedures, newborn care and discharge planning for maternal and newborn.

Keywords

Program of Practical skills preparation, Maternal and Newborn Nursing practicum, Nursing student

INTRODUCTION

The Maternal and Newborn Nursing course, there are different types of nursing practice because the learner need to link knowledge from nursing theory to the term nursing in difference stage of practice[(1)]. The

course is of great importance and unlike from the past practice. Therefore preparation the nursing student before they confront the real situation in a great important.[2]

The challenges confronting nurses in today's health care environments have highlighted the necessity for graduating students to feel both competent and prepared for practice[3]. Some students feel that they are not sufficiently prepared for the emotional hardships of clinical training: they are stressed, over-anxious and often underperform. Confrontation with difficult emotional situations without proper preparation, due to lack of knowledge, may create anxiety and fear. Thus, there is a need for a suitable instructional material that enables learners to call upon nursing knowledge.[4]

As the study of Petcharat Techathawewon, who study Effect of the organizing of the discipline in the class of the nursing student practicum[5].The result of this research found that readiness factors of the students before practicing were very high in 4 factors of knowledge, health, mental and training environment.

Program of Practical skills before clinical practice has greatly empowered many areas of education, including nursing education, especially, for students who have to be independent and self-directed. Using Learning Researcher Center (LRC) to enhance learning: acquisition of content, development of skills, efficiency of learning and satisfaction with instruction. Thus, to develop student competences with a view to satisfactory action need to be mobilized.[6]

Objectives

To study the effect of Program of Practical skills preparation in Maternal and Newborn Nursing on achievement of nursing students.

Hypothesis

The nursing students who received program of practical skills preparation in maternal and newborn nursing achieve the posttest score in knowledge and skill higher than the scores before receiving the program.

METHODOLOGY

This study based on quasi experimental design (One group pre and post test) aimed to study effect of program of practical skills preparation in maternal and newborn nursing **Population and Sampling**

The population for this study comprised the third year nursing students in college of nursing and health Suan sunandha Rajabhat University. Samples of this research which were purposive sampling using 106 nursing student in the second year of academics year 2010.

Research Instruments

- The instruments used for this research is the questionnaire was developed by

the researchers follow the reviewing of literary and relevant studies: according to the following details

- Demographic data of participants
- The questionnaire to evaluate receiving benefit from the program applying the

knowledge to practice

- Open-end question were used for reflection.
- The researcher submitted the questionnaires to trial use with 30 3nd year

nursing students and calculated Cronbach's alpha coefficient to be 0.94

RESULTS

The program of practical skills preparation in maternal and newborn nursing consist of the content related to maternal and newborn's Health assessment, breastfeeding, breast examination, postpartum care, newborn care, tub baht, discharge planning for maternal and newborn. The nursing students can apply the knowledge to practice in high average level. Moreover, in the group of nursing also achieved in the level of good to very good in receiving benefit from the program. The most advanced skill development were the procedures by following, wearing gloves and gown, maternity delivery, delivery circulation, umbilical cord tie, inspection uterine contractions, empty bladder procedure. For postpartum nursing care, the most advanced skill development were assessment of postpartum mothers and newborn, breastfeeding in all procedures, newborn care and discharge planning for maternal and newborn.

Table 1

Percentage of Grade Students

Grade		n=106	Percentage
A	>3.5	4	03.77
A-	3.25-3.49	4	03.77
B+	3.00-3.24	18	16.98
B	2.75-2.99	49	46.22
B-	2.5-2.74	24	22.64
C+	2.25-2.49	5	04.72
C	2.01-2.24	2	01.90
C-	1.75-1.99	0	0
D+	<1.74	0	0

The table 1 showed that the final evaluation of this subject most students achieved in grade "B" (46.22%) .

Table 2

Percentage of Social media use

Social media use	n=106	Percentage
facebook	106	100
line	106	100
instargram	98	92.4
twitter	59	55.67
messenger	105	99.06
Bee talk	51	48.11
Other	30	28.30

The table 2 showed that the most popular use of online media is facebook, the smallest line is Bee talk with 48.11 percent. The consistency in internet access of was 92.46%.

Table 3

Percentage of achievement

	ANC	LR	PP
n=106	106	106	106
Percentage	99.3	98.1	99.4

The table 3 showed that percentage of achievement in PP is highest and achievement percentage more than 95

Table 4

Percentage of Social media use

	Knowledge	Skill	Adaptation
n=106	106	106	106
Percentage	100	100	100

The table 4 showed 100% of nursing students gain more knowledge and skill

After educating the nursing student on the knowledge of the practicum, make increase skill and adaptation.

Reflection of preparedness before clinical practice

- The nursing document in Learning Researcher Center (LRC) should be adopt from the real-life situations
- Assisted models for practicing in antenatal care unrealistic
- Lacking of some significant skill in delivery procedures.
- Insufficiency of instrument for practicing per vagina examination skills
- Insufficiency of learning material.
- Variance of schedule

CONCLUSIONS AND DISCUSSION

The aims of nursing education is to prepare today's students to meet the challenges of tomorrow. This preparation must extend beyond the mastery of facts and skills. The results from this study thatsupplementation of the preparedness program before clinical practice onachievement of nursing students in the subject of Maternal and Newborn Nursing and Midwifery practicum resulted in a good outcome that

can support nursing students' learning activities. These results are also important to nursing students because they can be confidentthat they have sufficiency skill and knowledge before confront the real-life situation and the program support their learning activities.The study results can also be used as basic information for developing teaching technique and course nursing students.[7][8][9]

ACKNOWLEDGMENT

The author would like to express sincere thanks to Suan Sunandha Rajabhat University for funding this research project.

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THE EFFECT OF PREPAREDNESS PROGRAM BEFORE CLINICAL PRACTICE ON ACHIEVEMENT OF NURSING STUDENTS IN THE SUBJECT OF MATERNAL AND NEWBORN NURSING AND MIDWIFERY PRACTICUM

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ABSTRACT

This quasi-experimental research aims to study the effect of preparedness program before clinical practice in the subject of Maternal and Newborn Nursing & Midwifery practicum. This subject was provided for the second year nursing students in the second semester academic year 2010, college of nursing and health Suan sunandha Rajabhat University. Samples of this research which were purposive sampling using 106 nursing student in the second year of academics year 2010. Data were analyzed by descriptive statistic and open-end question were used for reflection.

The preparedness program were divided in 3 category based on clinical service. Three categories are nursing during pregnancy, nursing care during delivery period and postpartum nursing care. The result were as, the final evaluation of this subject most students achieved in grade "B" (46.22%). For the nursing during pregnancy group, the result show good to very good in receiving benefit from the program. The nursing students can apply the knowledge to practice in high average level. Moreover, in the group of nursing care during delivery period and postpartum nursing care also achieved in the level of good to very good in receiving benefit from the program.

Keyword: Knowledge reviewing, Demonstration of nursing practice, Question& Answer, Learning Researcher Cente**,**Reflects feeling of preparedness

.

INTRODUCTION

The experience of childbirth is noteworthy as mothers remember their parturition for the rest of their lives. A midwife nurse is the important person who facilitates this auspicious situation and thus making the preparation of nursing students crucial. In Thailand, nursing and midwifery programmes are an integral part of the bachelor nursing curriculum. Graduate nurses have to master midwifery skills, appropriate decision making, and timely intervention. To achieve all these competencies, nursing students need to encounter real-life situations where they can experience the pressure of pregnancy care environment. However, the nursing and midwifery practicum courses are usually offered to the students by traditional lectures, tutorials, demonstrations and practicing with plastic models before conducting normal labour

Teaching and learning process in the subject of maternal and newborn nursing and midwifery practicum are different types of nursing practice. Some students feel that they are not sufficiently prepared for the emotional hardships of clinical training: they are stressed, over-anxious and often underperform. Confrontation with difficult emotional situations without proper preparation, due to lack of knowledge, may create anxiety and fear. Thus, there is a need for a suitable instructional material that enables learners to call upon nursing knowledge and experience to meet midwifery competencies

Preparedness program before clinical practice has greatly empowered many areas of education, including nursing education, especially, for students who have to be independent and self-directed. Using Learning Researcher Center (LRC) to enhance learning: acquisition of content, development of skills,

efficiency of learning and satisfaction with instruction. Thus, to develop student competences with a view to satisfactory action need to be mobilized.

Objectives

To study the effect of preparedness program before clinical practice on achievement of nursing students in the subject of Maternal and Newborn Nursing and Midwifery practicum.

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The nursing students who received preparedness program achieve the posttest score in knowledge and skill higher than the scores before receiving the program.

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RESULTS

The preparedness program were divided in 3 category based on clinical service. Three categories are nursing during pregnancy, nursing care during delivery period and postpartum nursing care. For the nursing during pregnancy group, the result show good to very good in receiving benefit from the program. The nursing students can apply the knowledge to practice in high average level. Moreover, in the group of nursing care during delivery period and postpartum nursing care also achieved in the level of good to very good in receiving benefit from the program. The most advanced skill development were the procedures by following, wearing gloves and gown, maternity delivery, delivery circulation, umbilical cord tie, inspection uterine contractions, empty bladder procedure. For postpartum nursing care, the most advanced skill development were assessment of postpartum mothers and newborn, breastfeeding in all procedures, newborn care and discharge planning for maternal and newborn.

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CONCUSION AND DISCUSSION

The aims of nursing education is to prepare today's students to meet the challenges of tomorrow. This preparation must extend beyond the mastery of facts and skills. The results from this study that supplementation of the preparedness program before clinical practice on achievement of nursing students in the subject of Maternal and Newborn Nursing and Midwifery practicum resulted in a good outcome that can support nursing students' learning activities. These results are also important to nursing students because they can be confident that they have sufficiency skill and knowledge before confront the real-life situation and the program support their learning activities.

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EFFECTS OF EMPOWERMENT PROGRAM ON DEMENTIA PREVENTIVE BEHAVIOR IN ELDERLY

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ABSTRACT

This quasi–experimental research using the pretest–posttest design applied with empowerment theory of Gibson, aimed to study the dementia preventive behavior in older adults and to investigate the effect of empowerment program on dementia preventive behavior in older adults, Samut Songkhram province. Thirty people received intervention were used as experimental group and 30 people of control group were chosen. The samples were purposely selected based on inclusion and exclusion criteria. Research instruments composed of dementia preventive behavior program and questionnaire. The data were analyzed using descriptive statistics
t-test, and paired t-test . The result showed that the older adults' dementia preventive behavior in older adults after obtaining the program was higher than the one before treatment and was higher than the control group with statistically significant difference (p-value < 0.001).

Keywords: Empowerment Program, Dementia

INTRODUCTION

Nowadays, the average human life expectancy is longer. Health problems in the elderly also increase and dementia is one of their common conditions. The elderly are at the stage of degenerative change throughout the body including physical, organs and body systems. WHO report (2012) revealed 35.6 million elderly all over the world suffered dementia. There were 7.7 million new cases of dementia each year or one new case every 4 seconds. It was estimated there would be a total of 115.4 million dementia cases in 2050 (WHO, 2012). The prevalence of dementia in the elderly was 12.4% and it was found 15.1% in females and 9.8% in males. Most of the dementia cases were from the developing countries. American Alzheimer's Association (2012) reported the budget to care for the people with dementia rose to 200,000 million US dollars. The United Nation evaluated the elderly situation between 2001 and 2100 and declared the century of the elderly which meant there would be more than 10% of the over 60-year old people of the world population (Renukarn Thongkamrod, 2014). Thailand has been the aging society since 2005 and the trend was rapidly increasing. It was estimated that in 2021, there would be 20% of the over 60-year-old population in Thailand and 14% of the over 65 year-old population (National Economics and Social Development Board, Thailand, 2013). The over 60 and 80-year-old population had 12.4% and 32.5% risk of dementia respectively (Health System Research Institute, 2009). It was predicted that Thailand would become the complete aged society in 2021. In 2014, there were 68 million population in Thailand and 10 million population (14.7%) were the elderly (Banlu Siripanich, 2014). In 2016, there were 600,000 cases of dementia and it would increase to 1,117,000 and 2,077,000 cases in 2030 and 2050 respectively (Alzheimer's Disease International 2014). Therefore, dementia is an important health problem and it affects health status of the elderly, family members especially the caregivers. Dementia causes severe regression in brain function for learning, intelligence and communication. The dementia patients have problems in communication with others, forget what they have said or done and are paranoid such as someone would steal their belongings. They cannot control themselves and their personalities and emotion will change. It was found that depression was the most common mental problem in the elderly (Paweena Nopasote and Rungsimunt Suntornchaiya, 2015).

Health empowerment in the elderlyis one of the factors that prevent and reduce risks of dementia. It was consistent with the research of Preeda Kanghae (2015) which found the patients with diabetes had self-management behavior which successfully controlled blood glucose after participating in the empowerment program for diabetic control. The researchers modified Gibson's Empowerment Theory (Gibson, 1993) for dementia prevention in the elderly to be an alternative choice in dealing with dementia

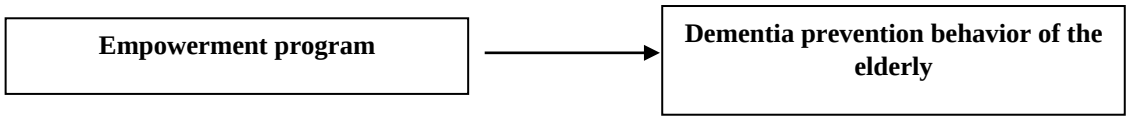
OBJECTIVES

To study results of empowerment program on dementia prevention behavior of the elderly, Samut Songkhram province.

CONCEPTUAL OUTLINE

Gibson's Empowerment Theory (Gibson, 1993)was applied for this research.

Independent variables **Dependent variables**



METHODOLOGY

This research was Quasi-experimental research with two groups: pre-test and post–test. The steps were conducted as the followings:Population was the 60 and over-year-old elderly living Samut Songkhram province. 60 Samples were selected by purposive sampling: 30 samplesin the experiment and the other 30 samples in the control group. Selection criteria included: 1) members of the elderly group 2) being able to communicate and self-care 3) agreement to participate in the research. Exclusion criteria was the elderly who did not participate the whole program.

The research tools consisted of empowerment program on dementia prevention behavior of the elderly and questionnaire for dementia prevention behavior of the elderly.

4.1 Empowerment program on dementia prevention behavior of the elderly: the program was modified from Gibson's Empowerment Theory (Gibson, 1993)and the participatory learning concept. The program duration was 8 weeks with the following activities:

Activity 1- knowledge and happiness

Activity 2- reduce dementia risk behavior

Activity 3- boost memory and develop brain

Activity 4- promote thinking and memory

Activity 5- fun activities and idea

Activity 6- increase concentration and skill

4.2 The questionnaire included general data and dementia prevention behavior of the elderly. The researchers developed the questionnaire from concept, theory and literature reviews. The questionnaire consisted of 2 parts.

Part 1- 7 items of general data: sex, age, religion, marital status, education level, occupation and underlying diseases.

Part 2- 25 items of dementia prevention behavior of the elderly.

The questionnaire were verified for content validity, accuracy and language appropriateness by five experts. The reliability was assessed by try-out with the elderly in another community who had similar contexts and cultures as the study population. There were 30 try-out samples for calculation of Cronbach Alpha Coefficient. The empowerment program on dementia prevention behavior of the elderly was implemented in the experiment group for 8 weeks duration while the control group continued their routine activities.

Week 1- The researchers collected data before implementing the program in the experiment and control groups. The data included general data and questionnaire of dementia prevention behavior of the elderly.

Week 2, 3, 4, 5, 6, 7- The experiment group practiced the empowerment program on dementia prevention behavior of the elderly.

Week 8- The researchers collected data from the experiment and control groups after implementing the program with the same questionnaire as week 1.

The general data of the elderly in both groups were analyzed by descriptive statistics as frequency, mean, percentage and standard deviation. Means of behavior scores before and after implementing the program in the experiment group were compared by Paired Sample t-test. Means of behavior scores between the experiment and control groups were compared by Independent Sample t-test after implementing the program.

RESULTS

Table 1
Comparison between dementia prevention behaviors in the elderly before and after program intervention

Experiment group	n	$\bar{x}$	S.D.	t	df	*p*-value
Before	30	41.00	4.888			
				-4.27	29	<0.001*
After	30	46.40	4.890			

*p-value< 0.05

Table 1 showed that the dementia prevention behaviors in the elderly after the empowerment program intervention to prevent dementia in the elderly were different with statistical significance at p-value < 0.001. The mean score of dementia prevention behaviors in the elderly among the experimental group was 41.00 and standard deviation was 4.888 before experiment. After program intervention, the mean score was 46.40 and standard deviation was 4.890. The mean score of dementia prevention behaviors after program intervention was 5.40 more than before program intervention.

Table 2
Comparison between dementia prevention behaviors in the elderly among the experimental group and the control group after program intervention

	n	$\bar{x}$	S.D.	t	df	*p*-value
experimental group	30	36.47	4.880			
				8.969	58	<0.001*
control group	30	27.30	2.684			

*p-value< 0.05

Table 2 showed that the dementia prevention behaviors in the elderly after the empowerment program intervention to prevent dementia in the elderly among the experimental group and the control group were different with statistical significance at p-value < 0.001. The mean score of dementia prevention behaviors in the elderly among the experimental group was 36.47 and standard deviation was 4.880 after experiment. While the mean score among the control group was 27.30 and standard deviation was 2.684. The mean score of dementia prevention behaviors after program intervention among experimental group was 9.14 more than the control group.

CONCLUSION AND DISCUSSION

Before the empowerment program intervention to prevent dementia in the elderly among the experimental group, the elderly had risks of dementia due to inappropriate behaviors for dementia prevention. After the experimental group received the empowerment program intervention to prevent dementia in the elderly, they had better behaviors to prevent dementia. This was in accordance with the hypothesisthat the dementia prevention behaviors in the elderly among the experimental group before and after experiment were different. And it was also in accordance with Gibson's Empowerment Theory that the empowerment was the process of helping individuals to control factors which affected life styles and made them aware of their own health responsibility. Therefore empowerment was the process of promoting individual to learn their abilities to deal with events and problems appropriately and successfully. This would result in self-esteem. The research result was in accordance with the research from Krongthong Komratanapanya, et al (2010) that studied the effectiveness of complication prevention in patients with essential hypertension. Empowerment helped individuals to control factors affecting their behaviors and to learn outcome from their own behaviors. The activities which reduced dementia risk behaviors promoted knowledge to reduce risk behaviors which caused dementia in the elderly and controlled factors that caused the disease in the long run. It was in accordance with Jintana Buathongjan (2013) who studied self-management program on health behavior in people at risk of abnormal metabolism and with Preeda Kanghae, et al (2015) who studied empowerment program for diabetic patients on knowledge of diabetes mellitus, self-management and blood sugar control.

After the empowerment program intervention to prevent dementia in the elderly, the experimental group had more prevention behaviors than the control group. The result was from the activities of the empowerment program intervention to prevent dementia in the elderly among the experimental group. It was in accordance with the researchers' hypothesis that dementia prevention behaviors in the elderly among the experimental and the control group would comply with Gibson's Empowerment Theory. Yuwadee Rodjakpai (2012) also studied the outcome of the empowerment program on self-prevention behaviors of diabetes mellitus risk group. Patients would feel confident and maintained the effective and successful behaviors from the empowerment program. The program empowered the elderly in the experiment group to control risk factors that affected their behaviors. They improved their behaviors for changing circumstances, learned new knowledge and exchanged knowledge with the researchers after joining the program. This was in accordance with Preeyaporn Sawadsee (2012) who studied the outcome of health education program on blood sugar and self-care behaviors of type 2 diabetic patients and found that the samples had different self-care behaviors with statistical significance ($p< 0.05$).

In conclusion, empowerment was the process of promoting thinking, decision making and changing behaviors in the elderly. The process resulted in better quality of life in the elderly and reduced the burden of dependence on their children. Therefore the empowerment program to prevent dementia in the elderly was one of the programs which helped slow down and prevent dementia in the elderly on the long run.

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THE ROYAL PROJECT: CASE STUDY OF DOIBO, CHIANGRAI PROVINCE

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ABSTRACT

The aims of this research were to examine and study the Royal project for Doi Bo community in Chiang rai province. To achieve this goal the case study was utilized. The research was qualitative in nature and descriptive analysis was used on the study through sufficiency economy theory created by the late King Rama IX of Thailand. Data were collected based onsite observation, and extensive literature reviews. In-depth interviews were also conducted to obtain their opinions combined with questionnaires. The findings revealed that the underprivileged who lived on the high land area so-called hill tribe had better living standard and way of life due to knowledge and skill enhancement supported by the Royal project. However, strong community engagement and related government agencies were key drivers to help accomplish the Royal project.

INTRODUCTION

The Royal Projects initiated by the late King Rama IX or King Bhumibol Adulyadej and Her Majesty Queen Sirikit of Thailand. Such projects have been helping a lot of poor and underprivileged people throughout the country for more than 60 years. Both the King and the Queen devoted their lives and resources to aiding the development of the Kingdom and the improvement of the Thai people's livelihood. Since 1952, more than 4,000 innovative programs in agriculture, irrigation, environment, health, forestry, agronomy, handicraft and education were implemented to raise the standard of living in Thailand (www.thailandtoday.in.th)Both the King and the Queen delved into the intricacies of the problem with devising the proper solutions. They were considered as devoted father and mother of the Thai people.

The Royal Projects were classified into various categories including agriculture, water resources, husbandry, environment, occupation, education, public health and welfare, handicrafts, communications and technology as well as marketing(www.thailandtoday.in.th). Each royal project was adapted to the issues and things that needed to be solved or improved for the highland environment. The marketing support focused on the cost and profitability of project outcomes. It also studied the customer behavior in choosing and buying the products in order to yield good results for selling community products.

His Majesty initial project was launched in1969 at DoiPui, Chiangmai provinceon his own funds to help the quality of life of hill-tribes. The purpose was to diminish Opium cultivation on the hills and bring back the forests and water resources to normal. Government agencies, related agencies, volunteers and some private sectors joined hands to help the royal projects accordingly. Research and development in agricultural products, and marketing were key main stream to strengthen the area.

More than 39,277 families, 288 villages 168,445 people living in the upland were supported through its 38 development centers located in 5 Northern provinces; Chiangmai, Lamphun, Chiangrai, Phayao, and Mae Hong Son. At present, around 39,277 households, generated an average annual income of around 4,500 USD per household generating more than 10 times better than income from opium plantations. As such the King set up the foundation to develop quality of life of the highland communities, crop replacement, strengthening of people and communities together with the restoration of watershed forests in the highlands.

In the meantime, Her Majesty Queen Sirikit as an assistant to King Bhumibol Adulyadej at diplomatic functions. She has shared the same concern for the welfare of the people as the King did and has initiated several projects of her own by setting up primarily the Foundation for the occupational promotion in 1976. It aimed to help rural families earn additional income by providing financial assistance and expert guidance to craftsmen all over Thailand, such as the weaving of YaLipao basketry in the far South, hill-tribe silver work in the North, and the weaving of Mudmee silk fabric in old patterns in the Northeast. (https://en.wikipedia.org/wiki/Royal_Project_Foundation, 2018)

The Queen has also set up two main multi-craft training centers. One is in the compound of Chitralada Palace in Bangkok and the other, built in 1980 at Bangsai, Ayutthaya Province. Her Majesty Queen Sirikit has become an institution playing an important role in preservation and revival of traditional Thai handicrafts. She established many projects in the countryside and promoted the handicrafts continuously.

The Sufficiency Economy Philosophy

"The Sufficiency Economy Philosophy (SEP)" highlighted the middle path as a principle for a proper conduct by people at all levels and a way of thought in which no one lives too luxuriously or too thriftily. It encouraged people to live in a way where they consume only what they really need, choose products prudently, and consider their impact on others and the globe especially of which caused by rapid economic transitions. This philosophy was a guide to making decisions benefiting to the development of the country. His Majesty's philosophy was considered as a practical tool to effectively manage capitalism aligning and engaging its social sustainable development. It was believed that this approach would foster accountability and empowered people and their communities. The main goal was to measure economic development not just for GDP, but also reduction of poverty and social inequity(www.triplepundit.com)

"Sufficiency" means moderation, reasonableness, and the need for self-immunity arisen from internal and external alterations. An application of knowledge with consideration and carefulness is essential. In particular, practice is needed in the application of theories and methodologies in every step. At the same time, it is essential to strengthen the morality of the nation with honesty and integrity. A way of life based on patience, perseverance, diligence, wisdom and prudence is indispensable in creating balance and in coping appropriately with critical challenges on rapid socioeconomic, environmental, and cultural changes in the world.(https://en.wikipedia.org)

The Royal Projects in Northern Provinces

Initial Royal Projects started mostly from northern regions due to the geographical location. Most northern areas were high mountains filled with evergreen forests. People were Hill tribes and cultivated opium as their main incomes. The King and the Queen of Thailand decided to set up numerous royal projects to eliminate such problems.

The Royal Agricultural Station Angkhang, Chiangmai

The Royal Agricultural Angkhang was to support other agricultural crops instead of opium planting founded in 1969 situated in Baan Koom, Moo. 5, Mae Ngon Sub-District, Fang District, Chiang Mai, approximately 1,400 meters above the sea level. There were many research centers for winter fruits and flowers, farm plant demonstration, and oily plants.

Extension and Development Section worked under Angkhang Royal Project Development Center on promoting highland agricultural work for the tribesmen in 5 main villages and 4 more extra villages. They grew different kind of crops like organic vegetables, temperate fruits, ornamental flowers, organic tea, herbs, and raised animals. All these promoting crops were certified in various standards as GAP or GMP.

Further, Angkhang Royal Project Development Center has assisted the tribes by training on food safety, handicraft work and being local guides. Several activities were related with reforestation and environmental preservation like vetiver grass planting, making liquid organic fertilizer, growing community forest for multi-purposes in the villages

(www.angkhangstation.com).

The Royal Agricultural Inthanon, Chiangmai

Royal Agricultural Station Inthanon were located on National Park DoiInthanon in Ampher Jomthong, Chiangmai Province above sea level 1,200 meters. The agricultural research area in the station over 513 rai and with8 villages (www.royal-inthanon.com). These villages were hill tribe of Hmong and Karen. Currently, Inthanon becomes the main tourist destination of both domestic and international ones.

The purpose of establishment was to improve Thai tribesmen's lives. The center supported tribesmen to cultivate and sell good crops, had permanent habitation, stopped opium planting and deforestation, and shifted cultivation, turned to cultivate winter plants and animals with soil and water

preservation system. It also served as a center to disseminate knowledge and new innovation derived from the research of the sustainable highland farming to other regions.

Nong Hoi Development Center, Chiang Mai

Mon Cham was located on MongNong Hoi village, Mae Rim, Chiang Mai. The area was previously a desolate forest village and the development center which was surrounded by a vegetable bed. The Nong Hoi Royal Project was situated in Nong Hoi Kao village in Mae Rim(www.theblondtravels.com)

A quarter of Doi Kham crops were produced. The poppy farmers were presently employed, and have turned it into a new agro-tourism and eco-tourism site. There were also an anti-drugs group for teenagers. The place provided recreation, sport and jobs and handicrafts. The project presented various kinds of vegetables and fruits and turning their farm productions into high-income crops such as strawberries, various kinds of vegetables, herbs and lavender. The rest of its income came from the tourists.

Mae Hong Song Support Center

Mae Hong Son was the area of high mountain ranges with little arable land and had problem earning a livelihood. In 1983, the center was launched to develop occupations for the people in Mae Hong Son by Her Majesty the Queen to generating income for folk handicraft conservation. It handled marketing and distribution of the products such as silk fabric and embroidery.

The area was developed for agricultural and handicraft arena. Locals received training from the Chitralada Center. The Ban HuaiDuea SUPPORT Center was the first such center in Mae Hong Son as the cultivation of mulberry trees, rearing of silk worms, and reeling of silk threads(www.thailandtoday.in.th).

Doi BoHighland Agriculture Development Station

Doi Bo was one of the historical places of Mae Yao, Chiangrai located on upland at Chiangrai province above sea level at 1,345 meters with 128 households, and 629 populations. Based on history of Doi Bo, it was told that after WWII (Highland Agricultural Development Station, 2017). Doi Bo had a deep hole on the top of the mountain due to the bomb but later the hole was full of water which helped the entire community. Historically, there were different kinds of Hill tribes namely Arkha, Yao and Lahu migrated and claimed this area. The area used to be covered by opium fields, slash and burn farming. They hunted many wild animals including elephants, bulls, tigers, barking deer and such animals became extinct. But now only wild boars, birds, and jungle fowls still exist.

After Bureau of the Royal Household and Protected Area Regional Office 15 under Department of National Parks, Wildlife and Plant Conservation. Local Administrative Office found a lot of problems especially on Opium plantations. Also Doi Bo populations had a hard life, low income, a lack of education, sanitary problems and forest degradation.

In 2004, Queen Sirikit observed the area of Doi Bo and later established projects to for reforestation urgently. The projects had new agriculture demonstration plots for knowledge enhancement, and restoring degraded forest(www.dnp.go.th). Moreover, Doi Bo Highland Agricultural Development Station set up research centers in irrigation, land development, highland development, agricultural career development, non-formal education, occupational retraining center, and vocational training. The projects worked closely with different agencies including Livestock Development Office, Personnel Administration for Royal Service, Personal Affairs division to integrate projects in order to conserve forest, have a better quality of life, strengthen community economy without drug trafficking.

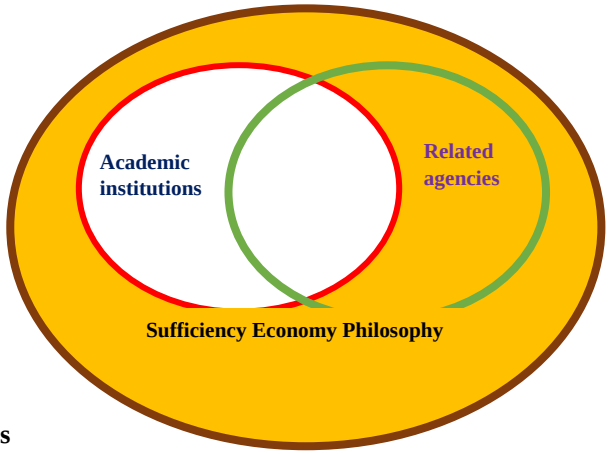
METHODOLOGY OF RESEARCH

A qualitative research method was used for data collection due to the fact that qualitative methods offer varied empirical procedures designed to describe and interpret the experiences of research participants. Interview questions were developed twice for assuming the right answers combined with several site observations. Data were collected from in-depth interviews with 20 interviewees including government agencies, related department, Doi Bo community, community leaders, Local Administrative Executives to capture the widest viewpoints. After interviews, focus group was used to receive additional information. Questionnaires were used to reconfirm the study.

FINDINGS

It was undeniable that the success of the Royal Projects elevated local economy by creating employment opportunities, quality handicraft products, agricultural crops and generating revenues to indigenous people and community per se. Moreover, they yielded good benefits and results to the development of natural resources, social equity, education enhancement, community economy, wild life animals, agricultural development and finally poverty and Opium eradication. More importantly, Self-Sufficiency Philosophy of the late King Bhumibol Adulyadej was the key mechanism aligned with community development in response to national prosperity, security and sustainability(niracharapa,2017). However, embarking on strategy to develop rural areas was big challenges including integration from several departments, public and private sectors collaboration, community leaders and attitudes of local people (niracharapa, 2013).

The study found that The Royal Project Doi Bo has brought hill-tribe farmers an higher income. The average income per family was around 6,000 USD per year, whereas typical incomes at the time of inception of the Royal Project would have been around 700 USD for during opium growing families. The success of the Royal Projects needed to depend on various aspects.



Academic Institutions

The academic institution played a significant role for community sustainability and development as well as knowledge-driven growth based on innovation. Academic research has contributed enormously to find solutions to numerous community issues (niracharapa, 2016). The need for sharing knowledge between research institutions and Doi Bo has become increasingly evident. Research provided basic inputs that could be used for agricultural development. Needless to say, academic research was an integral part of project development.

The academic institution was a key driver in developing Doi Bo Highland Agricultural Development Station through technology innovation, research and development in particular areas including such alternative crops as winter flowers, vegetables and fruits plantations, animal raising as well as handicrafts. However, agricultural crops were not enough compared to a great consumption demand in Chiangrai province.

Social equity and Education Enhancement

Hill tribes at Doi Bo community were traditionally illiterate, and unable to attend schools due to lack of facilities and money. It was found that children in the Project received primary and secondary schooling. Moreover, the project provided extensive non-formal education to the community on hygiene, farming, husbandry, the environment protection and awareness, marketing and career development.

Capacity building of sustainable royal projects was essential for the villagers so as to develop and sustain community growth since Doi Bo had distinctive identities of nature, tradition and conservative way of life. More importantly the livelihood of Doi Bo people strongly abided by sufficiency economy.

Community Alliance

The geography of Doi Bo area was a major obstacle for public access such as infrastructure including a proper road, and public utility. The needs of cooperation from various government agencies, foundations, associations and academic institutions and even other nearby communities would be the main

solution to highland village and made the Royal Project accomplish the goals(niracharapa, 2017).The Royal Project Doi Bo have worked closely with many sectors including agricultural, forestry, educational organizations and local administrative units. The main key driver was Department of National Parks, Wildlife and Plant Conservation.

The Sufficiency Economy

The self-sufficiency, a theory of the late King Rama IX was emphasized on the project, so that villagers could stand on their own feet so-called self-reliance. Hill tribes in the project area were encouraged to be self- sustainable, to protect the environment and conserve scarce resources. In addition, demonstration farms have been set up to be models for farmers. People in the community were taught to cope appropriately with critical challenges arising from extensive and rapid socioeconomic, environmental, and cultural changes.

CONCLUSION

The Royal Projects has been considered as the key mechanism to community development and sustainability. The community had a better quality life, better economy and better education. Sufficiency Economy Philosophy has played a great stride for community development. It was believed that Doi Bo Highland Agricultural Development Station under Her Majesty Queen Sirikit's patronage could be one of the success case study that could be used as an example for other highland areas. Moreover, one interesting aspect could enhance community economy was community based tourism. The community still had a conservative cultureand the area had an environmental advantage which was able to help sustain the community in the future. However, Doi Bo Highland Agricultural Development Station could not be accomplished without the collaboration among related agencies, stakeholders or even the community per se.

Acknowledgment

The study could not be completed without the full support of Suan Sunandha Rajabhat University. The researcher would also like to convey special thanks to government agencies, district leader, and community head in providing details and supports to make the study succeed.

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DECISION MAKING TO SELECT ELDERLY NURSING HOME'SERVICES IN BANGKOK

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ABSTRACT

This research aimed to study 1) the decision making to select elderly nursing home in Bangkok. 2) the relationship of marketing mix factors (7Ps) to select elderly nursing home. The samples were 339 customers from 97 nursing homes in Bangkok. The questionnaires were used as tools for collecting data and statistics analyzed data were percentage, mean, standard deviation, and Pearson's correlation.

The finding also found that 1). The decision making to select elderly nursing home related to elderly needs such as safety environment, information deliver, price and place benefit, selected to instrument aids and service satisfaction 2) The relationship of marketing mix factors to select elderly nursing home were moderate correlation (r = 0.342, p= 0.000). All aspects had low correlation, the most correlation were promotion (r =.251) and physical evident (r =200), the other aspect were process (r = .178), price (.177), people (.164), product (.152) and place (131),respectively. Further study need to develop the quality service for Elderly nursing home by mixed method designs.

Keywords: Decision Making, Elderly Nursing Home' services, Bangkok.

I NTRODUCTION

Thailand has become an elderly society, the most rapidly growing elderly population similar to the other countries in the world (Zhang et al., 2006). The elderly are considered being a vulnerable group due to their physiology and mental decline lead to health problems that is characterized by com orbidity of disease and chronic disease. (Timiras, 2007, Nitaya, 2017). The progressive deterioration of aging and complex of disease need skill full and experience care giver to help them. while the family members has become a big task to support due to their hard works and complicate care which has been the "Sandwich roles". That becomes more difficult to manage these specific care at home. Literatures found that long –term care has emerged as an importance public health. Many people struggled with the decision of how to select the right care service for their aging loved one and it seemed to expect from a professional provider. Wu et al., (2012) found that most Chinese elderly expressed interest in the service environment, as well as the cultural and recreational activities in nursing home. However, the new development of nursing home care is largely market driven with service environment, nurse provider, financing, and quality of care.

As a situation in Bangkok, Its seem to have more opportunity finding an approximately elderly nursing center or nursing home care. The competition of elderly nursing home extended rapidly respond to family customers' needs. But a little data to know about what and why they make decision to select elderly nursing home care. If there are more information or factors that influencing to select elderly nursing home care, that would have be an important data to improve elderly health care, and possibility to have good elderly service in the future market. Researcher would like to study the decision making to select nursing home by using marketing mix factor with 7 p such as 1.the service product 2. Pricing the service 3. Place 4. Promotion communication of the service 5. People 6. Process 7. Physical evidence and presentation and find out the relationship of marketing mix factor with 7 p for select the elderly nursing home care.

Objective

1. To study the decision making to select Elderly nursing home in Bangkok.
2. To study the relationship of marketing mix factors for decision making to select elderly nursing home in Bangkok.

METHODOLOGY

This study was descriptive design, the samples were the 339 members of elderly family who participate in selecting elderly service care from 97 nursing home users. The questionnaire was devided to 3 parts. I. The personal data. 2. Questionnaire to survey the perception decision making to select elderly

nursing home and 3. Questionnaire to explore the relationship between marketing mix factors and decision making to select elderly nursing home in Bangkok.

Data collection and analysis with descriptive statistics: frequency, percentage for prescribe of personal data and Pearson' s Product Moment Correlation Coefficient for analyzed correlation of marketing mix factors and decision making to select elderly nursing home.

RESULTS

Descriptive statistics

Of the total 339customers from 97 elderly nursing home care service. The most samples were females age between 31 – 40 years old, married status and bachelor degree, The average income about 20,001 – 40,000 Baths. The customers' perception for decision making to select Elderly nursing home in Bangkok showed in table 1. and the marketing mix factor to select the elderly nursing home service showed in table 2

Table 1: Customers' perception for decision making to select Elderly nursing home in Bangkok. (n = 399)

Customers' perception	X ± S.D.
1. The elder ' needs	4.34 ± 0.592
2. Information receives	4.22 ± 0.644
3. Price & place of service	4.15 ± 0.555
4. Aids instrument	3.88± 0.669
5. Behavior post service	3.63± 0.354

The most aspect for selecting elderly home care was perceived the elder' needs. They have concerned about safety environment and strictly drug intake. They have information received from their relatives and colleagues. With Price & Place of service, they make decision to select the optimized price and near their home with sufficient elderly care equipment. They will reuse this service when they have got service satisfaction.

Table 2 The marketing mixed factors for decision making to select elderly nursing home.

Marketing mix factors	X ± S.D.
1. Product	4.31 ± 0.486
2. Price	4.06 ± 0.654
3. Place	4.31 ± 0.532
4. Promotion	3.95 ± 0.719
5. People	3.45 ±0.676
6. Process	4.28 ±0.504
7. Physical evidence	4.53 ± 0.512

With considering to the marketing mixed factor for decision making to select elderly nursing home. The most satisfied factor is Physical evidence, such as safety environment with care and some essential elderly equipment care. The second 2 factors are Product and Place such as: experience care providers, convenient near home and vehicle facilitator. The Process of service is moderate importance such as instant admission, family communication and standard care. The lower are Promotion and People.

Table 3: The correlation of marketing mixed factors for decision making to select elderly nursing home.

Marketing mix factors	Level of decision making		result
	r	p	
Promotion	0.251	0.000	low
Physical evident	0.200	0.000	low
Process	0.178	0.001	low
Price	0.177	0.001	low
People	0.164	0.002	low
Product	0.152	0.005	low
Place	0.131	0.016	low
Total	0.342	0.000	moderate

The table 3 showed the relationship of marketing mixed factors for decision making to select elderly nursing home with the moderate correlation. Each aspect of marketing mixed factor was low correlation with nursing home selection.

CONCLUSION AND FUTURE WORK

According to this finding, Most sample were female with 83.78%, age 31- 40 years old, age between 31 – 40 years old, married status and bachelor degree, The average income about 20,001 – 40,000 Baths as the former study. The person who make decision to select elderly nursing home were moderate income, educated, female. Which had not enough time and ability to care. (Muedin N, 2009).

The decision making to select elderly nursing home care by considering of elderly needs, place and price benefit that they not suffer to their incomes. Most were satisfaction with service. The relationshipof marketing mix factors to select elderly nursing home were moderate correlation ($r = 0.342$, $p= 0.000$) as follow: promotion, physical evident, process, price, people, product and place, respectively.

Recommendation for further study need to develop the quality service for elderly nursing home by qualitative study or use mixed method designs. Suggestion that the elderly service providers should improve more quality of care in order to extend this service for worldwide.

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RISK BASED MAINTENANCE AS A BASIC ASSESSMENT OF EQUIPMENT MAINTENANCE PRIORITIES IN PT PEMJABA

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ABSTRACT

The increasing demand for electrical energy in Indonesia should be accompanied with better power plant performance. PT Pemjaba as one of the subsidiaries of PT PLN Persero in energy generation must perform maintenance strategy to reduce failures that will impact on production loss. The maintenance strategy discussed in this research is the development of Risk Based Maintenance to overcome potential disruption of power plant equipment and also to improve the performance of power plant. Risk Based Maintenance is a method of maintenance with quantitative calculation through a reliability approach and the consequence of failure rate to determine risk level. The purpose of this research is to identify variable value independently with variables *(*i*)* generator equipment, *(*ii*)* equipment failure, *(*iii*)* equipment risk, *(*iv*)* maintenance. The population in this research is the power plant equipment which is in block 1 and 2 PLTGU Muara Tawar. The results of data shows the equipment risk map in medium high level; Temperature after turbine 12 *(*2.36*)* and GT 12 fuel valve *(*2.22*)*. The appropriate maintenance interval for temperature after turbine 12 is 150-180 days with recommended corrective action and modification while for fuel valve 12 maintenance interval is 140-150 days with regular equipment testing recommendation.

Keywords*:* maintenance, risk, critical equipment, plant performance, risk-based maintenance

SAFETY AND RISK MANAGEMENT SYSTEM OF COMPRESSED NATURAL GAS (CNG) PLANT IN PT PEMJABA

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ABSTRACT

This research aims to answer the causes of the crime occured, the effectiveness of the security risk management application in support of the company's performance. The operation at Power Plant Muara Tawar Unit made of fueled-gas that resulted from compression of gas at Compressed Natural Gas (CNG) Plant which has a high level of risk. Besides the chemical processes equipment plant in hydrogen and chlorination plant also threat great danger based on standard of regulation. One of the risk of threats against the assets is risk crime. Transfer the risk in a huge impact to the small possibility having a high cost so in mitigate the risk applied security management system based on risk management system. Based on increasing levels of crime in the past five years (2011-2016) phenomenon and occurrence of some crime in Power Plant Muara Tawar Unit causing loss production so do the research with quantitative research methodology. In identifying safety risks done by 40 owner who has competent in produce the cause of crime is the inconsistent in safety management system application, the effectiveness of risk mitigate in decreasing risk level can support the company performance. Priority risk control on top five threat crime, top ten vulnerability crime and asset critical to a top priority in securing assets.

Keywords: Loss Production, Risk Management System, Security Management System, The Crime Prevention, The Potential of High Risk.

A NEW MODEL TO IMPROVE THE PRODUCTIVITY OF KNOWLEDGE TRANSFER TO ORGANIZATIONS

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ABSTRACT

One of the most important issues raised in knowledge transfer is selecting the type of knowledge which must be transferred due to the limited resources of organizations. This paper aims to present a model which identifies knowledge needs of the organizations, having obtained the adequate recognition from inside and outside the organization so that it can assess valuable knowledge based on suitable criteria and paired comparison, to get the priorities. Taking priority for the most valuable knowledge in the process of acquisition helps to improve the knowledge transfer in an organization. To do so, SWOT matrix is used in the proposed model to recognize the internal and external conditions of the organizations while the selected criteria are used to evaluate the knowledge. The technique of analyzing hierarchy process (AHP) is used to prioritize the knowledge. This model is case-studied in pottery industry with the results applied in a pottery workshop. The results of feasibility of the knowledge required by workshop lead to select ten types of knowledge of twenty-four types of knowledge in pottery industry. Having chosen five criteria and three sub criteria, we evaluate the knowledge and prioritize it to transfer to workshop.

Keywords: Knowledge transfer; Valuation; Productivity; SWOT matrix

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FL HIGH SCHOOL TEACHERS' INTERCULTURAL SENSITIVITY, BELIEFS ABOUT INTERCULTURAL LEARNING, AND THEIR IMPLICATIONS IN TAIWAN

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ABSTRACT

English language is being used as the medium of communication in a wide variety of international and intercultural settings. This implies that English language teaching should help students develop linguistic skills to communicate and enhance intercultural understanding, which has placed a new demand on teachers. The purposes of the study are to develop an understanding of Taiwanese English language teachers' (1) levels of intercultural sensitivity and its relation to their willingness to teach intercultural dimensions; (2) beliefs about English as a Foreign Language (EFL) and intercultural learning; and (3) difficulties they face in incorporating intercultural learning into their teaching practices. Data were collected by teacher questionnaire surveys and interviews. Fifty EFL high school teachers in Tainan City participated in this study, 25 of which agreed to participate in interviews and be observed in their classrooms. Results found that these teachers have a high level of intercultural sensitivity and willingness to achieve intercultural learning objectives. But in reality, teachers rely heavily on textbooks for their teaching and devote most of their time to language teaching rather than cultural teaching.

ADAPTIVE LEADERSHIP FOR SCHOOL EXCELLENCE AMID POLICY CHANGE: A THEORETICAL REVIEW

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ABSTRACT

This theoretical article draws on an exhaustive review of the literature on adaptive leadership, a concept proposed by Heifetz in order to illustrate a leader who not only solves problems for people but rather encourages others to do the problem solving and to adapt to changes. Although scholars and practitioners have recognized merits of anecdotal and observational data that created prescriptive writings about adaptive leadership, the theoretical conceptualization of adaptive leadership remains in the formative stages. Therefore, I have tried to expand theoretical underpinnings and external validity of adaptive leadership by integrating it into another two concepts: school excellence and policy change. I employed the European Framework for Quality Management (EFQM) Excellence Model as a basis to form a construct of school excellence model that requires adaptive leadership. In addition, various theories of policy change were critically examined in order to enhance theoretical clarity of adaptive leadership model regarding reciprocal relationship between changes and the three core components of adaptive leadership model: situational challenges, leadership behaviors, and adaptive work. I expected that this article will be beneficial to those who are interested in conducting an empirical research on adaptive leadership for school excellence amid policy change, especially in a country where educational policies have been often changed due to political instability. In this case, school leaders must be able to help others deal with policy change and challenges of policy implementation so as to improve quality of the change process.

Keyword: adaptive leadership, policy change, school excellence.

INTRODUCTION

Intended as a practical framework for theory building through future empirical research, three main concepts were discussed in this paper. They are *adaptive leadership*, *school excellence*, and *policy change*. These concepts are interrelated and it is really important to critically examine them from a theoretical perspective. The theoretical conceptualization of adaptive leadership remains in the formative stages although its conceptual framework was proposed more than two decades ago. The process through which major factors in the adaptive process leading to adaptive change within groups or organizations are not clearly delineated (Northouse, 2016). However, from my standpoint, adaptive leadership is deemed the most applicable to school excellence amid policy change because it focuses on how people evolve and grow through change. According to the *European Framework for Quality Management (EFQM) Excellence Model*, sustained success of an 'excellence' organization requires leaders who shape the future and make it happen by acting as role models and inspiring trust at all times. First and foremost, the leaders must be flexible, enabling the organization to anticipate and react in a timely manner (EFQM, 2013). Furthermore, untheoretical approach on 'what works' is often prevalent in the field of educational policy (Cerna, 2013). It is therefore worth to explore mutual relationship between changes and the three core components of adaptive leadership model: *situational challenges*, *leadership behaviors*, and *adaptive work*. By contributing to greater conceptual clarity of the adaptive leadership model, this paper will be very useful for analysis of adaptive leadership in future empirical research.

In this paper, I began with an exhaustive review of definition and model of adaptive leadership, followed by the theoretical connection between adaptive leadership and school excellence. Then, interrelationship between policy change and adaptive leadership was explored. The paper ended with my proposed conceptual framework of adaptive leadership for school excellence amid policy change that can be used for future research.

DEFINITION AND MODEL OF ADAPTIVE LEADERSHIP

Into the 21st century, debates on leadership theory continues as to whether leadership and management are separate process. However, rather than defining new ways of defining leadership, recent research has increasingly emphasized the group process of leadership, arguing that leaders influence a group of individuals to achieve a common goal. Among these emerging leadership approaches are authentic leadership, spiritual leadership, servant leadership, and adaptive leadership (Northouse, 2016).

Many people misunderstood that *adaptive leadership* characterizes leaders who is adaptive as the name of the approach implies. That is partially true. Adaptive leadership actually refers to ability of leaders to empower others so that they can cope with difficult challenges and thrive successfully. The concept was first introduced by Heifetz (1994) in his publication *"Leadership without Easy Answers"*. His underlining assumption is that adaptive leaders mobilize, motivate, organize, orient, and focus the attention of others. Therefore, adaptive leadership is more follower centered. The concept is further developed in is later works by him and colleagues (Heifetz & Laurie, 1997; Heifetz & Linsky, 2002; Heifetz, Grashow, & Linsky, 2009). Throughout most of the writing on adaptive leadership, the term 'follower' is rarely used because it implies superior roles of leaders and inferior roles of the people.

As reviewed by Northouse (2016), the model of adaptive leadership is comprised of three main components: *situational challenges*, *leader behaviors*, and *adaptive work*. The model distinguishes between three kinds of situational challenges that leaders need to address; technical challenges, adaptive challenges, and technical and adaptive challenges. *Technical challenges* are clearly defined. Their solutions are known and can be implemented through existing organizational rules and procedures while adaptive challenges are otherwise. *Adaptive challenges* are not clear-cut and cannot be solved by traditional ways of doing things. Furthermore, some problems are both technical and adaptive. *Technical and adaptive challenges* are clearly defined but there are no straightforward solutions. In this regards, adaptive leaders pay attention to adaptive challenges.

In addition, the model includes six leader behaviors as prescriptions for adaptive leaders. These behaviors overlap with each other and should be demonstrated by leaders at the same time. First of all, adaptive leaders need to *get on the balcony*. They should be able to move back and forth as a participant and observer in order to see the overall picture and have insights into the struggles of their people and the intentions of the group, organizations, or community. Second, they should *identify adaptive challenges*. As mentioned above, among the three situational challenges, adaptive leaders deal with adaptive challenges. Treating challenges with the wrong kind of leadership is counterproductive. Third, they should *regulate distress* of the people by creating a holding environment; provide direction, protection, orientation, conflict management, and productive norms; and regulating personal distress. It is mandatory to help the people feel an optimal level of distress. Fourth, adaptive leaders know how to *maintain disciplined attention* of the people. Individuals usually give up when they face with tough works. Adaptive leaders must be able to prevent or get rid of avoidance behaviors of the people. Those behaviors include ignorance about the problems, blaming the problems on the authority or their co-workers, attacking those who want to solve the problems, or pretending the problems do not exist. Fifth, adaptive leaders should *give the work back to the people*. They should be aware when they should drop back and let the people do their works in order to empower them. Last but not least, adaptive leaders should *protect leadership voices from below*. They should carefully listen and be open to the ideas of the people, especially those who are marginalized.

The last major component of adaptive leadership model is the adaptive work. It refers to the process toward which adaptive leaders direct their work through communication between the leaders and the people in a holding environment. Such environment plays critical role in the adaptive process because it helps the people feel safe and warm when they confront adaptive challenges.

ADAPTIVE LEADERSHIP FOR SCHOOL EXCELLENCE

'Excellence' is desired by both individuals and organizations including schools. However, it is really difficult to pinpoint precisely definition of 'school excellence'. In this paper, I formulated the concept of school excellence based on the *European Framework for Quality Management (EFQM) Excellence Model* (EFQM, 2013). EFQM (2013) argued that the beauty of the model lies at its versatility. It can be applied to any organizations, regardless of size, sector, or maturity. It encompasses various concepts and non-prescriptive. There are eight fundamental concepts of excellence in the EFQM Excellence Model: adding value for customers; creating a sustainable future; developing organizational capability; harnessing creativity and innovation; leading with vision, inspiration, and integrity; managing with agility, succeeding through the talent of people, and sustaining outstanding results. In this framework, strong leadership is considered as one of the enablers of excellence of an organization together with people, strategy, partnerships and resources, as well as processes, products, and services. The results include people results, customer results, society results, and business results. Excellence organizations achieve and sustain outstanding levels of performance that meet or exceed the expectations of all their stakeholders. Right approaches used for fulfilling these expectations will contribute to learning, creativity, and innovation of the organization that finally contribute to higher quality of the above-mentioned five enablers.

Countries with advanced quality of educational system such as Singapore integrated the above model as their school excellence model framework. As reviewed by Koh (2017), the *Singapore School Excellence Model* is now used by all Singapore schools for their annual self-assessment reporting to the Ministry of Education. The model consists of 50 percent enablers and 50 percent results. The enabler part includes five factors: leadership, staff management, strategic planning, resources, and student-focused processes. The result part includes staff results, administrative operation results, partners and society results, and key performance results. The model requires that school leaders should address values and schools' responsibility toward society and should focus on student learning and performance excellence. In this regards, Koh (2017) added that school excellence in the 21st century is determined by various factors. They are change in demographic and enrollment, increasing internal and external competition, increasing pressures to constraint administrative costs, increasing regulatory and policy pressures, increasing transaction volumes and service expectations, and increasing influence of constituents. It is obvious that these factors demonstrated adaptive challenges as well technical and adaptive challenges.

From my perspective, the EFQM Excellence Model is closely related to the model of adaptive leadership. First of all, adaptive leadership model is a process approach of leadership and it is follower-centered. This idea supports the fundamental concepts of the EFQM Excellence Model in terms of succeeding through the talent of the people. Adaptive leadership is not only about adaptability of leaders but also their ability to equip the people with ability to adapt to changes and challenges. Second, adaptive challenges cannot be solved by normal ways of doing things. Both leaders and followers need to work together in order to identify adaptive challenges and find new solutions for challenges they are encountering. This process creates supportive environment for creativity and innovation. Third, adaptive leaders help others to adapt to changes by 'giving the work back to the people', resulted in organizational capability in managing changes within and beyond the organizational boundaries. As argued by Obolensky (2010), more responsive to complexity required a concept of leadership that is moving away from leadership deposited in the hands of a select few to leadership in the hands of many newly-created leaders. Fourth, 'getting on the balcony', one of the leader behaviors in the adaptive leadership model, possibly promotes organizational ability to manage with agility or its ability to identify and respond effectively and efficiently to opportunities and threats resulted from leaders' understanding of overall picture of a complex system. Fifth, since adaptive leaders should 'maintain disciplined attention' and 'regulate distress', they lead with vision, inspiration, and integrity. They shape the future and make it happen through collaboration. Recent research by Yaghi (2017) proved that leaders exercised adaptive leadership according to organizational needs. One of the needs is happiness of the people. Last but not least, adaptive leaders 'protect leadership voices from below'. They sustain outstanding results of the organization by compromising the short and long term needs of all stakeholders. Nevertheless, much more empirical research needs to be done to prove those assumed causal relationships among mentioned variables, especially in educational contexts.

THE NATURE OF POLICY CHANGE AND THREE CORE COMPONENTS OF ADAPTIVE LEADERSHIP

Considering the three core components of adaptive leadership, research evidenced reciprocal relationship between them and policy change. In terms of the situational challenges component, educational institutions need adaptive leadership for initiating changes and dealing with adaptive challenges. In rapidly more business-oriented academic environment, adaptive leadership model was proposed by Randall and Coakley (2007) as a catalyst for changes in higher education institutions in order to enhance their competitiveness and ability to respond to greater scrutiny and accountability from outside constituencies. This leadership model can facilitate the change process through key stakeholders because leadership is more than an individual acting in a position. In many cases, it is really difficult to change policies due to high costs of reversal and opposition from actors. Path-dependence policy change model suggested that in order to introduce major changes, policy makers have to wait for *critical junctures* or 'relatively short periods of time during which there is a substantially heightened probability that agents' choices will affect the outcome of interest' (Capoccia and Kelemen cited in Cerna, 2013: 4). This process requires adaptive leadership because adaptive challenges, which are central to the process of adaptive leadership, can only be solved by ability of leaders to encourage others and gain their supports. In other words, adaptive leaders must be able to change people's assumptions, perceptions, beliefs, attitudes, and behaviors.

As for the leader behaviors component, there are several policy change model that best illustrate how the six leader behaviors proposed by Heifetz and his colleagues (Heifetz, 1994; Heifetz & Laurie, 1997) help others confront difficult challenges and inevitable changes resulted from those challenges. They are advocacy coalition model, multi-level governance model, and policy learning model.

According to the advocacy coalition model, policy change occurs through interactions between external events and coalitions resulted from different policy beliefs and resources of different parties. This model has been designed for policy areas characterized by high goal conflicts, high technical uncertainty about the nature and causes of the problem, and a large number of actors from multiple levels of government (Cerna, 2013). As a result, educational reforms involving high goal conflicts and competing belief systems demand leaders who 'get on the balcony'. If leaders understand the big picture, they will be able to compromise between top-down and bottom-up approaches and act as policy brokers who keep the level of political conflicts within acceptable limits. Then, they should 'identify adaptive challenges' when others' belief, attitudes, and values are affected by policy changes. This situation demands collaboration between the leaders and the people that finally demand ability of leaders to 'protect leadership voices from below'. Protecting voices of the marginalized is challenging because it disrupts social equilibrium. However, adaptive leaders should not resist minority voices for the sake of the majority. It is uneasy for leaders to combine top-down approach and bottom-up approach but adaptive leaders are likely to use bottom-up approach because adaptive challenges are characterized by uncertainty about the means or action to achieve the goal. Suggett (2011) recommended that bottom-up approach is suitable for areas of low conflict about the goal but lack of certain means to achieve expected outcomes. On the contrary, top-down approach is best used in areas of high conflicts about the goal but relatively high certainty on how the goal can be achieved.

The above mentioned idea is supported by the multi-level governance model of policy change. As reviewed by Cerna (2013), research evidenced that change is a multi-actor and multi-dimensional process. Policy making is complex due to actors' movement between different levels of action and dispersed authority across multiple tiers (i.e., national, regional, or local). In educational context, Fullan (2007) suggested a tri-level reform at three levels: school and community level, district level, and state or national level. He suggested that there should be a two-way interaction between the three levels if change on a large scale is expected. Nevertheless, a weakness of the multi-level governance model is that it remains difficult to determine all the actors and jurisdictions involved in multi-level governance and which types of governance they refer to. It also mainly emphasizes formal actors and institutions while neglects informal actors and flexible arrangements (Cerna, 2013). Such weakness implied that adaptive leaders should 'get on the balcony'. They should take

some quiet time to understand complexity of system or seek advices from a group of experts for alternative discussion about organizational issues.

Furthermore, the policy learning model has a strong connection to adaptive leadership. Adaptive leaders help people to learn through 'giving the work back to the people' in order to empower them. The others then learn to decide what to do by themselves when they face with uncertainty due to policy change. At the same time, adaptive leaders learn to adjust their goals and techniques of policy under their responsibility in response to their previous experiences and new information gained during policy implementation or from other contexts. Learning process of both the leaders and the people created an atmosphere where learning and innovation take place.

In addition to some leader behaviors mentioned above, adaptive leadership model also includes other needed leader behaviors; namely, regulating distress and maintaining discipline attention. As noted by Payne (2008), successful policy implementation has been evidenced in schools where there is peer support and engagement. Considering three clusters of political conditions facilitating policy reform proposed by Reich (1995), strong leadership is fundamental to the *political will model*, which decisions by leaders are enough for a major policy change. To my understanding, this model requires adaptive leaders who can 'maintain disciplined attention' or can well encourage people to focus on difficult works that they need to do. People naturally do not confront change but strong political will with strong leadership help people address change and not avoid it. At the same time, adaptive leaders should 'regulate distress'. Leaders must help others understand the need for change but not to let them feel too much stressed. It should be noted that reform is driven by value. It is an emotional process (Spillane, Reiser & Reimer, 2002). In educational context, Fullan (2007) underscored that educational change is technically simple but it is socially complex. It requires a shared meaning among actors and their commitment to pursue it.

Last but not least, intended goal of adaptive leadership lies at the adaptive work component. Leaders must direct considerable energy toward establishing and maintaining the 'holding environment' where adaptive work is conducted. It is the safe space where people can address the adaptive challenges that confront them while the leaders' role is to provide supportive communication (Northouse, 2016). According to the typology of results and processes of change proposed by Streeck and Thelen (2005), with incremental process of change and continuity result of change, reproduction by adaptation is expected. In their five different types of change: displacement, layering, drift, conversion, and exhaustion, Streeck and Thelen (2005) further explained that the 'drift' type of change is characterized by erosion or atrophy of institutions due to their inability to adapt to changing political and economic environment that might be caused by gaps in rules. Therefore, institutions should promote change through political cultivation. From my perspective, the gaps in rules will be minimized if the leaders can identify adaptive challenges and encourage the people to find innovative ways to cope with those challenges. Then the leaders and the people should refine the straightforward solutions within existing organization system.

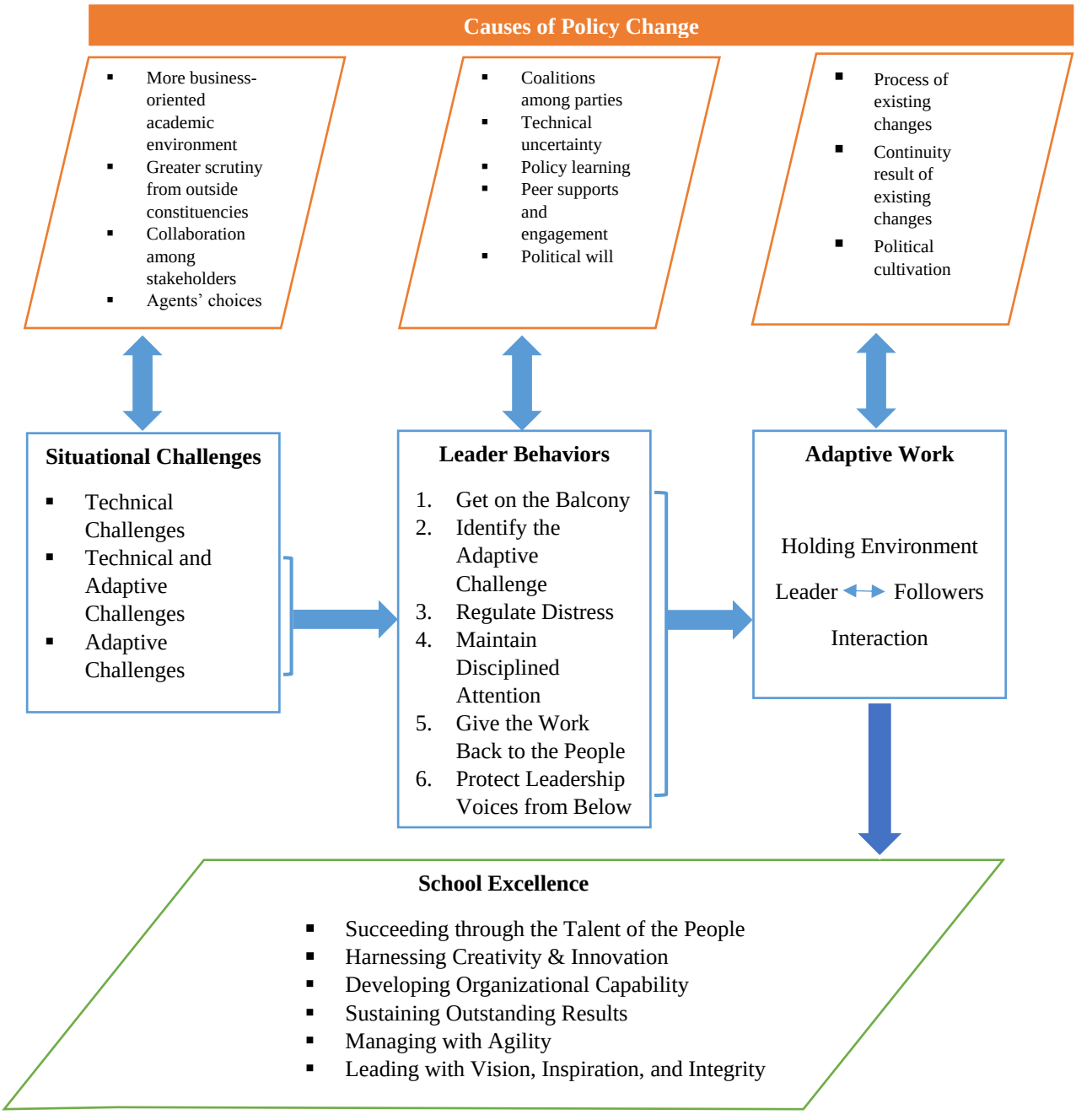
ADAPTIVE LEADERSHIP FOR SCHOOL EXCELLENCE AMID POLICY CHANGE: A PROPOSED CONCEPTUAL FRAMEWORK

In view of the above-mentioned concepts and theories, I ended this paper with a practical framework that I proposed for theory building through future empirical research presented below. Integrated three key concepts: adaptive leadership, school excellence, and policy change, the framework adopted three components of adaptive leadership at its core. I considered these three components as 'enablers' because the EFQM Excellence Model viewed leadership as one of the five keys important enablers of excellence. At the same time, theories of policy change suggested possible interrelationship between policy change and the three core components of adaptive leadership. I accordingly assumed that variables synthesized from those theories are both 'enablers' and 'results'; namely, whether these variables influenced the degree to which leaders demonstrated their adaptive leadership or their adaptive leadership had impact on the causes of change in policy. Then, school excellence is considered as 'results' in the framework which can be described by some of the eight fundamental concepts of excellence suggested by the EFQM Excellent Model.

As seen from Figure 1, causes of policy change may include more business-oriented academic environment, greater scrutiny from outside constituencies, collaboration among stakeholders, agents' choices, coalitions among parties due to their different beliefs and resources, technical uncertainty, political learning, peer support and engagement, political will, process of existing changes, continuity results of existing changes, as well as political cultivation, to name a few. At the same time, adaptive leadership is likely to influence these causes, leading to what Fullan (2007: 14) suggested us to differentiate between 'theory of changes' (what causes change) and 'theory of changing' (how to influence those causes). However, with reference to the school excellence, which is viewed as 'result' in this proposed framework, as far as I am aware, existing literature has not yet enough for me to draw assumed connection between the concept of 'adding value for customers' and 'creating a sustainable future' in the EFQM Excellent Model and the adaptive leadership model.

Figure 1

Conceptual Framework: Adaptive Leadership for School Excellence amid Policy Change



All in all, this paper demonstrated how the three concepts: adaptive leadership, school excellence, and policy change are interrelated. It confirms that adaptive leadership is mandatory to a school aiming for excellence amid policy change. While the adaptive leadership model is prescriptive, the EFQM Excellence Model is rather non-prescriptive. Considering these two concepts together resulted in a conceptual framework for research on adaptive leadership that is more versatile and contextualized. Furthermore, since change in educational policy is complex, better understanding of policy changes and ability of schools to adapt to those changes required a leadership model like the adaptive leadership model that is composed of multiple dimensions and activities. It is expected that this paper will encourage more researchers' attention to refinement of adaptive leadership model through empirical research in order to support the claims and tenets of adaptive leadership model.

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SELF-PREVENT BEHAVIORS IN OSTEOPOROSIS OF ELDERLY AT AMPHAWA DISTRICT, SAMUT SONGKHRAM PROVINCE

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ABSTRACT

The purposes of this study was aimed to study on self-care behaviors and relating factors of osteoporosis in elders at Amphawa district, Samut Songkhram province, which was conducted data collection during January to February 2018. Four hundred of elders were included in this study by selective sampling and data collection was done by questionnaire interviewing. The data analysis was used descriptive statistics including frequency, percent and average; and Chi-square test. The results were found that common illness in elder group was hypertension (N =147, 36.8%); history of osteoporosis screening on last one year in elders was very low (N = 64, 16%); and the number of osteoporosis was 50 (12.5%) and represented in male and female elders were 13 (3.25%) and 37 (9.25%), respectively. The significant relation of osteoporosis and health behaviors (p<0.05) were including alcoholic consumption, insufficient of physical activity and prolong home staying with sluggish movement.

Our finding was suggested that relating government who responsible, such as, provincial public health office, provincial social security office and provincial office for local administration should be educate appropriate self-care behaviors for health promoting and osteoporosis prevention in local elder group, which can be understanding of causes, prevention and treatment for osteoporosis due to bone calcium is reduce increment by age and able to adjust behaviors among them. The holistic (physiologic and metal) self-care was necessary for longevity of life.

Key words — Self-prevent behaviors, Osteoporosis, Elderly

INTRODUCTION

The TWELFTH NATIONAL ECONOMIC AND SOCIAL DEVELOPMENT PLAN (2017-2021), which focuses on promoting health risk reduction and all aspects of health by developing people with knowledge in health care to have a good health consciousness. And got self-screening behaviors through a variety of learning channels. (The Government Gazette, 2560: 78). In line with the National Health Development plan during the 11th National Economic and Social Development Plan 2012-2016. Strategy focuses on health promotion, disease prevention, and disease control and consumer health protection. Thai people are strong physically, mentally, socially and intellectually. They develop and promote the practice of health behavior for the people. Establish social measures to control critical health risk behaviors and promote exercise and good mental health. (Ministry of Public Health, 2016)

Osteoporosis is a condition in which the bone mass is low and the bone structure changes at the micro level, leading to bone loss. The bones were found to be less common in patients with osteoporosis including: spinal (vertebral bodies), distal radius and proximal femur, the bone is divided into two kinds. Primary osteoporosis is the increase in postmenopausal women with decreased levels of estrogen in the blood and secondary osteoporosis, which is caused by a number of factors. Some diseases occur on the body. The use of certain drugs such as corticosteroids, etc. (Natthawutsibmoo, 2009: 505) When the bone mass or density decreases including lower bone quality. The composition ratio unchanged the bone strength decreased and the risk of fracture increased (wasuwatkittisomprayoon, 2005: 2). The conditions of Osteoporosis occur in females than males. The incidence in the 50-year-old woman was as high as 40%, while the incidence in the same males was only 13%. However, high levels of estrogen in the reproductive age did not help. Prevent the occurrence of coronary heart disease is the prevention of osteoporosis as well because of the estrogen hormone levels. A decrease in menopause will result in decreased bone density that may cause osteoporosis and fractures, which can lead to pain or sometimes death. (Jomjaisajjareewat and TheraRitrod, 2543: 4) Osteoporosis is a major public health problem, both in terms of personnel and budgets used to care for patients with the disease. Osteoporosis is a silent disease, that is, osteoporosis patients with osteoporosis will see the doctor. The disease can be prevented and treated. It is a disease without any warning signs. Asymptomatic patients are therefore not diagnosed and treated in the early stages of the disease. Until fractures (CharoenchaiParkpianpirote, PrasertLiwphonwanich and pariyuthjianpattankom, 2558: 11)

The primary mechanism of osteoporosis is the imbalance between bone and bone cells. By having strong bones, the balance between these two cells must always be balanced.Loss of balance may be due to aging, the cells deteriorate, as well as cells that make bone. Thus, the bone is reduced, but the cells responsible for bone destruction continues to operate normally or due to lack of testosterone, a hormone that helps the cells that build bone.Osteoporosis is more common in women, especially in menopause, or because of the nutrients it contains to build bone mass and stimulate bone growth. The important food of bone formation is protein, calcium and vitamin D. The elderly often lack these nutrients or lack of exercise to stimulate the function of the bone cells and reduce the function of the bone destruction.Thus resulting in increased bone destruction. Births from a family history of osteoporosis can cause high levels of osteoporosis, or may be related to hormonal abnormalities such as overactive thyroid gland or benign tumors etc. (SukanyaKanonpanwanich, 2559: 55)

Elderly mean persons over the age of sixty and above and must receive medical services. The public health is provided by the convenience and speed of the special case. It should also include research, data, research and development on protected work. Promote status Role and Activities of the Elderly(The Elderly Act, 2013, 2015)Yuri et al. (Yuriek and others, 1980: 31). According to the National Institute of Elderly in the United States, there are two groups, aged 60-74, and elderly aged 75 years and over. The Department of Non-Formal Education (1998: 37-38) presents changes in the age of the elderly in the circulatory system, blood vessels, and other tissues. The heart pumps blood is not healthy as it was. The amount pumped down Blood clotting and blood pressure rise. Resulting in reduced blood supply to the organ and has found that physical inactivity.General exercise stimulates the bone remodeling cycle, resulting in increased bone mass. However, if exercise is too high in childhood and adolescence, the peak bone mass is low.In premature menopausal women, it stimulates bone turnover and reduces intestinal calcium absorption or smoking and alcohol consumption, resulting in greater bone resorption and osteoporosis. (SomchayPattanankkoon, 2549 : 94) There are studies that found that breast cancer survivors had moderate knowledge of osteoporosis, 49.2% had osteoporosis behavior, 32.3% had moderate risk for osteoporosis (SupapAreeaua and MontaLimthongkul, 2551 : 209-224)In males, fractures occur more severely and the mortality rate is higher than that of females. After a 2-year-old male hip fractures have a death rate of 22 percent female, 11 percent are being treated for a long time and continuing on with broken bones. This wasteful spending dramatically, it is a financial burden for both themselves and their families. So knowing how to prevent osteoporosis more. Preventing fractures as well as to avoid the risk factors of osteoporosis is what gives life to be happy. (PatcharinChanapah, 2554 : 283-294)Exercise to increase muscle strength. Increase the density of the bones of the body. Reduce the risk of falls, fractures. The exercise with the diet is essential in individuals with osteoporosis. (SupapornSilalertdetkul, 2554: 27-38)The results of the study showed that the experimental group receiving the health education program had an average score on knowledge about osteoporosis. Health education believes on self-efficacy in the prevention of osteoporosis and osteoporosis prevention behaviors among higher education programs. (NiwatWonglee, KannikarReungdet and boonsitChaichana, 2558: 88-100) A cross-sectional study was carried out in Samut Songkhram, Thailand, and 105 elders were joined. Materials and Methods: Bone mineral density (BMD) was measured by calcaneal quantitative ultrasound. BTMs (osteocalcin [OC], Procollagen type 1 N-terminal pro-peptide, Beta-crossLaps [CTX], and alkaline phosphatase [ALP]); bone-related biochemical markers (25-hydroxyvitamin D [25-(OH)D], calcium, phosphorus, and magnesium); lipid profile (cholesterol, triglyceride, high density lipoprotein-cholesterol, and low density lipoprotein); and high sensitive C-reactive protein (hs-CRP) were analyzed using automatic analyzers. Blood pressure measurement was done after resting. Statistical Analysis Used: Descriptive data were represented as a mean ± standard deviation. One-way ANOVA was compared parameters within three elders groups. Pearson's correlation was tested for the relations of BMD with other parameters. Odds ratio was calculated for risk of prehypertension. Results: BMD was significantly correlated to calcium, phosphorus, and triglyceride in high, low, and very low levels, respectively. Inversely correlations of BMD with CTX and hs-CRP were significant in medium level. Risk of prehypertension was increased 1.12-fold with a decrement of T-score < -1.0. Increment of CTX, hs-CRP, and LDL-C was increased 1.93, 1.94, and 1.31-fold of prehypertension risks, respectively. Conclusions: Prehypertension was associated with osteoporosis, which indicated by inversely correlation of hs-CRP and CTX to BMD; and correlation of serum calcium, phosphorus, and triglyceride to BMD. (Yuttana Sudjaroen and Pimporn Thongmuang, 2018: 277-283)

The study on self-protection behavior in osteoporosis of elderly at Ampawa District farmers, Samut Songkram, was consistent with Rosenstock (1974), who described the health beliefs that individuals exhibit one's health behavior. Avoiding the disease must be believed to be at risk for disease. And the disease will have severe violence to life. Practice to avoid the disease will be beneficial to them because they want to be healthy by buying drugs to eat or take care of themselves to relieve the illness that occurs. The idea, as this is consistent with social learning theory (Social

Learning Theory) of Albert Bandura (1977 Local Health Service Project at Suanluang District, Samut Songkhram Province In the past year, as a result of the medical services provided to Samut Songkhram farmers, there were severe pain and pain of a number of farmers to ask for medication to relieve the pain. Thus, from the foregoing, it is evident that osteoporosis was causing health problems to the general public. It also has a long-term impact and may be related to many diseases, and a study on the behavior of pesticide use by farmers in SamutSongkhram province. There are side effects including allergic reactions in the respiratory and skin and some side effects on the brain and muscles.(PimponThongmuang and YuthanaSudjaroen, 2558) There is no study on self-protection behavior in osteoporosis among elderly farmers in Amphawa Interesting point is Amphawa, Samut Songkhram province, located in the area used for agriculture in factory. The use of chemical pesticides, including agriculture by using force, including a lack of knowledge about the supplements to prevent disease. Therefore, the incidence of osteoporosis among the elderly in amphawa district, which is treated in the wrong prevention of disease, such behavior may cause problems Therefore, the research team found that it is necessary to study the self-protection behavior in osteoporosis of the elderly in Amphoe Amphawa, Samut Songkhram province in order to know the self-protection behavior in osteoporosis of the elderly in Amphawa. the correct extent and results of this research data used as basisFind a way to reduce the incidence of osteoporosis and strengthen self-care behaviors in Amphawa district to reduce public health burden on the country.

2. Research Objective

To study resistance behaviors and factors of Osteoporosis in elders in Ampawa District Samut Songkhram Province.

RESEARCH METHODOLOGY

The research of " Resistance behaviors and factors of Osteoporosis in elders in Ampawa District Samut Songkhram Province" is survey research that researchers have noted all of the method's details down below

Procedure of the research

This research intends to study on elders in Ampawa District Samut Songkhram Province. The researchers had organized the meeting to clarify the objectives of the project, procedures of the research to the officers and gathered the primary information to create the documents, books and involved researches. The local meeting had been arranged to let researchers learn more about the local, observe the resistance behaviors and factors of Osteoporosis in elders in Ampawa District Samut Songkhram Province by letting researchers directly interviewed the elders and analyzed the information by using descriptive statistics such as frequency, percentage, average rate, Chi-square rate and research's conclusion.

Research's delimitation

a. Human resources delimitation: The target group of people for this research is 400 people of the elders in Ampawa District Samut Songkhram Province during the period of October 2017 – November 2017.
b. The researchers have specified the sample group of target human resources as 400 elders in Ampawa District in Samut Songkhram Province during the period of October 2017- November 2017.
c. Information framework: This research intends to study the resistance behaviors and factors of Osteoporosis in elders in Ampawa District Samut Songkhram Province.

Research Materials

In this research, the researcher uses the tools created by studying the papers, concepts, theories and related research. The structure of the questionnaire was 5 parts. part1 . The basic social and economic characteristics are set answers to choose from (close-ended question).Part 2 . Health Information3 . The information about the behaviors of self-protection in osteoporosis. The answer is given to (close-ended question).Part 4 . Factors contributing to knowledge. Part 5 . Factors that enhance knowledge. Show the following information:

RESULTS

4.1 General information: which were the sample group for 400 people had the analysis result as follows, 31.8 % were male and 68.3 were female, 58.5 % were married, 72.5 % were primary school graduated, 31.3 % were farmer

4.2 Health information : Most diseases 36.8%. were Hypertension , 15.8 % were hyperlipidaemia, 12.8 % were Diabetes mellitus, 5.0 % were heart disease, 5.0 % were Bone diseases and 4.5 % were Allergy. Risk behavior 7.8 % were smoke and 5.5 % were drink.

4.3 Health information on osteoporosis and Self-prevention behavior in osteoporosis: (Table 1)

Table 1 Amount (percentage) on Health information on osteoporosis and Self-prevention behavior in osteoporosis

Health information on osteoporosis	**Amount (%)**	
In the past 1 year, measured bone mass	64	(16.0)
Have ever been osteoporosis and calcium supplement	61	(15.3)
Have broken bones	71	(17.8)
Have a family history of osteoporosis	32	(8.0)
Current osteoporosis	50	(12.5)
Think of arthritis warning signs that are soft and bent, not a warning sign of osteoporosis	159	(39.8)
It is thought that osteoporosis will not have any warning symptoms until it has broken bones.	141	(35.3)
In the past 1 year, measured bone mass	64	(16.0)
Have ever been osteoporosis and calcium supplement	61	(15.0)
Have broken bones	71	(17.8)
Self-prevention behavior in osteoporosis	**Amount (%)**	
Lack of high calcium intake	146	(36. 5)
Lack of eating increases calcium intake	168	(42.0)
Overdose of alcohol	18	(4.5)
Smoke	32	(8.0)
Taking steroids	32	(8.0)
lack of exercise is 3-4 times a week, each 30-45 minutes	145	(36.3)
Drink soft drinks often a week	54	(13.5)
Drink tea or coffee often a week	205	(51.3)
Eating salt Often times per week	80	(20.0)
Lack of bone mass build up but youthful	139	(34.8)

4.4 Information about enabling and reinforcing of knowledge: (Table 2)

Table 2 Amount (percentage) on Information about enabling and reinforcing of knowledge

Enabling of knowledge	**Amount (%)**	
Provincial Public Health do Health Education Program about Osteoporosis in Communities	170	(42.5)
Have knowledge about osteoporosis	123	(30.8)
Public health officials do forums on osteoporosis in community	144	(36.0)
Provincial Public Health has a wide range of calcium products in the community	97	(24.3)
Reinforcing of knowledge	**Amount (%)**	
Provincial Public Health advocate for education on osteoporosis in the community	181	45.3
Provincial Public Health advocate for bone Mass Measurement	159	39.8
Public health officials promote knowledge about osteoporosis in the community	160	40.1
Provincial Public Health advocate for exercise in the community	306	76.5
People in the community exercise regularly	303	75.8
People in the community are encouraged to eat high calcium foods	224	56.0
Eat high calcium foods regularly	211	52.8
Having a relative with osteoporosis aware prevents osteoporosis	93	23.3
Having a experienced care for osteoporosis patients aware prevents osteoporosis	85	21.3
Know the prevention of osteoporosis because it is known that when people are older, the risk of this disease is everyone	247	61.8

4.5 Relationship between osteoporosis in the present and self-prevention behavior in osteoporosis Relationship between osteoporosis in the present and self-prevention behavior in osteoporosis found that Significant correlations with current osteoporosis and behavior in various areas were found to be related to excessive alcohol intake, lack of exercise,3-4 times/week, 30-45 minutes, in the eating of salty foods, often weekly. In the area of physical activity at home. (Table 3)

Table 3 Relationship between osteoporosis in the present and self-prevention behavior in osteoporosis

Osteoporosis	Self-prevention behavior No	Yes	Total (%)	X^2	Sig
		Overdose of alcohol			
No	337(96.3)	13(3.7)	350(100.0)	4.02	.045

Yes	45(90.0)	5(10.0)	50(100.0)		
Total	382(95.5)	18(4.5)	400(100.0)		
	Lack of exercise regularly				
No	232(66.3)	118(33.7)	350(100.0)		
Yes	23(46.0)	27(54.0)	50(100.0)	7.79	.005
Total	255(63.8)	145(36.3)	400(100.0)		
	Eat salty foods weekly				
No	286(81.7)	64(18.3)	350(100.0)		
Yes	34(68.0)	16(32.0)	50(100.0)	5.143	.023
Total	320(80.0)	80(20.0)	400(100.0)		
	Less body movement at home				
No	196(56.0)	154(44.0)	350(100.0)		
Yes	20(40.0)	30(60.0)	50(100.0)	4.509	.034
Total	216(54.0)	184(46.0)	400(100.0)		

SUMMARY AND DISCUSSION

5. Summary and discussion

This study shows that the elderly in Amphawa, Samut Songkhram, focus on the prevention of osteoporosis and self-care on osteoporosis by preventing and promoting health before illness to reduce the incidence of osteoporosis and bone mass measurement. Overall, it was found that older farmers in Amphawa, Samut Songkhram, were 90 years old. A total of 400 people were diagnosed with hypertension, 147 of whom were 36.8%. Smoking and Alcohol. The current sample In terms of smoking, the majority of the non-smokers were 340 (85.0%), 354 (88.5%), and 354 The survey sample consisted of 400 people. Found that most think the warning signs of arthritis include joint swelling, soften and bend is not a warning sign of condition osteoporosis found 159 percent of 39.8, followed by the thought that osteoporosis. There are no warning symptoms until fractures were 141 people, representing 35.3 percent.

The findings in health-related osteoporosis showed. The fracture history of a sample of 400 people found that subjects with a history of fracture of 71 people, representing 17.8 percent by osteoporosis, this is a disaster a silencer which does not show symptoms until it's born fractures in people with However, the elderly in Amphawa. Samples of this study revealed that there were 32 patients with osteoporosis in the family, of which 8.0% were similar to those found in the study SupabAuaaree and MintaLimthongkul, 2551. The data from the sample showed that seven members of the family were osteoporosis, or 7.2 percent, which was the same rate of appearance.

The information found in the history of fractures found that seniors were 71 people, representing 17.8 percent similar to the findings in the research of SupabAuaaree and MintaLimthongkul the discovery of a history of bone fracture amounts. 11 people accounted for 11.6 percent.The findings in the history of measuring bone mass in the first year that seniors are 64 they accounted for 16.0 percent differ from the findings of SupabAuaaree and MintaLimthongkul found to have a history for bone mass measurement of a sample of just 5.2 (SupabAuaaree and MintaLimthongkul, 2551: 209-224).

Data on self-protection behavior in osteoporosis of 400 elderly people showed that most of them had dietary deficiency that increased calcium content, 168 people, 42.0%, and lack of exercise regularly 3-4 times, 30-45 minutes, 145 people or 36.3%.In this section, the researchers organized a meeting to educate about high calcium foods because the elderly mistakenly thought that soy milk was the same high calcium source as cow's milk.

Significant correlations with current osteoporosis and behavior in various areas were found to be related to excessive alcohol intake, lack of exercise,3-4 times/week, 30-45 minutes, in the eating of salty foods, often weekly. In the area of physical activity at home, this section provides the findings and knowledge about how to properly handle the elderly.

6. Suggestion

Relevant agencies such as Samut Songkhram Provincial Public Health Office, Samut Songkhram Provincial Social Security Office and the Provincial Administration Office's trainings should be provided to older farmers in Samut Songkhram province. About enhancing self-care behaviors in osteoporosis is aimed at educating these individuals to adapt and enhance self-care behaviors in osteoporosis. To understand the causes of osteoporosis, preventing osteoporosis and treatment of osteoporosis. Due to the level of calcium in the body the level decreases with increasing age. Therefore, the elderly should be aware of the cause of the

disease. Proper prevention and treatment to improve the quality of life. The holistic health care to the longevity and strength of body and soul together.

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HAPPINESS OF ELDERY IN COMMUNITY, THAILAND

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ABSTRACT

The research aimed to study thelevels of happiness of elderly persons. The sample in the study were 48 elderlypeoplelivinginPrathumwanurban community.

Instrument of this study was the questionnairecovering two parts of general information and the Thai Happiness Indicators which was constructed bythe Department of Mental Health, Ministry of Public Health. Data was collected from theelderlyinPrathumwanurbancommunity who had truthfully answered the questions in the questionnaire. The data was analyzed by using descriptive statistics.

The results show that most of the subjects were female (70.83%), aged 60-69years(62.50%) ,most of their income was received from the subsistence allowance from their child (58.33%). The most of elderly (62.50%) had happiness in the moderatelevel.Considering each of five domains of the happiness, the highest average level was found in mental quality factors (Mean = 6.15), mental capacity factors (Mean = 5.73), feeling good (Mean = 5.85), feeling bad (Mean = 5.67), and family support (Mean = 5.21), respectively. The suggestion of this study is to encourage the family reunion between the elderly and the young, also to give the family members awareness of paying more attention and taking care of the elderly in their families.

Keywords: happiness; elderly person

INTRODUCTION

At the present time Thailand has progressed on the aspect of the economy, medical profession, public health, and technology. These advantages have an effect on people in community life style, and people structures have changed, for example the average age of people has been increasing that means the number of elderly people has increased automatically. The number of Thai elderly people has been increased from 1.7 million people or 4.9 percent of Thai population in 1970 to 10.3 million people or 15.8 percent of Thai population in 2015 (Mahidol University Institute for Population and Social Rearch. (2015) Since the number of the 60 year old population increased more than 10 percent of the country population which has led Thailand to become an Aging Society and will become a completely Aged Society (Mahidol University Institute for Population and Social Rearch. (2015) the elderly people are in a time of their health that is getting weaker and the capability of their bodies are decreasing which affects their health. When they have health problems it will lead to mental problems increasing too. It makes the elderly people worry about the sicknesses that they may be facing and also there are other factors like the life style that changes because of the growing societies, these things have an impact on the elderly happiness (George : 2010). According to Nanthamonkolchai's research, S.et al (2009) To study the factors influencing life happiness of elderly females in Rayong province ,Thailand, it was found that About half (50.2%) of the elderly females had a moderate level of life happiness, followed by low level (27.1%) and high level (22.7%). And the study of Collins, Goldman, & Roddriguez.(2008) found that if elderly people are happy, the risk of(sickness) disabilities and death decrease.

Prathumwan urban community is a crowded living area, the number of elderly people has been increasing consecutively. Some of them live by themselves, some live with their children and the children have to go to work. This community is also part of Bangkok., Bangkok is a developing economic city which may have an influence on happiness in elderly people. So the researcher was interested to study the happiness of elderly people who live in Prathumwan urban community. The researcher uses the study of Prathumwan urban community as the basic data and research methodology in order to study the level of elderly happiness and the way of solving Aged Society problems

The purposes of the study

To Study the levels of happiness of elderly persons who live in Prathumwan urban community.

METHODOLOGY

This is research to study the levels of happiness of elderly people who live in Prathumwan urban community.

The research Instrument was the questionnaire of The Thai Happiness Indicators: THI-15; 2001of the Thai Ministry of Public Health (Department of Mental Health)which The questionnaire was studied and disseminated in the country was Alfa Cronbach = 0.70Mongkol.A., et al (2001).

The research instrument contains 15 convenient checklist rating scale questions with 12 positive questions and three negative questions. In each question, the participants answer a type of Likert's scale from 0 (never) to 3 (always).

Data collection

We used a community survey to focus on a single point in time regarding happiness in the elderly. The study took place in Prathumwan urban community. The appropriate sample of volunteers included 48 elderly aged between 60-80 years who were willing to participate in the study. The sample was chosen by Purposive sampling.

Data was analyzed by frequency, percentage: in addition, mean, standard deviation was used for general characteristic for samples.

RESULTS

General characteristics of the elderly found that most of subjects were female (70.83%), aged 60-69 years (62.50%) ,most of their income was derived from the subsistence allowance from their children(58.33 %). Happiness of the elderly was assessed by the questionnaire and the score was classified in to three levels. Most of elderly (62.5%) had moderate happiness followed by low level 35.42% , and high level 2.08% (Table 3). About Five domains of the happiness, the highest average level was found in mental quality factors (Mean = 6.15), mental capacity factors (Mean = 5.73), feeling good (Mean = 5.85), feeling bad (Mean = 5.67), and family support (Mean = 5.21), respectively. From table 2.

Table 1

Number and percentage of elderly classified by general characteristics (N=48)

Item	N	%
Gender		
Male	14	29.17
Female	34	70.83
Age	30	62.5
60-69		
70-79	17	35.4
≥ 80	1	2.1
Income received	14	29.17
Doing work and subsistence allowance		
Doing work , subsistence allowance and child	6	12.50
Subsistence allowance and child	28	58.33

Table 1 shows that the most of the subjects were female (70.83%), aged 60-69 years (62.50%) ,most income was received from the subsistence allowance provided by their child (58.33 %).

Table 2

The mean and the standard deviation of happiness of the elderly (N=48)

Item	Mean	S.D.
Good feeling		
You feel happy in life.	1.85	0.46
You feel comfortable	1.94	0.43
You feel proud	2.06	0.60
Total	**5.85**	**1.11**
Bad feeling		
You feel tired of being discouraged by everyday life	1.83	0.72
You feel disappointed in yourself	1.94	0.63
You feel that life is nothing but suffering	1.92	0.68
Total	**5.69**	**1.69**
Mental capacity		
You can accept it when there is a problem	1.96	0.29
You can control emotions when a serious event occurs	1.90	0.42
You are confident that you will face serious incidents.	1.88	0.49
Total	**5.73**	**0.98**
Mental quality		
You feel sympathy when others are suffering.	2.06	0.32
You are happy to help others with problems	2.06	0.43
You help others when you have a chance.	2.02	0.33
Total	**6.15**	**0.71**
Family support		
You feel secure when in the family	1.96	0.50
If you are seriously ill. You believe that the family will take care you	1.40	0.57
Family members love each other.	1.85	0.62
Total	**5.20**	**1.34**

Table 2 shows that the highest mean score of domain of happiness was Mental quality (mean = 6.15 SD = .71) on the other hand the lowest mean score of domain of happiness was Family support (mean = 5.20 SD = 1.34)

Table 3

Level Happiness of the elderly people in Prathumwan urban community (n= 48)

Level of happiness	N	%
Low level (27 ≤)	17	35.42
Medium level (28-34)	30	62.50
High level (35-45)	1	2.08

Table 3shows that the most of the elderly (62.5%) had moderate happiness followed by low level 35.42%, and high level 2.08% level of happiness

DISCUSSION

The results showed that the most of the elderly (62.5%) had a moderate level of happiness and 35.42% had a high level of life happiness. Therefore most of them had either a moderate or high level of happiness. This can be explained by the fact that most elderly were considered as young.(60-69 years), they received income from the subsistence allowance and their child. This result of the present study was the same as Nanthamonkolchai, S. et al.(2009) who found that 50.2% of the elderly females had a moderate level of life, 27.1% followed by low level of happiness and 22.7% had high level.The results of this research may be because Prathumwan community is an urban community which has a positive impact on the happiness level of the aged population. The reason of this outcome might be caused by specific characteristics of the community which is a crowded community, houses are close to one another so the Interdependence among neighbors is influential in the community. The elderly can talk and confide with their neighbors even if their family has to go to work and leave the elderly at home by themselves. Conforming to the study of Chaiyo. W.(2012) .it was found that the factors that have an impact on the

elderly' s happiness were health, income, self-acceptance, living together, helping one another and family relationships.As with the study of Gray.R.et al. (2015) was studied Happiness Diversity Among older people in different culture and found that Thai elderly consider family more than friends. According to another activity such as exercise can be used happiness for the eldery. As with the study of Jantapo, A.&Vorasiha, .P.(2017) was studied Promotion of Exercise for the Eldery and found that the promotion of exercise for the elderly have more attitude because the eldery have group exercise which they can help and exchange talk together. Therefore It makes the elderly happy.

Therefore, encouraging activities in the family and group together with the elderly will raise mental health and happiness of the elderly.

Suggestions

This study shows that the elderly happiness level in Prathumwan urban community of which the number of the representative sample was only a small number and only one community however the outcome of this study can be used as basic data for studying or serving the aged in urban communities. So, the future study should focus on.

1. Qualitative research in order to use the information to find the factors that affect the level of the aged happiness.
2. The factors that related to the level of the happiness of the aged in all communities in Bangkok.

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NEED OF ATTENTION CARE FROM HEALTH CARE PROVIDER OF HIGH RISK PREGNANT WOMEN IN ANTENATAL CLINIC

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ABSTRACT

The aims of this mixed methods research which use of quantitative and qualitative methods study were 1) to study the need of high risk pregnant women from health care provider 2) to compare the need of attention care by personal factors of pregnant women. The purposive samples used in this study,400 of high risk pregnant women. The need of high risk pregnant women from health care provider was designed as surveyed method with quantitative research and qualitative methods for quantitative in this study. The statistics used in data analysis were percentage, mean, standard deviation, and F-test which statistically significant at $p < 0.05$ level and by content analysis for analyzing the in-depth interview. The results revealed that the need of high risk pregnant women from health care provider of high risk pregnancy clinic's services Rajavithi hospital were at the high level of the attention care need (mean = 4.26). When comparing the need classified by the personal factors of clients, the clients who have different age have a significant difference at a statistically significant level of $p < 0.05$; while the clients who have different education, income per month, the treatment patternand the number of times used services had no significant difference. By using content analysis on the needs of attention from health care provider found the interesting point were: take time to see a doctor for less than 3 hours, open the waiting room before the time in order to rest at the clinic ahead of time because they feel tired from coming in the early, need for accommodation for relatives while waiting for the doctor in currently not very comfortable, need the staff to provide information on how long it will take to see the doctor, the postpone appointments, health providers should notify 1 week in advance in order to leave the working. The results of this study showed that service providers should pay more attention to needs of high risk pregnant women who receive services to provide services responding to the needs of the service even better.

Keywords: need of high risk pregnant women, pregnancy clinic, antennal care, high risk pregnant women

INTRODUCTION

The attention care to those who receiving treatment is the heart of country health care service system. It is a guarantor that the service resulted within satisfaction among receivers, also the acceptability. Moreover, it is one of the factors, which control the standard of services. The quality that covered for taking care patients consist of 1) Competency: the providers have a proper knowledges and skills, 2) Acceptability: acceptable and be as patients expected, 3) Appropriateness: appropriate in both morality and scholarliness, 4) Effectiveness: survival, well-being, and quality of life, 5) Safety: secureness,6) Efficiency: frugality, 7) Accessibility: able to access to service when needed, and 8) Continuity: continual caring process [1]. It must be acceptable and have a low chance of risk and other mistakes. It can response to the need of care receivers more than before. Also, reduce the expense and period of staying at hospital for receivers' best beneficially(Jiruth Sriratanaban, 2000page5) [2]. The quality of health care service is response to need and expectancy of customers, which is fragile and complicate. That's because services are serve to patients from many backgrounds, and also link to sickness conditions and needs. High-risk pregnancy clinic at Rajavithi Hospital recognizes the importance of providing quality services because it is a specialized service unit with obligation of quality caring process and make patients satisfy. In addition, this caring unit also interest in the need of attention care in pregnant women as to provide better hospitality.

Patients have right to get a qualified service and treatment, including the improvement of healing quality and capability on the standardize of career ethics. It also holding on to receivers' satisfaction compare to standard evaluation of hospital, ministry of public health (Ministry of Public Health,2001, pages 2-3) [1].

This research aims to study about holistic care in pregnant women from health care provider of high risk pregnant women, in order to guide the way of improvement, service management in high-risk pregnancy women clinic, Rajavithi hospital.

Research Objectives

1. To study about needs of attention care from health care providers in high-risk pregnant women.
2. To compare personal factors and needs for attention care from health care provider in high risk pregnant women.

RESEARCH METHODOLOGY

Research Scopes

In this study, the researcher had study about needs of attention care from health care provider in high-risk pregnant women, who received the service at high-risk pregnancy clinic, Rajavithi Hospital from October – December, 2015.

Research Methodology

This research used a mixed method to collect information through questionnaire and interview and in-depth interview. Samples were purposive sampling from pregnant women who attended at high-risk pregnancy clinics, Rajvithi Hospital from October - December 2015, total 400 people. The researcher used questionnaire and in-depth interview to collect data. Participants must be able to speak Thai and have no problems with cognitive and memory awareness.

Research Instruments

The instruments used in this research are questionnaires that developed by the researcher which are based on theoretical concepts and related research which were divided into two parts.

Part 1: Personal data which were general information: age, education, average monthly income, occupation, rights to health service, type of service, number of times you visit the clinic, total 7 questions. The questions were with in type of selected answer and filling number.

Part 2: Questionnaire about service quality in high-risk pregnancy clinic, Rajavithi Hospital on the topic of attention caring for 30 questions. Researcher decided to have 5 choices, which weighed and evaluated service quality as listed (Bunchom Sisaat, 2002, page 103);

Quality of caring service	Scored
Excellence	5
Good	4
Fair	3
Poor	2
Very Poor	1

Each score for quality of caring service can be determine as; (BoonchomSrisaard, 2002, page 103)

4.51– 5.00	mean	quality of service is in excellent level
3.51 – 4.50	mean	quality of service is in good level
2.51 – 3.50	mean	quality of service is in moderate level
1.51 – 2.50	mean	quality of service is in poor level
1.00 – 1.50	mean	quality of service is in very poor level

Before this research happened, researcher gave away a try out questionnaire, total 30 copied, to similar target patients at high-risk pregnancy clinic, Rajavithi Hospital. The reliability was analyzed by using the correlation coefficient alpha (Cornbrash's Alpha Coefficient: α) as 0.94.

Data Analysis

The statistic program is being use to analyze information under descriptive statistics condition. Frequency, percentage, mean, and standard deviation were used to elaborate on population and level of service quality. While inferential statistics were used for comparison between average of quality service and populate information of participants. The t-test was used on questionnaire about sexual preferences. While

One Way ANOVA was used on age, status, education, occupation, and average income. If significantly different in statistics exist, Scheffe' method will be used.

RESEARCH RESULTS

1. The personal factors of samples

Most of care receivers were older than 35 years old (34%). The average age was 31 years old; the youngest was below 18 and the oldest was 43 years old. For education background, mostly (41%) was above high school level. Monthly income at 10,001-15,000 THB counted as 26.80% and were employees 44.80%. Those who had a hospital cash welfare was 39.80%. Most of participant seeking for antenatal service and first time to clinic, both were 47.50%.

2. Quality level of service in high-risk pregnancy clinic, Rajavithi Hospital

Quality level of service in high-risk pregnancy clinic, Rajavithi Hospital, on prospect of needs and attention care. (Mean = 4.26)

3. In comparison between different personal factors (sex, age, education background, average monthly income, occupation, rights to health services, type of treatment received, and times of visiting clinic), on the topic of caring high risk pregnant women by health care provider in antenatal clinic, can be concluded as;

3.1. High risk pregnant women at Rajavithi Hospital in different ages scored the attention care by health care providers 0.05 statistically significant difference.

Table1

Shows the comparison of caring high risk pregnant women by health care provider in antenatal clinic, classified by age of the client

Age	Participant	Quality of service	F	p
Below 21 years old	29	Overall quality	4.44	0.002*
21 - 25 years old	64	Reliability and trustworthy	3.96	0.004*
26 - 30 years old	73	Attention care	4.83	0.001*
31 - 35 years old	98	Concreteness	1.90	0.11
Above 35 years old	136	Counter response	3.78	0.005*

* mean having a statistically significant difference at 0.05

3.2. High risk pregnant women at Rajavithi Hospital, who had difference health welfare rated the quality of servicee, on the topic of reliability and trustworthy, statistically significant difference at 0.05 level.

Table 2

Shows the comparison of caring high risk pregnant women by health care provider in antenatal clinic, classified by health welfare

Health welfare	Participant	Quality of service	F	p
Welfare Scheme	56	Overall quality	1.67	0.174
Government or State Enterprise officer	33	Reliability and trustworthy	3.04	0.029*
Health insurance	152	Attention care	2.38	0.070
Cash	159	Concreteness	0.92	0.433
		Counter response	1.63	0.182

* mean having a statistically significant difference at 0.05

3.3. High risk pregnant women at Rajavithi Hospital with different personal factors (sex, education background, average monthly income, occupation, type of treatment received, and times of visiting clinic), scored quality of attention care by health care provider in high risk pregnancy clinic not different.

DISCUSSION AND CONCLUSION

1. Data analysis on quality level of service in high-risk pregnancy clinic, Rajavithi Hospital

The quality level of service in high-risk pregnancy clinic, Rajavithi Hospital found that overall attention care is in good level (mean = 4.26). There were several interesting points as listed;

- Service quality in high-risk pregnancy clinic, Rajavithi Hospital on prospect of attention care**.** The interesting is medic paid attention toward health condition of patients, as well as gave some suggestions, especially from medical services reflected the attentively, wholly, cautiously, and detail in many aspects. For example, asked and gave information, and paid attention to problems.

As Jintana Boonderm (2007) [3] studied quality of service in Aranyaprathet Hospital found that customers highly focused on quality level of service because they received a friendly caring and got all information from services. This study supported the result to be clearly on medic attention, which included facial expression, body language that shown the attention and focused toward health condition, as well as gave a good advice. Also the continual follow-up, create more chance for medic to knew their patients. It also conforms to Salawut Duangchan's idea (2005, pgs. 38-39) stated the quality of human relations between service provider and receiver created reliability among both side that they will get sufficient information toward needed and suggestions, which customer can get more benefits. However, it also relied on respectful, keeping secret, politeness, correct response in conversation and sympathy. For officers, whose average score were lower than medics may cause from different position and responsible, which affected to service quality. Each treatment conducted by individual medic for receivers, they will evaluate patiently. While an important ideal way of practice reflected attention care, Jiruth Sriratanaban (2000, page52) [2]. presented that attention care mean the providers have to prepare the caring service, both before and after. It should be focusing on customer's privacy, keeping customer's beneficial as a highest goal, and understanding customer's need.

This also conform to Siriwan Serirat and team's opinion (2003, page 434) [3] that serve a service have an important key point; when you understand the need of person, business or customer normally the providers will improve their service toward attention and caring, by focusing on customer satisfaction. Even though the overall attention care service quality was in good level but there were some points needed to improve. As to beyond their old qualification, they need to improve communication of data, postpone an appointment individually every time. One of the reasons was doctor move out the schedule but officer did not inform customer individually. Even during the waiting period of seeing doctor, officer did not state clearly about specific times. Clinic should pay a little attention toward this problem, schedule and appointment managing, or perhaps remind beforehand (e.g. telephone call, text message, or E-mail). They should inform either in case there is probability that schedule will changed or service time will slower than usual. In addition, when the customers waiting for treatment and there is some sort of problems, which cause a delay in process, officer should come and apologize directly. This will reduce the level of dissatisfaction from customers.

Another interesting point was medic quite paid attention and carefully when patients come for medical checking. Not to mention about clearly information that patients received from medics straightaway. This might because patients in the high-risk pregnancy clinic, had a highly possibility of getting in critical condition, both mother and premature baby. Therefore, their health condition must be very carefully investigated, and sometimes senior doctor was invited to diagnosed and become a second opinion as well. During this process, medical staffs also request for detailed medical history data from family and husband. Also, physical check-up and sometimes laboratory tested will be used for more accuracy results.

If patients had any question or problem, doctor and nurse will try to explain until they're sure that patients understand enough to practice by themselves correctly. This kind of thing might have made customers feeling like the service quality of this high-risk pregnancy clinic was beyond moderate level, because of medical staffs' enthusiasm and instantly information responded or provided. This conform to Chaisomphon Chaoprasoet (2003, page 106) [3] stated the excellent service must relate to customers'needed or quickly beyond their expectations, which cause customer satisfaction.

2. Comparison between personal factors and needs for attention care from health care provider in high-risk pregnant women.

In this topic, showing that personal factors related to the service quality in high-risk pregnancy clinic, Rajavithi Hospital that several factors, such as age and right to medical service, impact to customer feedback of attention care. While education, average monthly income, occupation, type of services, and number of times you visit the clinic had no impact to the result. It can be elaborate as;

- Age factors impact differently toward service quality, from answer found that overall the service quality of this high-risk pregnancy clinic, Rajavithi Hospital was in good level, also on each precise topic; credibility, reliability, attention care, and respondent. However, for those whose over 25 years old, satisfied with the high-risk pregnancy clinic higher than those under 26 years old. This might because they had more direct experience toward governance hospitality, which might have thought that the services are quite not good. Therefore, when they came to high-risk pregnancy clinic, Rajavithi Hospital, they did not expect much of services. When they were asked to evaluate the service, the score is higher than average. In comparison to those younger, which might have less experience toward governance hospitality units, they were expecting more. This might because Rajavithi Hospital is a big hospital full with experienced physicians. Here is also medical school that medical students study and on duty, so when they were asked to evaluate the result were lower than expected. This can relate to definition of service quality that it means the comparison of customers between what is expected from and the real actions toward service (Nichamon Chanthongkaew, 2002, page 59) [3] . Moreover, the expectation of customer come from direct experience and education background of each individual (Siriwan Serirat, 1998: 47) [4]. While this action can be support by NarinSringarm's studied (2010) about villagers' opinion toward public health service in Nong Ya Plong Health Station, Silaloy Sub-district, Sam RoiYot District, Prachuap Khiri Khan Province.

Suggestion

Suggestion for further practice

Even the study about attention care is the positive aspect because officers, medics, and other staffs in hospital paid attention closely toward problems and conditions continually but there should be some improvements on inform an information and postpone an appointment to customers individual every time. This is because service receivers' health condition is not stable enough, so to commute to hospital each time is quite troublesome. Therefore, each time that they come, they will have a highly expectation of service from physicians. But when their appointment was postponed without acknowledgement, this cause dissatisfaction.As to response customers' need for better hospitality service quality, there should be some supports that focus on satisfaction of general services.

Suggestion for further work

For further should continue to study on these following;

1. Study how to increase service quality on the prospect of attention care toward customer during each

internal steps in high-risk pregnancy clinic, Rajavithi Hospital that will be benefit for improvement to customer on next visiting.

2. Study on service structure as to step up the quality to be best and standardize, especially on human

resources to meet the qualification of each duty.

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COMPARISON OF STRESS COPING OF ELDERLY IN COMMUNITY

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ABSTRACT

This research is a survey research. The purpose of this paper is to compare the stress coping of elderly people in the community. The sample was 148 elderly people of one community in Bangkok, Thailand. The research instrument was a set of questionnaires about stress coping styles which was adapted from Jalowiec. The questionnaire is a 3-level valuation scale, composed of 3 parts: part 1. confrontive coping style; part 2 emotive coping style; and part palliative coping style. Analyze data by usingcomputer programwith statistics percentage, average, standard deviation, t-test and ANOVA. The results found that 61.49% of the elderly are female. 47.97% had secondary education, 26.35%had primary education. 38.51% had monthly income from 10,000 to 15,000 baht. 61.22 % had sufficient income. It was found that confrontive coping style, emotive coping style and palliative coping style using by male and female elderly were not significantly different. While the elderly with primary education used confrontive coping style more than older adults with secondary and bachelor education. For the elderly with different income, there was a significant difference in confrontive coping style. In addition, seniors who have sufficient income have confrontive coping behaviors more than older people with insufficient income, emotional coping and palliative coping were not significantly different.

Keywords: Stress Coping, Elderly, Stress Coping of elderly

OBJECTIVES

To compare stress coping of elderly people in the community**.**

LITERATURE & THEORY

This research has reviewed the concept that relates tostress coping of the elderly and will concisely present as follows;

1. Situation of the elderly in Thailand

Nowadays, Thailand is an ageing society with its population that has increased rapidly since 2000 when the proportion of the elderly (60 years or older) reaches 10 percent of the country's population and the country will become "completed ageing society" when percentage of the elderly population reaches 20 in 2021. Moreover, the country is expected to be a super ageing society in less than 20 years when percentage of the elderly population is 28 percent of all the country's population [4]. Now, the elderly have some changes in both physiological and mental health resulting from degenerating systems in their bodies.

2. Stress Coping

Stress means the pressure of a person when something is threatening. It causes an imbalance in the body, mind and emotions.Stress coping refers to the response used by individuals to reduce or cure stress through thoughts or behaviors that people use.Lazarus &Folkman said that when persons have stress, they will adjust to face with stress in 2 styles; Problem-focused copingand emotion-focused coping (5)**.** Each person uses both coping styles. Jalowiec(4) developed the tools for measurement stress coping under the concept of Lazarus &Folkman (5) and PraneeMingkhwan (8) translated and updated questionnaire in Thai. There are three types of coping styles; confrontivecoping , emotive coping and palliative coping.People who

have proper stress coping can successfully manage the cause of stress (8).People with ineffective stress coping, the stress was reduced temporarily. Persons who use coping styles in a manner that is not suitable for a long time. The body can not adapt, it may be harmful to health.The measurement of coping that was developed by Jalowiec composed of 3 styles . The first one wasconfrontive coping, it is a way to control the problem in a better way. The second one was emotive coping, it is a way of facing with emotions, which the problems still persists. The last one of coping style was palliative coping, it is the method used to solve the problem indirectly, which the problem does not change. Normally people should use confrontive coping style, emotion coping style and palliative coping style together. It will help people solve problem appropriately.

METHODOLOGY

1. Research Method

This research is quantitative research. The sample was 148 elderly people of one community in Bangkok, Thailand

2. Research Instrument

The instrument used in this research is a set of questionnaires about stress coping styles, which was adapted and improvedfromJalovic's coping questionnaire and PraneeMingkhwan (7) translatedin Thai. The questionnaireis a rating scale in 3 levels:often practice, practice in sometimes and not often practice.The research instruments werecomposed of3 parts. Part 1 is confrontive coping, there are 10 items of thoughts or behaviors that people usefor release stress:1) try to find information to understand the problem; 2) control the situation of the problems; 3) try to identify problems and solve them; 4) understand the problem clearly in all aspect; 5) solve problems that cause them to better handle problems; 6) find out how to solve problems and choose the best one; 7) try to calmand find a better way to face problems; 8) do activities or exercises to reduce stress; 9) consult with a trusted or experienced person; 10)ask for help from family or friends. Part 2 is emotive coping. There are 10 items of thoughts or behaviors that people useto release stress, it composed of: 1) anxious expression; 2) angry expression;3) prepare yourself for the worst situation that will happen;4)eat or drink or smoke more;5)dream up;6)throwing things; 7) violent behavior with another person; 8) give reason that your thinking are correct; 9)think that another person caused the problems and 10) isolate yourself alone. Part 3is palliative coping.It composed of 10 items as follows: 1)accept the situation of problems;2)look for something better to compensate; 3)stay still and think that the problem is solved by itself; 4) smile with the problem; 5)do nothing because it is a matter of fate;6) let the problems go on, it cannot be changed; 7)comfort yourself not to worry; 8)sleep by thinking that problems will improve in the morning; 9) try to forget the problem and 10) depend on the sacred.

3. Data collection

The data was collected in June, 2017.

4. Sample Protocols

The researchers take into account the rights of the sample by explanation the purpose of the research, research process, the duration of the research and clarify the right to accept or decline participation in this research. The presentation of the information will be presented as a whole, no name and surname of sample present in the research paper.

5. Data analysis

Data were analyzed using computerized data analysis program. Statistics used in data analysis consisted of frequency percentage, mean, standard deviation, t-test and ANOVA .

RESULTS

1. General data of the respondents

The data shows that 61.49% of the elderly are female. 57.42 %, aged between 60-70 years. 47.97% havemarital status. 24.32% are single and 47.97% had secondary education. 26.35%had primary education 41.89% are employee. 38.51% have monthly income from 10,000 to 15,000 baht. 61.22 % have sufficient income.

2. Stress coping of the elderly

The result shows that the elderly used confrontive coping style, emotive coping styleand palliative copingstyle in moderate level ($\bar{x}$ =2.49 SD = 0.29, $\bar{x}$ = 1.75 SD = 0.31and $\bar{x}$ = 2.44 SD = 0.24, respectively). The data was shown in table 1.

Table 1

Mean and standard deviation of coping style of the respondent elderly.

Coping style	Mean	Standard Deviation
confrontive coping style	2.48	0.29
emotive coping style	1.75	0.31
palliative coping style	2.44	0.24

When compared the stress coping styles of elderly peoplein different general data.It was found that the elderly people who have gender,aged differenceswere not significantly different in confrontive coping style, emotive coping style and palliative coping style. The elderly with primary education had a higher level of confrontive coping style than the elderly with secondary and bachelor degree at the 0.05 level of significance.While emotive coping style and palliative coping style are not different. In addition, it was found that the elderly with lower income had higher level of using confrontive coping style and palliative coping style than the elderly with higher income at the 0.05 level of significant.The data was shown in table 2,3 and 4.

Table 2

Comparison of stress coping styles among the elderly with different education.

Elderly Education	mean	Difference of mean		
		primary education	secondary education	Bachelor degree
primary education	2.66	-	.264*	.22*
secondary education	2.39		-	.03
Bachelor degree	2.43			-

*p-value <.05

Table3

Comparison of using confrontive coping style among the elderly with different income

The elderly's income	mean	Difference of mean			
		Less than 5,000 baht	5001 – 10,000 baht	10,001 – 15,000 baht	15,001– 20,000 baht
Less than 5,000 baht	2.72	-	.21	.33*	.433*
5001 – 10,000baht	2.52		-	.123	.223
10,001 – 15,000baht	2.392			-	.103
15,001– 20,000baht	2.292				-

*p-value <.05

Table 4
Comparison of using palliative coping style among the elderly with different income

The elderly's income	mean	Difference of mean			
		Less than 5,000 baht	5001 – 10,000 baht	10,001 – 15,000 baht	15,001– 20,000 baht
Less than 5,000 baht	2.55	-	.10	.180*	.19*
5001 – 10,000 baht	2.46		-	.080	.09
10,001 – 15,000 baht	2.37			-	.01
15,001– 20,000 baht	2.36				-

*p-value <.05

DISCUSSION AND FUTURE WORK

1. The results of this research found that the elderly who had differences of gender and age,there is no difference in using confrontive coping style, emotive coping styleand palliative copingstyle.Thefindingsare different from the study of Pranee Mingkwan(8), who found that males had better adaptation to threat than females, often face the problem with emotional control and gradually consider the solution.While women use more emotional coping style. Forthe results which showed that the elderly with different ages had no difference in stress coping style,it's notconsistent with the study of SukumalToykaew, which found that The higher the age, the better the stress coping experience (9).
2. The results of this study found that the level of education and income affected confrontive coping style. These findings are in line with the findings of Chitra Ratanadilokna Phuket, which found that the level of education affects confrontive coping style , but it does not affect emotive coping and palliative coping style (2).
3. The effective results in adaptation would happen on the person who chose to use confrontive coping, the problem will be solved appropriately. People who adapted well will need to know the situation with consistence between demand and resources. They know how to choose the right way to deal with stress and use proper coping styles to confront problems. Person who manage stress with feelings, it is not good for themselves People who use palliative coping, it does not solve the causes of problem (5).
4. For future research should focus on promotion activity of the elderly for appropriate stress coping. It should be organized with family and community. Whenever the elderly can face with stress well. It promotes good quality of life. Elderly activities should focus on all physical, mental, and social aspect as Anchalee Jantapo (1) has promoted life quality of female prisoners who have faced cancer by using Arokayasal WatKampramong Guideline in order to promote all of three aspects of health at the same time.Person involved in caring for the elderly should use the results of this studyon planning and guidance appropriately on health care in the field of stress and coping with stress for older people in the community.

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TECHNOLOGY FOR ANALYSIS OF DESIRABLE PRODUCT SPECIFICATIONS BASED ON TARGET CUSTOMERS' eWOM

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ABSTRACT

In today's highly competitive business environment, the primary way an enterprise enhances its competitive advantage is to understand target customers' preferences and needs for the products. In the past, visiting customers in person or conducting questionnaires were the main measures an enterprise took to grasp customers' preferences and needs. With the development of Internet and the rising popularity of community websites, more and more consumers will post the Product Review online, which offers enterprises another way to grip consumers' preferences and needs for products more objectively. As a result, how to assist enterprises to effectively analyze a large number of target customers' eWOM on the Internet and further extracting decision-making information is one of an enterprise's major studies on increasing its competitive capability.

The purpose of the study lies in designing an IT-based method that can outline desirable specifications on the basis of target customers' eWOM. Such method is able to help an enterprise quickly adapt consumers' preferences and demands for products to product planning. In so doing, not only can an enterprise shorten its time to market, but it can also raise the target customers' satisfaction for the products. In accordance with above purposes, the main research projects include: (i) the design of a desirable product specification identification process for target customers' eWOM, (ii) the development of desirable product specification identification techniques for target customers' eWOM, and (iii) the implement of desirable product specification identification techniques for target customers' eWOM.

Keywords—Electronic word-of-mouth (eWOM), Target customers, Product Specification.

INTRODUCTION

The boom of Information and Communication Technology and the globalization of markets have enhanced the interaction between consumers and enterprises. The increasing variety of products and competitors result in tougher business environments so that an enterprise has changed the business models from product orientation to customer orientation to satisfy consumer demands. A customer-oriented business model is based on the understanding of target customers' product preference and demands. An enterprise used to understand consumer preference and demands through the interviews between salespersons and consumers or questionnaire survey. Nevertheless, the development of the Internet and the popularity of discussion communities cause more and more consumers making online comments on products. It presents that an enterprise could more objectively understand consumers' product preference and demands from an alternative channel. Consequently, effectively analyzing valuable decision information from a great deal of customers' eWOM is a primary issue for an enterprise enhancing the competitive advantages.

Current research on consumers' eWOM is divided into two categories. First, how to extract and classify customer opinions in eWOM is studied. For example, aiming at big eWOM, Zhan et al. (2008) preceded multi-document summarization to select the most representative eWOM. Chen et al. (2011) proposed to classify subjective sentences and objective sentences with Support Vector Machine (SVM) so as to accurately find out the customer opinions (subjective sentence), in a lengthy article, about products. Zhu et al. (2011) and Bafna & Toshniwal (2013) first looked for customer opinions in eWOM about products and then classified such opinions with positive and negative judgment. Second, the application of eWOM extraction is researched. For instance, Esparza et al. (2012) established the user preference model with the speech, constructed the merit/demerit model of a product with all user comments on the product, and finally compared such two models for recommending products to users. Zhang et al. (2012) analyzed user opinions about self-produced products for the drawbacks in customers' eyes or the relatively weak dimensions in comparison with competitors' products. Above research on consumers' eWOM was still on the beginning stage, and most studies focused on the extraction and classification of customer opinions in eWOM, but seldom on the application of consumers' eWOM, and even rarely on the decision support for product design and development.

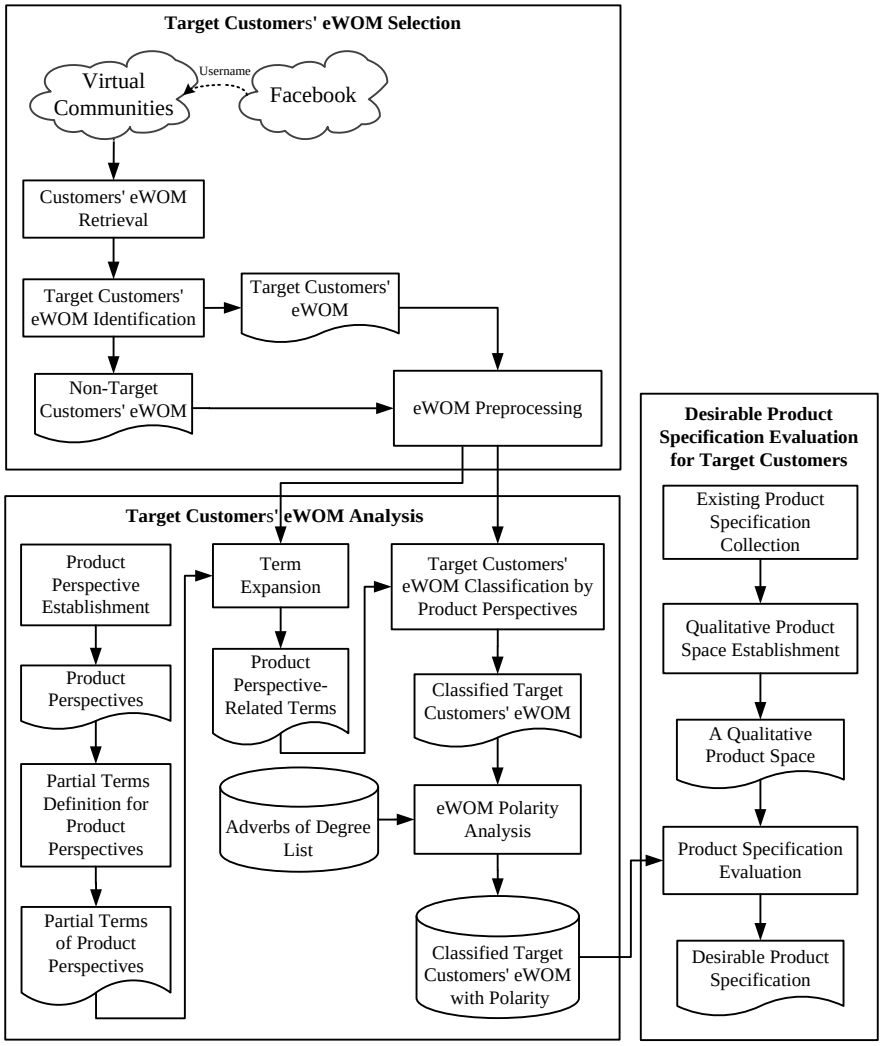
In this case, a desirable product specification identification mechanism, aiming at target customers' eWOM, is developed in this study to assist an enterprise in rapidly transforming target customers' product preference and demands for products into the product planning to further shorten the time to market for products and enhance the customers' product satisfaction. Accordingly, the research items include (i)the design of a desirable product specification identification process for target customers' eWOM, (ii)the development of desirable product specification identification techniques for target customers' eWOM, and (iii)the implementation of desirable product specification identification mechanism for target customers' eWOM. The development of desirable product specification identification techniques for target customers' eWOM covers target customers' eWOM selection, target customers' eWOM analysis, and desirable product specification for target customers.

METHODOLOGY

Aiming at target group's eWOM, a desirable product specification identification process is developed in this chapter, including target customers' eWOM selection, target customers' eWOM analysis, and desirable product specification for target customers.

Figure 1

Desirable Product Specification Identification Process forTarget Customers' eWOM



2.1. Design of a Desirable Product Specification Identification Process for Target Customers' eWOM

Aiming at target group's eWOM, a desirable product specification identification process is developed in this chapter, including target customers' eWOM selection, target customers' eWOM analysis, and desirable product specification for target customers.

2.1.1. Target Customers' eWOM Selection

With the popularity of Facebook, online discussion communities often allow users directly using the Facebook account as the community account, for the sake of convenience. Users therefore could make comments with the Facebook identity. In this study, Facebook users are judged as target customers with the personal data (such as age, gender, and working place) so as to identify their eWOM. Target customers' eWOM and non-target customers' eWOM are further preprocessed in order to keep the nouns, adjectives, and adverbs in eWOM for analyses.

2.1.2. Target Customers' eWOM Analysis

eWOM appraisal refers to target customers commenting on some dimensions of a target product. As a result, the analysis of target customers' eWOM aims to analyze the product dimensions from eWOM. First, a user would define the target product and the concerned product dimensions. For example, a user establishes a target product as "smartphone" and the product dimension as "camera". Based on the defined product dimension "camera", related seed terms are artificially defined, such as pixel and taking pictures. Nonetheless, such seed terms related to the product dimension might be insufficient that the related terms, based on such seed terms, should be expanded so as to acquire more sufficient related terms. Furthermore, the eWOM preprocessing result in (1)Target Customers' eWOM Selection is preceded the product dimension classification, based on such related terms. As the example of "This mobile phone is expensive" in an eWOM, the term "expensive" often appears with the seed term "price" that the product dimension of "price" is included in the related term stock after term expansion. In this case, even though the term "price" is not mentioned in eWOM, the term "expensive" in target customer's eWOM is still classified into the product dimension "price". Moreover, the related term stock would be adjusted the weight according to the frequency of the term appearing with several product terms, e.g. an eWOM "The camera of a mobile phone is great" in the camera dimension, an eWOM "The battery endurance of this mobile phone is great" in the battery dimension, and another eWOM "The memory of this mobile phone is great, presenting 64GB" in the hardware dimension. The adjective "great" simultaneously appears with several product terms that the adjective "good" in camera, battery, and hardware dimensions would be reduced the weight. Finally, the classified target customer eWOM, according to the product dimension, is analyzed the positive/negative appraisal so that target customers' eWOM present the value for product specification review.

2.1.3. Desirable Product Specification Evaluation for Target Customers

eWOM makes comments on current products; the real specification information of a product must be acquired to make the eWOM appraisal valuable. For instance, a target consumer comments the screen of smartphone A being too small. The real screen size of smartphone A should be acquired in order to clearly know the target consumer's dissatisfaction with the screen size. Web Spider is therefore utilized for collecting current product specification information in this study. Furthermore, such product specification information is established a prototype of Qualitative Product Space (QPS) according to above (2). Finally, the prototype of Qualitative Product Space (QPS) and the product comments in target customers' eWOM analyzed in (1) are evaluated in order to adjust the specifications of current products and further acquire satisfactory product specifications for target customers.

2.2. Development of Desirable Product Specification Identification Techniques for Target Customers' eWOM

Based on the identification process for desirable product specifications in target customers' eWOM described in Section 2, the relevant core methods, including target customers' eWOM selection, target customers' eWOM analyses, and desirable product specification evaluation for target customers, are developed.

2.2.1. Target Customers' eWOM Selection

Target customers' eWOM selection covers customers' eWOM retrieval, target customers' eWOM identification, and eWOM preprocessing, as detailed below.

A. Customers' eWOM Retrieval and Target Customers' eWOM Identification

In order to effectively retrieve and identify target customers' eWOM, eWOM of a target product announced in various virtual discussion communities which are registered with Facebook IDs is first retrieved, such announcers are further judged the personal data for being target customers, and such retrieved eWOM are identified as target customers' eWOM. The identified eWOM is divided into target customers' eWOM and non-target customers' eWOM.

B. eWOM Preprocessing

Target customers' eWOM and non-target customers' eWOM identified in step A. are preprocessed. First, some blanks or special symbols which could result in misjudgment are trimmed. CKIP Client (Academia Sinica, 2011)is utilized for sentence segmentation, word segmentation, and part of speech tagging in order to acquire nouns, adjectives, and adverbs in eWOM.

2.2.2. Target Customers' eWOM Analysis

Target customers eWOM analysis aims to classify the target customers' eWOM of products acquired in Section 2.1 and judge the positive and negative appraisal. Target customers' eWOM analysis mainly involves in five steps, namely product perspective establishment, partial terms definition for product perspectives, term expansion, target customers' eWOM classification by product perspectives, and eWOM polarity analysis.

A. Product Perspective Establishment

Products involved in target customers' eWOM are broad that the product specification dimensions covered in target customers' eWOM should be artificially established before the analysis for the product specification appraisal. For example, the smartphone specification appraisal of a target customer might be defined the dimensions of camera pixel, screen size, and memory capacity. Acquiring the real specifications according to such product specification dimensions, the product specification appraisal in target customers' eWOM could be acquired.

B. Partial Terms Definition for Product Perspectives

According to above product dimensions, synonyms are artificially tagged online (Kuantung Hsieh, 2003)(Ministry of Education, R.O.C. ,1994) in order to look for the related terms as the seeds for the expansion. For instance, some synonymous words related to the battery dimension of a smartphone, including standby time, endurance, battery life, quantity of electric charge, milliampere, and charging, could be defined.

C. Term Expansion

First, according to the nouns, adjectives, and adverbs acquired from the preprocessing in Section 3.1, C-value method is used for selecting important and common terms in daily life. The calculation is shown as Equation (1).

$$\text{C-value}(a) = \begin{cases} \log_2(|a|) \times \text{frq}(a), & a \text{ is not nested.} \\ \log_2(|a|)\left(\text{frq}(a) - \frac{1}{P(T_a)}\right)\sum_{b \in T_a} \text{frq}(b)\right), & \text{otherwise.} \end{cases} \tag{1}$$

where a is the candidate string, $\text{frq}(.)$ is its frequency of occurrence in the corpus, T_a is the set of extracted candidate terms that contain a, and $P(T_a)$ is the number of these candidate terms.

Second, such selected terms and the related terms defined in product specification dimensions are proceeded correlation comparison in order to expand the related terms in the product specification dimensions. The calculation is shown as Equation (2).

$$\text{RlogF}(t) = \text{logfrq}(t, T) \times R(t, T) \tag{2}$$

where $\text{RlogF}(t)$ is the relevance between the term and the product specification dimension, T is the related term in the defined product specification dimension; $\text{frq}(t, T)$ is the number of times the

term t simultaneously appearing with the related term T in the product specification dimension, and $R(t, T)$ denotes $frq(t, T) / frq(t)$.

The related terms in the product specification dimension would be sequenced RlogF, and the terms with larger RlogF are regarded as the related terms in a new product specification dimension. However, the RlogF sequencing could stands for the relevance between terms and product specification dimensions. Consequently, related terms in the dimension need to be adjusted the RlogF sequence in other dimensions. First, the RlogF sequence is quantified with Equation (3). Second, related terms which need to be revised φ because of the RlogF sequence in a different dimension are calculated (Equation (4)). Finally, the correlation between related terms and product specification dimensions acquired with Equations (3) & (4) are calculated with Equation (5). The product specification dimension with the highest relevance is the one in which the terms belong.

$$\eta_i(t) = 1 - \frac{\gamma_i(t)}{|S_i|} \tag{3}$$

where $\eta_i(t)$ is the quantified value of the RlogF sequence, S_i is the set of related terms in the product specification dimension, $|S_i|$ is the quantity of related terms in the product specification dimension, and $\gamma_i(t)$ is relevance sequence of related terms in the product specification dimension.

$$\varphi(t) = \frac{-\sum_{i=1}^{m} \frac{\gamma_i(t)}{\sum_{1 \le j \le m} \gamma_j(t)} \log \frac{\gamma_i(t)}{\sum_{1 \le j \le m} \gamma_j(t)}}{\log m} \tag{4}$$

where m is the number of product specification dimensions correlated with related terms in the product specification dimension.

$$score_i(t) = \eta_i(t) \times (1 - \varphi(t)) \tag{5}$$

D. Target Customers' eWOM Classification by Product Perspectives

Target customers' eWOM classification mainly segments and classifies sentences of related terms in the product dimension in the preprocessed eWOM. For example, "The camera pixel is good, the screen size is small, and the resolution is not bad, but the battery endurance is bad" in an eWOM, three product specification dimensions, camera, screen, and battery, are mentioned. Such three dimensions are segmented into "the camera pixel is good", "the screen size is small, and the resolution is not bad", and "but the battery endurance is bad" for product specification classification to analyze the positive and negative appraisal. The segmentation and classification equations for target customers' eWOM are shown as Equation (6) and Equation (7).

$$U^* \overset{def}{=} \arg\max_{U} J(C, U) \tag{6}$$

$$J(C, U) = \sum_{1 \le i \le k} \left[\delta(u_{i-1}, u_i) \times score_{a^*}(u_i) \right] = \sum_{1 \le i \le k} \left[\delta(u_{i-1}, u_i) \times \sum_{t \in u_i} score_{a^*}(t) \right] \tag{7}$$

where C is the set consisting of *n* sub-sentences, $C = \{c_1, c_2, c_3, ..., c_n\}$, U is the set of *k* paragraphs, $U = \{u_1, u_2, u_3, ..., u_k\}$, $J(C, U)$ judges whether the clauses in the same product specification dimension is segmented into the same segment, u_i, u_{i-1} are the sub-sentences in different product specification dimensions that $\delta(u_{i-1}, u_i) = 1$ when the two sub-sentences are in different product specification dimensions, or $\delta(u_{i-1}, u_i) = 0$, and a^* is the most representative product specification dimension of u_i .

E. eWOM polarity analysis

We manually construct a polarity dictionary includes both of positive sentimental words(good, beautiful, nice, etc.), negative sentimental words(worse, dirty, etc.), and antisentiwords(not, never, etc.)(Shengchieh Kao ,2014).By referring to this polarity dictionary, if this eWOM contains positive sentimental word, it would be judged a positive eWOM, if it contains both of positive sentimental word and antisentiwords, it would be considered a negative eWOM.

2.2.3. Desirable Product Specification Evaluation for Target Customers

According to the product specification appraisal in target customers' eWOM analyzed in Section 2.2.2, a desirable product specification evaluation is developed in this section to derive the product specifications conforming to target customers' preference. Such a desirable product specification evaluation contains existing product specification collection, qualitative product space (QPS) (J.N Lewis et al., 2010) establishment, and product specification evaluation.

A. Existing Product Specification Collection

Based on the product specification dimensions established from product perspective in Section 2.2.2(A), the detailed specifications for current product specification dimensions (such as the camera dimension for a mobile phone iphone 6 with 8 million pixels and 1GB RAM) are manually collected, and a product specification database is constructed.

B. Qualitative Product Space (QPS) Establishment

An empty QPS is established based on the above product perspectives. Product specifications collected in step (A) are then filled in the empty QPS to form the product QPS.

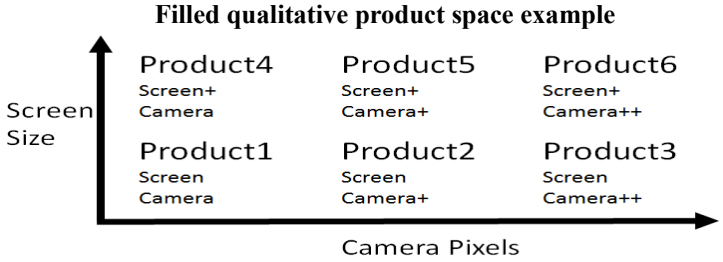
(1) Empty Qualitative Product Space (QPS) Establishment

The above product perspectives are independently established an exclusive coordinate as the product QPS.

(2) Qualitative Product Space (QPS) Establishment with Product Specifications

Product specifications are retrieved from the product specification database, in which the product QPS is filled according to the specifications, Fig. 2.

Figure 2
Filled qualitative product space example



(3) Product Specification Evaluation

Randomly selecting a product in the established QPS as the initial point of the rapid product navigation (J.N Lewis et al., 2010), parts of eWOM are randomly selected from the database to be the target customers' opinions. Based on such opinions, existing products in QPS are navigated till the product QPS does not move (convergent). Finally, the stayed product specifications are those conforming to target customers' preference. The algorithm for rapid product navigation is designed by C#, Table 1.

Table 1
Algorithm for Rapid-Product-Navigation

INPUT: Random eWOMs in one perspective, which is represented $E = \{e_1, e_2, e_{3\ldots}e_n\}$. *Product* means a product's specification in one perspective. Define theQualitative product space in all perspective, which is represented by $QPS = \{q_1, q_2, q_{3\ldots}q_n\}$. T_d and T_p are consts. ***OUTPUT***: A desirable product specification.

int count = 0
foreach q_i in the QPS
while (true)
  if |*positive* in *E* – *negative* in *E*| < T_d
  count++;
  if *positive* in *E* > *negative* in *E* && *positive* in *E* – *negative* in *E* > T_d
  Product LEVEL DOWN;
  count = 0;
  if *positive* in *E* < *negative* in *E* && *negative in E* – *positive* in *E* > T_d
  Product LEVEL UP;
  count = 0;
  if count >= T_p
  break;
  Random another eWOM set *E*;
return *Product*;

RESULTS

This research use smart phone as a case to implement, and choose students as target customers. After Rapid-Product-Nevigation, the desirable smart phone specification for students in Taiwan as follows: Screen 5 inches, Camera 20 mega pixels, Ram 3GB, Rom 32GB, Battery 2600mAh.

We sent out the online questionnaire to evaluate our result and received 325 completed questionnaires. and rated their satisfaction of the perspective specification on a five-point hedonic scale (1 = unsatisfied extremely, 5 = satisfied extremely).

Table 2
Mean specification satisfaction ratings

Perspective	Satisfaction rating
Screen	4.15
Camera	4.56
Ram	4.39
Disk	4.20
Battery	3.00
Overall	4.06

As the result, expect the battery, other perspectives' mean scores are all higher than 4, camera's score even reach 4.56, and overall's score is 4.06. So this methodology is worth consideration for product development.

CONCLUSION

A novel technology for identifying a desirable product specification in target customers' eWOM is developed in this study, aiming to assist an enterprise in rapidly changing target customers' preference and demands into the product planning so as to reduce the time to market for products and enhance production satisfaction of target customers. The main results and contributions of this study are concluded as follows.

(1) Desirable product specification identification model for target customers' eWOM. Aiming at target customers' eWOM, a desirable product specification identification model is designed in this study for an enterprise rapidly transforming target customers' preference and demands into the product planning so as to enhance the product satisfaction of target customers.

(2) Desirable product specification identification method for target customers' eWOM. According to the desirable product specification identification model, a related desirable product specification identification method, including target customers' eWOM selection, target customers' eWOM analysis, and desirable product specification evaluation for target customers, is developed for the implementation of desirable product specification identification mechanism.

(3) Desirable product specification identification mechanism for target customers' eWOM. This mechanism could real-time acquire target customers' opinions about product specifications on online communities, objectively analyze and generate desirable product specifications for the reference of product design and development, as well as satisfy target customers' demands.

The research outcomes could implement the desirable product specification identification mechanism for target customers' eWOM and enhance target customers' satisfaction with product specifications so as to satisfy target customers' demands for product specifications and further promote the product competitiveness of an enterprise in the market.

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RESERCH OBSTACLES IN TOURISM: A STUDY APPLIED TO EGYPTIAN UNIVERSITIES

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ABSTRACT

Research has a key role in sustainable and comprehensive development for any country. The primary body producing research in Egypt is higher education institutions (i.e. universities). It is claimed that the academic research contribution to tourism industry development is limited. This study aims to investigate the challenges of university research. It examines the effect of research challenges on the tourism industry development. Employing structural equation modeling for analysis purposes of 151 questionnaire forms collected from academics, the findings revealed that lack of clear university research policies, weak financial support, university research environment, researchers-related factors, research output marketing challenges, and field-related challenges are negatively affecting the tourism sector development. This study is useful for research policy-makers to set up research priorities to meet the societal needs.

Keywords- Academic research, Challenges, Egypt, Tourism.

INTRODUCTION

At its various levels, research exists as one of the most outstanding factors contributing to the comprehensive development process of industry. In the rapidly changing world, societies aspire to provide rising generations with the knowledge necessary for solving problems and dealing with present and future challenges. Because of their crucial impacts, education and research can be considered the society's most critical investment in human resources. Higher education and research hold a key role in promoting comprehensive development and rapid transformation necessary for nations facing the consequences of globalization. There is a dire need in the Arab world for a complete re-examination of higher education, and research policy in order to work towards enhancing their quality to meet needs of the modern society. In the Arab world, research is mostly linked to higher education institutions (i.e., universities). It is believed that higher education and research constitute the best and the most appropriate model with a primary function of producing and providing advanced scientific knowledge enables progress and builds a better future (Bin Tareef, 2009).

Furthermore, research is an essential component for any country to achieve sustainable and global development. It is also essential for social mobility, the achievement of harmony, justice, comprehensive peace, and most importantly the development of human resources (Karimian, Sabbaghian, Salehi, & Sedghpour2012). Academic research should aim to educate well-aware, autonomous, and responsible citizens committed to national and universal principles, capable of dealing with the challenges of the century and of lifelong learning. It is strongly linked to universities in Egypt where universities are one of the main and popular bodies conducting and producing research. As a result of this linkage between university and research, research was poor in Egypt until 1907 as universities did not exist before that time in Egypt. The establishment of Cairo University in 1908 was the beginning of escalating the number of universities and students joining these institutions (Bond, Maram, Soliman, & Khattab, 2013). Number of universities in Egypt has increased from one public university in 1908 to 27 public universities at present. In addition, 19 private universities, and a small number of public research centers have been established (Ministry of Higher Education, 2014).

Despite the increasing number of universities in Egypt and considering them the main body producing academic research, the Central Auditing Organization, the formal authority of auditing in Egypt, has criticized Egyptian universities for their relatively low output of scientific research compared to universities

in other countries (OECD & World Bank, 2010; World Economic Forum, 2011). The global competitiveness report issued by the World Economic Forum in 2011 has ranked Egypt the 113th out of 142 countries on the quality of scientific research and 83rd on its capacity for innovation (Bond, et al., 2013). This simply leads to the fact that research in Egypt occupies the tail position of global rankings. Therefore, this study investigates the challenges facing the quality of scientific research produced by universities. It examines the determinants of research produced in tourism and hospitality sector and its contribution to solving the developmental problems of the sector. There are very few studies, if any, looking at the challenges of tourism and hospitality research and its contribution to the sector development (Rosen College of Hospitality Management, 2013). This study is very useful for policy-makers seeking the effective contribution of academic research in developing tourism field. In the following sections, the study discusses the challenges of tourism research, its contribution to the field development, research framework and hypotheses development, as well as research methodology, findings and discussion.

LITERATURE REVIEW

1.1. Brief Overview of Academic Research in Egypt

There is a belief that the poor Arabic economic performance is a result of the lack of focus on knowledge and research as one of the main development pillars (El Baradei & El Baradei, 2004). The community of scientific research in Egypt is suffering a climate of frustrations, which squandered several chances for contribution to the development of the country. There is a lack of coordination between the institutions of scientific research and development authorities in Egypt. In addition, Egypt lacks the appropriate mechanisms for marketing the product of research centers and transfer of research to the application stage (Belal & Springuel, 2006).

Generally, the funding of the research system in Egypt is provided primarily by the Ministry of Finance based on planning documents developed by the Ministry of Planning in consultation with the Ministry of State for Scientific Research. The funding for university research is very low, limiting the universities' ability to play an important role in the generation and dissemination of knowledge. At 0.2%, of GDP, Egypt spends ten times less than the best OECD performers, and is only at half the average level of expenditures in the Arab region (OECD & World Bank, 2010).

As for well-educated researchers, the country supports the mobility of academic staff. Mobility not only provides participating individuals with an international experience and contacts with peers abroad, but eventually will be translated into research activities back home. In the case of Egypt the efforts being made on mobility appear not to be driven by strategy, at either the system or institutional level (OECD & World Bank, 2010). In addition, a small percentage of university postgraduate students has the opportunity to read for their PhD abroad being fully-funded by the government. However, Egypt has been steadily losing scientists. Two thirds of the postgraduates studying overseas in the late 1990 and early 2000 did not return home (Bond, et al., 2013). It is estimated that there are more than 6500 Egyptian PhD holders working as faculty members and researchers in universities in Europe, North America and Australia (OECD & World Bank, 2010). This is due to factors hindering research such as limited national funding, increasing cost of applied research, inadequate networking, inadequate coordination between different research organizations, poor dissemination and use of research findings, in addition to better career for them abroad.

1.2. Challenges of Tourism and Hospitality Research, and Research Hypotheses Development

Unfortunately, tourism research did not provide an interactive international platform for academics and industry practitioners from diverse backgrounds and interests to meet critical issues that will affect the future direction of tourism research and practice. Also, there is a lack in promoting mutual dialog, interaction and understanding of various stakeholders of tourism research outputs, including academic researchers and scholars, industry professionals, and government officials (Rosen College of Hospitality Management, 2013). In addition, many tourism researchers have been deeply criticized for a disappointment to advance research addressing fundamental social and political questions, preferring to focus instead on small-scale, technically-based problem-solving research (Corbyn, 2008; Tuchman, 2009).

There are 8 faculties of tourism and hotels belong to public universities in Egypt in addition to 2 faculties belong to private universities and many private tourism and hotel institutes (Ministry of Higher Education, 2014). Despite having this number of faculties in Egypt, very few studies targeted the academic researchers to clarify the perceived challenges of them to produce high quality research solving the obstacles to industry development. Filling this gap, this study has examined and classified the challenges of research in tourism field to five main categories: university research environment, financial factors to support research, university research policies, research marketing, and researchers' related factors.

1.2.1. University Research Environment

University research environment refers to the university and faculty's support provided to researchers to help them produce high quality research. This support could include the clear policy of research, setting up research priorities, and procedures of educating and improving the quality of researchers and post-graduate students. The research environment in universities significantly affects staff members and postgraduate students, the main categories producing academic research.

As for staff members, although more than one third of the total number of faculty members employed in Egyptian public universities is professors or associate professors, their research capacity is low as a result of being engaged in teaching, in addition to their need to be well-prepared and qualified continuously to do high quality research. The low-level skills of research and teaching duties of staff members have also affected postgraduate students, where supervisors do not have enough time to guide their research students and help them overcome any research obstacles. This eventually has led to the fact that universities do not have a meaningful role to play in the research and development due to the lack of standards and criteria for measuring performance and contribution to relevant fields (OECD & World Bank, 2010). Based upon the above argument, the first hypothesis of the study was developed as follows:

H1: University research factors have a negative effect on the contribution of academic research in solving tourism sector problems.

1.2.2. Financial Support

Financial challenges refer to the financial allocations to support scientific research, research excellence, scholars and incentives, and the different requirements for research such as laboratories, equipment and periodicals. Farajanee (2000) reported that the expenditure of Arab states on research is almost the lowest in the world. The governments in most Arab countries serve as the primary or sole source of research funding. One reason of low quality research is the lack of financial incentives for university staff members (OECD & World Bank, 2010). In addition, the financial allocations for attending international conferences or publishing in international periodicals are at minimum level.

On the other hand, the governmental funding allocation for scientific research has never exceeded 0.5% of the GDP. Researchers, particularly in humanities and social sciences have been suffering from severe shortage and even lack of any funding allocated to conduct research. A revolutionary change has taken place in 2014, where it has been decided to allocate 1% of the GDP for scientific research (Egyptian Constitution, 2014). As claimed earlier by OECD & World Bank (2010), at 0.2%, of GDP, Egypt's expenditure on scientific research is very low. Based upon the above argument, the second hypothesis of the study was developed as follows:

H2: financial support has a negative effect on the contribution of academic research in solving tourism sector problems.

1.2.3. Researchers-related Factors

In a study conducted by Al-Furaih and Al-Shayji (2005) in Kuwait to examine obstacles to scientific research encountered by faculty members in research sponsored projects, the results indicated that the major obstacles were inherent in the excessive number of procedures that reduce their incentives to apply for funding. Additional challenges include the inadequacy of qualified research assistants, and the preoccupation of the faculty members in administrative duties and teaching assignments.

Furthermore, potential researchers in universities lack the facilities and adequate funding and incentives to engage in research activities (OECD & World Bank, 2010). Other factors include inadequate networking

and coordination between different research organizations to support researchers (Bond, et al., 2013). A further challenge of research is the lack of motivation of staff members to do research except for promotion purposes (Karimian, et al., 2012). In addition, academic staff members at universities frequently and even regularly manage their research productivity independently without or may be with limited support and guidance from institutional administrators (Bowen, 2005). Based upon the above discussion, the third hypothesis of the study is:

H3: Researchers-related factors are negatively effecting the contribution of academic research to solving tourism sector problems

1.2.4. Research Policies

In a study by Bin Tareef (2009), the results revealed that there is a lack of strategic planning for research. In addition, there is an absence of clear scientific policies and strategies. Unclear policies linked to national priorities have led to research output that is not linked to industry development. One key challenge for research priorities in Egypt is the need to have a research model that is responsive to societal needs and is carried out by multidisciplinary teams of researchers (OECD & World Bank, 2010).

The separation of public research institutions from the university and the lack of strong links and co-operation between the two bodies hinder the ability of universities to effectively provide training for adequate number of masters, doctoral students and post-doctoral staff members who will be the infrastructure of research development in the future (OECD & World Bank, 2010). A clear policy for protecting the copyrights of researchers is still missing in universities resulting in the spread of plagiarism concerns (Bin Tareef, 2009). The key factor in the absence of research policies is the lack of a strategic plan for research within university (Karimian, et al., 2012). Build upon the mentioned challenges, the fourth hypothesis of the study was formulated as follows:

H4: A lack of clear research policies is negatively effecting the contribution of academic research to solving tourism sector problems

1.2.5. Research Marketing

Djeflat (2009) claimed that the lack of a clear vision of universities in promoting scientific and technological researches is a key factor limiting the contribution of research to industry development. Belal and Springuel (2006) added that one serious challenge for scientific research is promotion, particularly publication of results in scientific periodicals. The fact that USA, the UK, Australia, New Zealand and Canada accommodate over three-quarters of tourism and tourism related journals and their editors (Lew, Hall, & Williams, 2008) have resulted in the fact that journals output is dominated by institutions in the same countries (Jogaratnam, Chon, McCleary, Mena, & Yoo, 2005).

Mobility of staff members, attending international conferences and workshops, and participating in international research projects are various mechanisms of promoting research output. However, the fact that universities have limited funding to support these activities limits their ability to interact with industry stakeholders seeking solutions for their work problems. The absence of a strategy to publish conference papers and research articles on an international-scale decreases the opportunity of research contribution to industry and does not motivate researchers to produce high quality research. Therefore, the fifth hypothesis of the study is:

H5: A lack of marketing activities of academic research output is negatively effecting the contribution of academic research to solving tourism sector problems.

1.2.6. Field-related Challenges

Tourism sector is similar to other fields in Egypt in which industry is not actively cooperating with academic institutions. In addition, many universities in the Arab world operate in seclusion from their surroundings, and unable to open up and interact with society (Abdul-Haqq, 2002). The tourism and hospitality sector is fragmented and the response to academic research is weak. The chronic gap between the industry and academia is not limited to the Arabic world (Abou-Shouk, Abdelhakim, & Hewedi, 2014).

Some challenges relate to the tourism field are the difficulty of getting reliable information from the industry, the lack of response of industry to academic calls of participation in conferences and workshops.

Even the requests of academic community to industry, to provide their real problems to enable researchers study and solve these problems, have had a very weak response. Therefore, the sixth hypothesis of the study was developed as follows:
H6: Field-related challenges are negatively effecting the contribution of academic research to solving tourism sector problems

1.2.7. Research Contribution to Tourism Sector Development

The fact that many universities in the Arab world operate in seclusion from their surroundings has kept academia removed from reality and out of touch with actual dimensions of society's problems (Abdul-Haqq, 2002). This removal leads to weak contribution of academic research to industry development. Add to this, low-quality research and unclear goals of the field's research (Al-Nashif, 2001) resulted in lack of contribution to industry development. The gap between the university's interests and society's concerns is another challenge for research contribution to industry development (Al-Yusuf, 2000).

Furthermore, Murphy (1996) quoted that low research capacity, tension between academics and practitioners, and lack of impact are most common challenges of the weak impact of research on society development. Hillage *et al.* (1998) added that research does attempt to tackle issues that are relevant to policy and practice although it is often inadequate and lacks quality and impact on solving industry problems. Despite the weak contribution to the field, Ren *et al.* (2010) concluded that in spite of the challenges facing tourism research, the field has much to build on and to be hopeful about. This requires tourism scholars to have the self-assurance to reach out to new coalitions, alliances and agendas. Therefore, it is hypothesized that:
H7: Weak contribution of academic research in solving sector problems is negatively affecting the sector development.

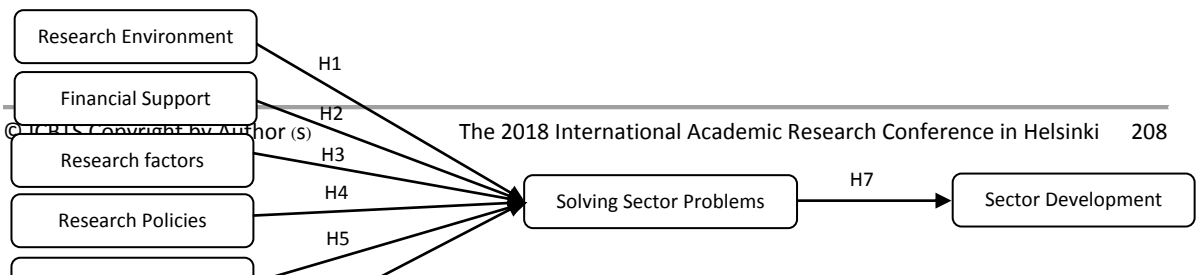
RESEARCH FRAMEWORK

Building upon the research challenges cited in literature review, the conceptual framework conceptualizes the causal relationships among research challenges on the one side, and the development of tourism and hospitality sector on the other. This causal relationship is mediated by the contribution of tourism and hospitality research to solving the problems of the sector. The conceptual framework includes six independent variables (challenges) that affect the contribution of tourism and hospitality research to solving sector problems (mediator). Furthermore, the contribution to solving sector problems and its effect on the development of the sector (dependent variable) is another assumed causal relationship. From Figure 1, seven hypotheses were developed to measure the cause-effect among constructs. The first of the sixth hypotheses (H1) measures the effect of university-related factors on solving sector problems. From H2 to H6, hypotheses measure the effect of financial support challenges, research-related factors, research policies, research marketing activities, and tourism field related factors on the contribution of research to solving tourism and hospitality sector problems respectively. The seventh hypothesis investigates the relationship between solving sector problems and its contribution to sector development.

RESEARCH METHODOLOGY

The deductive approach employing quantitative method was used in this study to test the hypothesized model of challenges. A questionnaire was used for data collection purposes. The form was developed based on literature review. Forty four items were employed to measure the causal relationships between factors related to researchers, research policies, marketing, university environment, and tourism field on the one hand, and the contribution of

Figure 1
Hypothesized Research Model



these factors to development of tourism and hospitality sector on the other. This relationship is mediated by the contribution of tourism and hospitality research in solving the problems of the sector.

From the 44 items, the initial questionnaire form included 4 items to measure researcher related factors: researchers have sufficient education and training to do better research, researchers have enough time to do good research, researchers have high self-esteem to do research, and getting promoted is a secondary motive for researchers to do research. 9 items were used to measure the factors relate to research policies: there is a clear research policy of your university, faculties have a clear research policy, the faculty research policy is linked to society problems, there are declared procedures to do/ join research teams in university, there is a strategy to protect copyrights of researchers, faculties declare their annually research plan, junior researchers are trained to do research in university, specific criteria of supervising junior researchers are declared, and faculties have specific procedures to help researchers overcome research obstacles.

In addition, 6 items were used to measure the factors relate to the university environment: supervisors have enough time allocated to directing their research students, junior researchers are freely choosing their research strategy, supervisors employ up-to-date researches to help their students, there are clear simple procedures of doing research in university, emergent research topics are discussed in faculties' scientific seminars, and faculties are practically helping researchers to overcome any research obstacles. 8 items were used to measure the factors relate to marketing tourism and hospitality research: university markets industry-beneficial research, there is enough information to help researchers publish their research in tourism periodicals, faculties of tourism and hotels have their own periodicals to publish tourism research, faculties have clear procedures for researchers to present in their conferences, faculties market good research papers presented in their conferences, faculties have a clear policy to market their research projects, faculties have a recommended list of periodicals and journals for publishing research, and there is a kind of coordination between faculties and publishers to publish research papers.

Furthermore, 9 items were used to measure the financial factors to support research: university funds good research papers/ projects, in general, university is financially supporting research, university funds conference attendants inside/ outside Egypt, university contributes to scholarships funding of researchers, university provide incentives to encourage researchers, university provides sufficient facilities (laboratories, materials..etc) to support research, buying references and other sources of research is cheaper in Egypt, faculties have libraries with relevant references for research, and libraries' procedures to obtain scientific resources (books, journal articles…etc) are simple.

Additionally, 6 items were used to measure the factors relate to research in tourism and hospitality field: public relevant authorities cooperate with researchers providing needed data (reports, statistics..etc), private relevant enterprises cooperate with researchers providing needed data, accurate updated statistics of tourism and hospitality sectors are available, it is easy to get publications of other universities and research centers, there is an accurate updated research database for tourism researches, and quality procedures are followed in tourism research. One item was used to measure the mediating variable: contribution of tourism and hospitality research in solving the sector problems, and another was used to measure the outcome variable: contribution of tourism and hospitality research in developing the sector. The questionnaire form comprised a series of Likert-type (1-5 disagree/agree) statements to measure the above-mentioned dimensions of the study.

The initial form was validated by a panel of academics and comments given by the panel were considered in the final form. Later, the form was piloted on 50 respondents to check its construct validity.

Corrected item-total correlation statistics were obtained and based on the recommendations of Netemeyer, Bearden, and Sharma (2003) that items below 0.35 should be excluded from the form, 3 items were excluded from the dimension of research policies: faculties have a clear research policy, there are declared procedures to do/ join research teams in university, and specific criteria of supervising junior researchers are declared. Another 3 items were excluded from marketing dimension: faculties have clear procedures for researchers to present in their conferences, faculties have a clear policy to market their research projects, and there is a kind of coordination between faculties and publishers to publish research papers. In addition, three items were excluded from financial support dimension: university contributes to scholarships funding of researchers, university provide incentives to encourage researchers, and libraries' procedures to obtain scientific resources (books, journal articles…etc) are simple. The final form retained 35 out of 44 items to measure the 8 dimensions of the study. Reliability tests of the amended constructs revealed reliable findings. Employing structural equation modelling, the advanced multivariate technique, to measure complicated causal relationships among constructs of the study makes it a highly appropriate analytical approach for this research (Olsson, Foss, Troye, & Howell, 2000). WarpPLS version (4) was used to conduct the structural equation modelling analysis.

As for the sample of the study, the questionnaire form was sent to postgraduate students and staff members in 7 public faculties of tourism and Hotels in Egypt using simple random sample technique. 151 responses were collected, valid and free of missing data, for data analysis purposes. Measurement and structural models were obtained and validated based on the fit indices cited by Kock (2013). To assess model fit, indices include average path coefficient (APC), average R-squared (ARS), average adjusted R-squared (AARS), average block variance inflation factor (AVIF), and average full collinearity VIF (AFVIF). APC, ARS and AARS should have P values equal to or lower than 0.05 while AVIF and AFVIF values should be equal to or lower than 3.3, particularly in models where most of the variables are measured through two or more indicators. Composite reliability statistics and Cronbach's alpha should be 0.7 or above to verify the reliability of the measurement model (Hair, Anderson, Tatham, & Black, 1998). Furthermore, average variance extracted (AVE) should be equal to or higher than 0.50 to verify the convergent validity of the model (Fornell & Larcker, 1981).

RESEARCH FINDINGS

2.1. Descriptive Statistics

Descriptive statistics depict that 75.5% of respondents are males and 24.5% of them are females, 43.7% of respondents are between 31 and 40 years old, 29.8% of them ranged from 25 to 30 years, 8.6% of respondents fall between 18 and 24 years, and the rest is aged above 40 years. 41.1% of respondents have PhD qualification, 37.7% of them are reading for PhD, 16.6% are reading for MSc. and 4.6 have MSc. 79.5% of respondents are working in the public sector, 15.2% in private sector, and 5.3% are self-employed.

Looking at the mean values, it is revealed that the respondents disagree with research related factors (mean value of 1.83), research policies (mean= 1.29), and tourism field related factors (mean= 2.43). However, respondents have neutral opinions towards university research environment (mean=2.56), research marketing practices (mean= 2.70), and financial support (mean= 2.92). Although respondents believe that doing research helps to some extent to solve the sector problems (mean= 3.88), they think that that extent to which research solves the problems of the sector does not sufficiently develop the sector (mean= 2.66).

2.2. Measurement Model

The measurement model measures the relationships between the observed variables (indicators) and the unobserved variables (constructs) (Hox, 2010). Table 1 depicts the structured loadings of indicators, Cronbach's alpha, composite reliability, and AVE of constructs.

Table 1
The Measurement Model

Constructs (reflective)	Loading	Effect Size	AVE	SQRT AVE	CA	CR
University Research Environment						
Supervisors have enough time to directing their research	0.802	0.209	0.513	0.716	0.805	0.862
Junior researchers are freely choosing their research	0.650	0.137				
Supervisors employ up-to-date researches to help their	0.850	0.235				
There are clear procedures of doing research in university	0.623	0.126				
Emergent research topics are discussed in faculties'	0.615	0.123				
Faculties are practically helping researchers to overcome	0.723	0.170				
Financial Support						
University funds good research papers/ projects	0.799	0.177	0.602	0.776	0.865	0.900
In general, university is financially supporting research	0.833	0.192				
University often funding local/ international conferences'	0.792	0.174				
University provides sufficient facilities to support research	0.718	0.143				
It is cheap to buy references and other sources of research	0.842	0.196				
Faculties have libraries with relevant references for research	0.653	0.118				
Researcher-related Factors						
Researchers have sufficient education and training to do	0.678	0.206	0.559	0.748	0.753	0.835
Researchers have enough time to do good research	0.760	0.258				
Researchers have high self-esteem to do research	0.725	0.235				
Getting promoted is not the main motive for researchers to	0.821	0.302				
Research Policies						
There is a clear research policy of university	0.775	0.190	0.527	0.726	0.814	0.867
The research policy is linked to society problems	0.873	0.241				
There is a strategy to protect copyrights of researchers	0.715	0.162				
Faculties declare their annually research plan	0.549	0.095				
Junior researchers are trained to do research in university	0.760	0.183				
Faculties have specific procedures to help overcome	0.638	0.129				
Research Marketing						
University markets industry-beneficial research	0.752	0.199	0.568	0.754	0.803	0.865
There is enough information to help researchers publish	0.532	0.100				
Faculties of tourism and hospitality have their own	0.789	0.219				
Faculties market good research papers presented in their	0.853	0.256				
Faculties have a recommended list of journals for	0.801	0.226				
Tourism Field-related Factors						
Public relevant authorities cooperate with researchers to	0.907	0.251	0.547	0.739	0.821	0.874
Private relevant enterprises cooperate with researchers to	0.839	0.214				
Accurate and updated statistics of tourism sector are	0.782	0.187				
It is easy to get publications of other universities and	0.759	0.175				
There is an accurate updated research database for tourism	0.619	0.117				
Quality procedures are followed in tourism research	0.429	0.056				

Note: AVE: Average Variance Extracted, SQRT AVE: Square Root AVE, CA: Cronbach's Alpha, CR: Composite Reliability

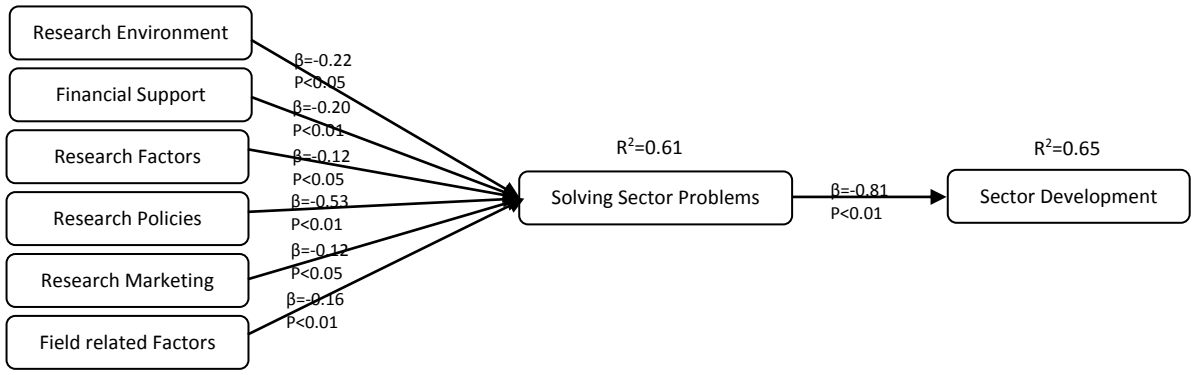
Looking at Table 1, it is revealed that the measurement is valid where statistics of AVEs are greater than 0.50 verifying the convergent validity and square root AVE (SQRT AVE) are greater than correlations among constructs evidencing the discriminant validity. Furthermore, the measurement model is reliable where Cronbach's alpha and composite reliability statistics are greater than 0.70. Medium effect sizes of indicators in the model are revealed that significantly contributing to their constructs.

2.3. Structural Model

The structural model measures the causal relationships among constructs. For the model fit indices, APC=0.309, P<0.001, ARS=0.631, P<0.001, AARS=0.621, P<0.001, AVIF=1.572, AFVIF=1.677, and large Tenenhaus GoF=0.647, which all falls within target values. It is revealed that university research environment is negatively affecting the research contribution to the sector ($\beta_{Env \rightarrow Solv}$=-0.22 and P<.01) (H1), financial support is negatively affecting the contribution of research to the sector ($\beta_{Fin \rightarrow Solv}$=-0.20 and P<.01)(H2), researcher-related factors are negatively affecting the contribution of research in solving the sector problems ($\beta_{Res \rightarrow Solv}$=-0.12 and P<.05)(H3), research policies are negatively affecting the contribution of research to the sector problem-solving ($\beta_{Pol \rightarrow Solv}$=-0.53 and P<.01) (H4), marketing practices are negatively affecting the research contribution to the sector ($\beta_{Mar \rightarrow Solv}$=-0.12 and P<.05)(H5), and field-related factors are negatively affecting research contribution to solve tourism sector problems ($\beta_{Res \rightarrow Solv}$=-0.16 and P<.01) (H6) (Figure 2).

In sum, the lack of qualified researchers, lack of clear research policies, unsuitable research environment, weak marketing activities of research, weak financial support, and some factors relating to the field have a negative effect on the research contribution to solving the tourism sector problems. These factors explain 61% of weak contribution of research to tourism sector problem-solving. In turn, the lack of contribution to solve sector problems is negatively affecting the development of the sector ($\beta_{Sol \rightarrow Dev}$=-0.81 and P<.01) (H7), failing to solve sector problems explains 65% of weak research contribution to the tourism sector development. Therefore, statistically, the research hypotheses are supported.

Figure 2
The Structural Research Model



2.4. Discussion of Findings

Critically analyzing the revealed findings, it is clear that the absence of clear research policies is the highest factor affecting the contribution of research to the sector problem-solving. This implies that the universities have tourism and hospitality faculties lack a clear research policy by which a road map of research priorities is identified considering the sector problems. This absence of policy might be due to lack of the link between universities and industry where the real problems of the industry are not recognized by academics and there is no real contribution of academia to the industry challenges. Failing to have an identified research plan, annually declared, makes researchers randomly selecting research topics that might not be relevant to the sector or studied theoretically far away from the sector realities. Furthermore, having a research policy that does not link to the society problems makes it irrelevant leaving aside the real problems challenging the field. However, having a clear research policy linked to society and sector challenges without well-educated and trained researchers leads to no real contribution of research to the sector. The fact that researchers are not well-trained to do research is evident in Egypt. Junior researchers lack guidance and support during their early stages in research. In addition, the failure to protect the copyrights of researchers in Egypt and the rules enabling supervisors to use their students' work discourage junior researchers' creativity. Failing to have specific procedures to overcome research obstacles leads to low-quality research produced. These procedures could include the follow up with Msc. and PhD researchers, coordinating data collection process with relevant bodies, providing materials needed for their research and educate them on publishing concerns revealed into weak researchers and irrelevant contribution of their research. These

findings are in line with Bin Tareef (2009) who reported that clear scientific research policies and strategies in universities are absent, and OECD & World Bank (2010) who mentioned that research output is not linked to industry development, and (Karimian, et al., 2012) who concluded that the key challenge for research priorities is the lack of response to societal needs.

Research environment is the second factor affecting research contribution to tourism and hospitality sector development. It is the university atmosphere that enables researchers to do research. In that environment, the fact that researchers, particularly staff members, have a lot of burdens teaching students. Teaching is the top priority of staff members. Aside from teaching, staff members have the responsibility of supervising post-graduate students which needs time and effort. The fact that staff members have enough time to do research is a myth. Therefore, this is another reason of why junior researchers lack the sufficient time, and support of supervisors resulting in not well-educated researchers. What is more, employing the updated researches of supervisors to educate and guide their students is lacking. Even in faculties' seminars, discussion of emergent research topics and advances in the field is absent. Lacking a clear research policy leads to unplanned environment to assign articulate roles for supervisors and researchers to do research. In addition, faculties do not have much to do if students struggle in collecting data, conducting interviews with senior managers, or providing enough facilities and materials to do their experimental research. Therefore, it is factual to claim that the university environment does not support the research process and their top priority is teaching process, particularly with free university education to students funded by the government. This finding is consistent with OECD and World Bank (2010) citing that universities do not have a meaningful role to play in the research and development.

Financial support is a crucial factor predicting the contribution of research to sector development. Where universities are funded by the government, a certain percentage of their budget is spent on research. The priority is given to have prepared facilities for researchers (i.e. laboratories, materials, and libraries with relevant recent sources of knowledge). Although having a budget assigned to buy new and recent references, it is expensive for researchers to buy references if the university library does not have it. Sometimes, the lack of materials required for scientific purposes is another reason for low-quality research. Despite of the recent start of universities to fund good research papers/ projects, this is still too limited and follows long series of procedures to get the grant. Rewarding good research is still a limited culture that needs to expand in the Egyptian universities. Additionally, according to regulations, university funds conference fees and travel tickets only and researchers pays for accommodation and living costs. For international conferences, university funds fees and tickets once every two years. In a stage that junior researchers need to exchange knowledge and experiences with international peers, it is difficult for them to do so without significant contribution from universities. Furthermore, funding training courses for junior researchers is limited leading to unqualified researchers at the end. To sum up lack of financial support is critically affecting the quality of research and researchers and this in turn affecting the contribution to the sector development. This finding is concurrent with Farajanee (2000) that the expenditure of Arab countries on research is almost the lowest in the world, and OECD and World Bank (2010) reporting that low-quality research is a result of low financial support.

Field-related factors have an effect on research contribution to sector development. This construct implies the chronic lack of cooperation and appreciation of industry for academics. Most professional managers believe that academia is totally separate from reality; they do not pay attention to research and researchers. More often, they do not welcome researchers for interviews or filling their questionnaires and so on. Moving to public sector authorities that have updated reports and statistics on the sector, most often, it is difficult for researchers to get these relevant materials for their research which leads to research so far behind reality. Even having an accurate and updated database of theses, conference proceedings, and journal articles is lacking in the Egyptian universities. In addition, where the research process is fragmented among universities, industry, and public bodies, it is hard to have certain quality procedures followed, and the end result is a research output that is too far behind the realities of the sector and lacks contribution to the field. This finding is in line with Abdul-Haqq (2002) and Abou-Shouk et al. (2014) who asserted that the gap between academia and industry is one main reason that universities work far from their surroundings and industry does not support universities providing researchers with real problems, enough, accurate, and updated information to work on and solve these problems, and the result is weak contribution to the field.

One of the most important factors in research contribution to the field is marketing research output. Most academic institutions could have good research and could be useful to industry if researches are promoted. This could motivate researchers to innovate. This puts the responsibility on academic institutions that do not have good marketing practices for their resources of research that could be transformed to be a source of revenue for them. Unfortunately universities do not have good and wide marketing channels to market their research products. Encouraging researchers to publish their theses, research projects or research papers in international periodicals is still limited. Therefore, good suggestions and recommendations of researchers for society and industry problems might remain on library shelves only. Providing outlets to market research could be done in two ways. The first is a faculty can have its own periodical to publish local research. The second is holding conferences and inviting industry professionals and issuing a proceeding with the presented papers. Although these are good practices of marketing but neither are marketed. Therefore, the problem persists and industry-beneficial research is still lacking. Even in conferences, although academics invite professionals, the latter rarely responds claiming they are busy having more important concerns. Another good practice of marketing research is recommending a list of journals for researchers to publish their work in. This is still not practiced in the field of tourism and hospitality in Egypt, reflecting a shortage in marketing practices of research in academic institutions in Egypt. This finding is in line with Djeflat (2009) and Belal and Springuel (2006) claiming that universities lack a clear vision of promoting scientific researches output.

Researchers are the core component in the research process. Some factors adversely affect their role in producing better research. Lack of well-educated and trained researchers is the main barrier to research contribution to the field. Weak researchers are the outcome of a mixture of the above mentioned factors. Another reason is the burdens of teaching and having no enough time to do research. Researchers are not self-motivated to do research. One main reason for doing research is to get promoted. Publishing local papers and/or attending conferences improve chances of promotion. This is another reason why researchers do not have to publish internationally although internationally published papers carry more weight in competition for promotion. Lack of encouragement for researchers to form or join research teams and the long time and effort involved in international publications are additional reasons for the low-quality research that in turn does not contribute to managing and solving the problems facing the industry. In the end, this leads to very weak contribution to development in the field and strengthen the belief of industry professionals that academics are far behind the real challenges of the field.

CONCLUSION AND IMPLICATIONS

This study aimed at investigating the factors affecting the contribution of research to the development of tourism sector. These factors include research policies, research environment, marketing practices, financial support, field and researchers-related factors. Theoretically, this study contributes to the extant knowledge and it is one of very few studies investigating the challenges of tourism research contribution to industry development in the Egyptian context. It incorporates different constructs to build the challenging model in tourism sector in a developing country, Egypt. It touches very critical factors and introduces a model that explains and answers the question of why educational research does not significantly contribute to tourism sector development.

Practically, this study provides education policy-makers with important insights to develop the research contribution to industry. The fact that research should respond to society needs should be the priority of university research. Promoting research output useful to industry should be stressed in the university research policy. Encouraging researchers and rewarding them for international publications should be provided. The need of academics to establish links with industry is a must. Industry professionals on the other side have to report their challenges to academics and try their solutions, discuss their suggestions, and evaluate their impact on the sector development.

This study has a number of recommendations to academics and industry. As for academics, the university should have a clear research policy considering the national priorities and address the societal needs. Incentives should be provided to encourage researchers to do good research; rewarding those publishing internationally in journals with impact factor should be the prevailed culture in the universities. Promoting the research output is necessary to activate the effect of research on sector development.

Expanding the ability to staff mobility internationally is necessary for gaining knowledge and exchanging experiences and is a good introduction of international cooperation among researchers (i.e. research teams, research projects…etc). Universities should introduce the service of consultancies to industry; this could be useful to learn about the sector challenges. Excellence research centers could be a good service to introduce to industry. Evaluating the effect of university research on industry development should be done annually, and having a strategic plan for enhancing research quality should be set.

As for tourism industry, there is a need to cooperate with academic side, attending their conferences, seminars, and workshops. Professionals should help academics to learn about their challenges and help them solving it. Bridging the gap between academia and industry is useful for both parties. Supporting good research production could be a social responsibility towards junior researchers.

This study has a number of limitations; first it takes the academic side and investigates their challenges and lack of contribution of their research to industry development. It limits the research to educational research done in universities. Industry professionals should be involved as well and a discussion of their beliefs towards the weak contribution of research to the field should be introduced. This study is limited to tourism and hospitality research and is not generalized to all sectors and academic disciplines in Egypt. Limiting this study to quantitative methods is another limitation as more expansion and interpretation can be obtained from qualitative research.

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SUPPLY-SIDE PERSPECTIVES ON THE MARKET FOR TOURISTS WITH DISABILITIES IN KOREA

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ABSTRACT

The purpose of this study was to examine the supply-side perspectives of the market for tourists with disabilities in Korea, and the differences, if any, between two representative sectors: accommodation and travel agency. A self-administered questionnaire was developed and distributed to employees of the sectors via e-mail and on-site visit. A total of 369 responses were used for data analysis. Major findings include firstly, employees of the two sectors agree that the people with disabilities have the same right and desire to travel as people without disabilities have; however, they do not seem to recognize the economic potential of the market. Secondly, the two sectors are ill-prepared for the market, albeit the state of readiness is better in the accommodation sector than in the travel agency sector. Implications of the results are discussed.

Keywords: Market for tourists with disabilities, Perception, Readiness states, South Korea, Tourism industry

INTRODUCTION

To date, it is estimated that about 650 million people (approximately 10% of world's population) have a disability, defined as including those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others." (United Nations, 2006) In the case of the European Union (EU), 80 million people are registered as people with disabilities (European Commission, 2010), whereas the number of people with disabilities in the US is expected to reach 100 million by 2030 (Burnett & Baker, 2001). In Korea, the registered people with disabilities were about 2.5 million by the end of December, 2013 (Ministry of Health and Welfare, 2013). Considering the aging trends worldwide, the number of people with disabilities is expected to continually rise (Genoe & Singleton, 2009). In general, the market for tourists with disabilities has not gained much attention from the tourism industry since the nature of the industry is oriented by economic profitability and efficiency. As such, the disabled consumer/user has been invisible in the context of tourism.

However, the situation is changing little by little due to unprecedented interest in the market. Some researchers (Darcy & Pegg, 2011; Dwyer & Darcy, 2008; Israeli, 2002; McKercher et al., 2003; O'Neill & Knight, 2000; Ozturk et al., 2008; Ray & Ryder, 2003) have emphasized that people with disabilities have much the same travel desires and motives as their counterparts. Furthermore, it is suggested that tourists with disabilities have economic potentiality as a niche market (Yau et al., 2004). The Disability Discrimination Law enactment by many countries (e.g., US, UK, Australia, etc.) and international declarations (e.g., UN Convention on the Rights for Persons with Disability) have also contributed to this change. Tourism environments have become more disability friendly. However, a plethora of evidence exists showing disability unfriendliness. The tourists with disabilities still suffer from inaccessible tourist facilities and information as well as travel industry employees' lack of knowledge on the people with disabilities and inappropriate disability services.

For people with disabilities to fully participate and enjoy tourism activities, many stakeholders, including the disabled themselves, should collaborate to create complete and appropriate tourism environments. In this sense, the role of tourism companies becomes extremely important since they are responsible for fulfilling travel desires of people with disabilities and motives with tourism products and services. Unfortunately, as of now, little research has been conducted concerning the best methods to serve market for tourists with disabilities from supply-side perspectives. This research seeks to bridge this gap. Therefore, the purpose of this study was to investigate the supply-side perspectives of market for tourists with disabilities in Korea. More specifically, this research identifies (1) tourist companies employees' overall perceptions of the market for tourists with disabilities, (2) tourist companies' current readiness states for the market for tourists with disabilities, and (3) the differences in terms of (1) and (2) between two representative sectors of tourism businesses (i.e., accommodations and travel agencies). As exploratory research, this study was expected to identify useful implications for expanding the size of market for tourists with disabilities in Korea.

LITERATURE REVIEW

1. The potentiality of the market for tourists with disabilities

The potentiality of the market for tourists with disabilities is related to the travel demands of people with disabilities; however, little research has been conducted to identify demand. Thus, it can be only inferred either from travel related characteristics of people with disabilities or from their general consumption sizes or from several fragmented studies. Studies have identified some characteristics of tourists with disabilities (Turco et al., 1998; Westcott, 2004): they have the same travel desires and motives as people without disabilities; though not all, many of them have enough wealth to travel and willing to pay for the expenses associated with traveling; they tend to travel with other care-givers due to their physical, sensory or mental limitations; they tend to avoid crowded tourist sites; and they are loyal to service providers who are able to meet their specific needs.

Prager (1999) had cited a *Wall Street Journal* article which indicated that population of people with disabilities would occupy a significant market portion in every sphere of consumption, including tourism, by 1999. Harris Interactive Market Research conducted several studies of market for tourists with disabilities on behalf of Open Doors, an organization supporting Americans with disabilities. Results of the study (Open Doors, 2002) revealed that 71% of individuals with disabilities in the US had traveled at least once within the two years prior to the study; 20% of them had traveled six times within the same time period. Furthermore, 7% of those surveyed had traveled overseas within the same time period. Results of another study (Open Doors, 2005) showed that, in 2005, the estimated numbers of people with disabilities who traveled for either pleasure or business purposes were 21 million. Research conducted by Touche Ross showed that over eight million European with disabilities traveled overseas at least once a year; over 15 million European with disabilities took one domestic trip that included an overnight stay; and another 22 million European with disabilities took a domestic day trip (Touche Ross, 1993). According to the results of another study, specifically focused on French citizens with disabilities (Charbonneau, 2006), it was estimated that the numbers of French tourists with disabilities in 2006 were 19.2 million to 57.6 million. On the other hand, in Australia, people with disabilities accounted for 11% of the total domestic tourists (Bureau of Tourism Research, 2003). A more recent study conducted by VisitEngland (ENAT, 2009) suggested that 12% of England's domestic tourists who stayed at least one night away from home were composed of people with disabilities. In addition, the study showed that people with disabilities traveled a total of 5.7 million times per year, generating about £1 billion in economic benefits/ revenue.

The potentiality of the market for tourists with disabilities can be inferred from their economic contribution to a nation (Buhalis et al. 2005; Dwyer & Darcy, 2008; Neumann & Reuber, 2004; Open Doors, 2005). Open Doors reported that, in 2002, people with disabilities in the US spent a total of $13.6 billion ($3.3 billion for air transportation, $4.2 billion for accommodations and $2.7 billion for food and beverage) (Open Doors, 2002). Neuman and Reuber (2004) reported that the economic contribution generated by German tourists with disabilities reached to €25 billion, and OSSATE (One-Stop-Shop for Accessible Tourism in Europe) estimated that tourists with disabilities spent approximately €80 billion in 2003 (Buhalis et al. 2005).

Considering the above results, the potentiality of people with disabilities as a significant market segment should not be ignored. However, despite the economic benefits that tourist businesses could grasp from the market segment, tourism environments have continued to be unfriendly to the community with disabilities (Abeyraine, 1995; Card et al., 2006; Cavinato & Cuckovich, 1992; Eichhorn et al. 2008; Daniels et al. 2005; Darcy, 1998; Imrie & Kumar, 1998; Israeli, 2002; Lee, 2012; McKercher et al. 2003; Smith, 1987; Turco, 1998; Yau et al. 2004). For people with disabilities, facilities and services (e.g. attractions, transportation, accommodations, restaurants etc.) that can meet their needs are of critical importance during travel. This implies that tourism businesses should play pivotal roles in encouraging the expansion of the market for tourists with disabilities. The following section reviews some research in this area.

2. The Market for tourists with disabilities from the perspective of tourism businesses

How much a tourism company benefits from people with disabilities depends upon some factors. One is related to the level of recognition on the market as a niche market. The higher the level is, the higher the efforts a company gears to the market. The other is the level of preparedness in terms of facilities and information accessibility and trained employees. As a company increases its preparedness level, its reputation as a disability friendly company will also increase. To reach high levels of preparedness, a tourism company should be aware of laws concerned with people with disabilities and abide by the laws. At present many countries require both public and private sectors to provide accessible facilities and information with people with disabilities unless it involved unreasonable expenditure on the basis of laws (e.g., Americans with Disabilities Act in U.S., Disability Discrimination Act in Australia, Equality Act in United Kingdom, Anti-Discrimination Against and Remedies for Persons with Disabilities Act in Korea). In addition, Article 30 of the Convention on the Rights of Persons with Disabilities, an international convention, stresses the importance of accessibility to cultural contexts and urges every country to join in an effort to improve the rights of people with disabilities to enjoy their cultural life (Darcy & Pegg, 2011). Tourism and related services are not excluded from this effort.

Given the significant role of tourism product/service suppliers in expanding the market for tourists with disabilities, some, though not many, scholars have conducted research from the supply-side perspectives (Burnett & Baker, 2001; Darcy & Pegg, 2011; Grady & Ohlin, 2009; McGrath, 2009; Open Doors, 2002; Ozturk et al. 2008; Rice, 2006; Small et al. 2008). These studies can be broken into three categories. The first category includes studies investigated the current state of tourism services for tourists with disabilities (Darcy, 1998; Israeli, 2002; McGrath, 2009; Murray & Murray, 1995; Small et al. 2008). Findings of these studies generally pointed out insufficiency or inappropriateness in terms of the disabled tourists' requirements. Israeli (2002) reported that the accessibility of tourist attractions for people with disabilities was at a lower quality than required. It was revealed that only 0.75% of all available hotel rooms in Sydney, Australia were accessible (Darcy, 1998; Murray & Murray, 1995). Small et al. (2008) found that advertisements of airline companies were generally targeted to people without disabilities who are wealthy and elite passengers without taking account of those with disabilities. McGrath (2009), after analyzing sport and recreation strategies released by 31 municipal governments in Australia, reported that although these strategies considered the physical accessibility for people with disabilities, they seldom considered specific requirements brought about by types of disabilities.

The second category focuses on how disability related laws influence the tourism industry. Grady and Ohlin (2009) discussed the implications of the Americans with Disabilities Act in the context of providing fair service for those with a mobile disability. Upchurch and Seo (1996) studied how ADA impacted accommodation sectors in the US. Both of these studies emphasized that tourism companies should follow the laws if they could not provide any clear evidence proving "unreasonable expenditure" and that it is a social responsibility of the companies.

The third category includes studies (Burnett & Baker, 2001; Darcy & Pegg, 2011; Grady & Ohlin, 2009; O'Neill & Knight, 2000; Open Doors, 2002; Ozturk et al. 2008; Rice, 2006; Takeda & Card, 2002) that investigated perceptions of tourism business employees on the market for tourists with disabilities. A general conclusion from these studies can be summarized as "being unaware of economic potentiality of the market for tourists with disabilities and consequent non-committed approach to the market." O'Neill and Knight (2000) investigated the perception of hotel employees in West Australia on the market for tourists

with disabilities. They found that (1) no hotel considers the extent of accessibility improvement as a business performance indicator, (2) employees' perception of economic benefits accrued from offering service for tourists with disabilities is low, (3) there exists widespread perception that the provision of room for people with disabilities is an added expense for the hotel, and (4) there exists widespread perception that the market for tourists with disabilities is unprofitable. Burnett and Baker (2001) revealed that employees of American tourism businesses thought that it costs lots of money to abide by ADA guidelines and had a negative opinion of the economic potential of the market for tourists with disabilities. Open Doors' study (2002) revealed that all of the U.S. tourism business employees interviewed expected an increase in the number of tourists with disabilities if some investments to enhance facilities and/or services for people with disabilities were made. However, according to the study, it was shown that only 20% of the interviewees would invest money for these improvements. Rice (2006) discovered that managers in U.S. tourist businesses: (1) had no interest in satisfying the needs of people with disabilities; (2) had a narrow perspective of meeting the minimum guidelines regulated by building codes; (3) were unaware of the fact that securing nondiscriminatory and accessible facilities is an effective way of building and maintaining a competitive edge in marketing and service provision; (4) were pessimistic about return for the investment on accessibility improvements for tourists with disabilities; and (5) had no interest in making additional efforts to improve accessibility beyond the minimum standards set by local building codes. Ozturk et al. (2008), in their study on the perceptions of Turkish tourism employees on the market for tourists with disabilities, revealed that Turkish tourism employees were willing to provide services for people with disabilities. However, they mentioned that it was impossible since tourism companies in Turkey were generally not well-prepared for tourists with disabilities. Takeda and Card (2002) found that there was a lack of understanding of tourists with disabilities' needs among tourism companies' employees. As such they suggested that travel agencies might face lots of difficulties when developing travel packages for people with disabilities.

Some research results indicate a little different view on the market for tourists with disabilities. For example, according to Grady and Ohlin's study (2009), tourism business employees in the U.S. perceived that the ADA is not only applicable to facility accessibility, but also to general services. This finding may indicate an attitudinal transition taking place within the tourism industry. Results of Darcy and Pegg's study (2011) also show this kind of transition. They investigated how Australian tourism industry employees perceive tourists with disabilities. Major findings were: the respondents were enthusiastic about providing quality services for tourists with disabilities regardless of established laws' or policies' regulation; they indicated that understanding needs or motives for tourists with disabilities was useful; and some additional efforts from both tourism business employers and employees were needed in order for them to serve tourists with disabilities more effectively. Based on these findings, Darcy and Pegg suggested such areas of interest needed to be intensively implemented as attitude changes toward tourists with disabilities; safety; communication channels that make enable tourists with disabilities to report their special needs or requirements to the employees directly; changes in attitudes of tourists without disabilities toward rooms or facilities for people with disabilities; flexible operation hours of supporting equipment; refined standards going beyond laws or administrative orders; approaching tourists with disabilities as a market segment; and employee training or education programs (e.g., attitude, knowledge, and skills; and marketing and accessibility information delivery) enhancing their ability when providing services with customers with disabilities .

In sum, the studies mentioned above indicate that the travel industry, in general, does fail to recognize the economic potential of the market for tourists with disabilities and their readiness for the market is insufficient. However, the studies reviewed are confined to the Western world; thus, the situation on the other side of the world needs to be investigated.

METHODOLOGY

1. Research instruments

A self-administered questionnaire composed of two parts was developed. The first part included seventeen items (e.g., "The market for tourists with disabilities has a great economic potential," "The market for tourists with disabilities is an unprofitable one," etc.) pertaining to Korean tourism business employees' perceptions on the nature of the market for tourists with disabilities that were drawn from previous research

(Burnett & Baker, 2001; Darcy, 1998; Darcy & Pegg, 2011; Grady & Ohlin, 2009; Israeli, 2002; McGrath, 2009; Murray & Murray, 1995; O'Neill & Knight, 2000; Open Doors, 2002; Ozturk et al. 2008; Rice, 2006; Small, 2008; Takeda & Card, 2002) and modified for this research context. Each item was evaluated on a five-point Likert-type scale (5 = strongly agree; 1= strongly disagree).

The second part included twelve items (e.g., "Has facilities for people with disabilities [ex: ramp, entrances, rooms, bathrooms, elevators, emergency lights, emergency alarms, parking spaces for people with disabilities, Braille menus, etc.]", "Has a service manual for customer with a disability," "Educates and/or trains employees regularly concerning customer service for people with disabilities," etc.) measuring Korean tourism companies' readiness states for the market for tourists with disabilities. These were also derived from previous research (Darcy & Pegg, 2011; McGrath, 2009; Murray & Murray, 1995; Ozturk et al. 2008; Rice, 2006; Small, 2008; Takeda & Card, 2002) and modified for this research context. A five-point Likert-type scale (5 = definitely yes; 1 = definitely no) was used to measure these twelve items. Focus group interviews with employers and professionals in tourism service areas were also conducted in each of the two parts.

2. Data collection and analysis

E-mailing was used as a method to collect data from those who work for tourism companies, from March 5, 2012 onwards. Questionnaires and cover letters which explained the purpose and content of the study were attached to individual e-mail addresses which were obtained from several sources (e.g., list of members of Korean Tourism Industry Associations, tourism industry employees' business cards personally collected). After a week from the first e-mail, reminder e-mails were sent to non-respondents. Two weeks after the second round, the letter and questionnaire were sent again to non-respondents. In spite of these efforts, only 78 questionnaires were returned. Due to small numbers of returned questionnaire, trained surveyors visited tourism companies located in several big cities (Seoul, Incheon, Daejeon, Busan, Gwangju, etc.) in South Korea to obtain more data from March 27-April 20, 2012. In total, 369 questionnaires were utilized for data analysis after excluding 44 inappropriate questionnaires (either questionnaires were not completed or questionnaires were from those who work outside of the tourism field). SPSS 20.0 was used to code and analyze data. Analytical technique was confined to descriptive statistics (e.g., mean, frequency distribution, and standard deviation) and independent t-tests.

RESULT

1. Profile of the Respondents

Table 1 shows the characteristics of the 369 respondents. Of the 369 respondents, males and females were similarly distributed (51.8% and 48.2%, respectively). Respondents in their 20s and 30s commanded the majority, 36.6% and 36.9% respectively. For respondents' level of income, 36.3% of them earned between US$ 2,000-2,999 and 33% made US$ 1,000-1,999 per month last year.

Table 1
Demographic Characteristics of the Respondents

	Percentage
Gender	
Male	51.8
Female	48.2
Total (n=365)	100.0
Age	
20s	36.6
30s	36.9
40s	20.5
50s	6.0
Total (n=366)	100.0

Monthly Income (in USD)	
Less than $1,000	1.6
$1,000 to $1,999	33.0
$2,000 to $2,999	36.3
$3000 to $3,999	16.2
$4,000 to $4,999	9.1
More than $5,000	3.8
Total (n=364)	100.0

The majority of respondents (52.0%) worked in Seoul, the capital city of South Korea (see Table 2). A majority of the respondents were either employed at accommodation (43.1%) or travel agency/tour operator (42.5%) sectors. Most of the respondents were in charge of customer service (49.7%) or sales (20.9%) and more than half of them (57.2%) had less than five years of work experience. Slightly more than half of the sample had an experience in serving customers with disabilities (56%), and a majority of them (69.3%) did not have family members, relatives or friends with disabilities.

Table 2
Employment Characteristics of the Respondents

	Percentage
Business location	
Seoul	52.0
Busan	9.2
Incheon/Kyeonggido	16.3
Gwangju/Jeollado	5.7
Daejeon/Choong-chungdo	6.8
Others	10.0
Total (n=369)	100.0
Types of business employed	
Accommodation	43.1
Travel agency/Tour operator	42.5
Others	14.4
Total (n=369)	100.0
Department working in	
Customer service (including reservation)	49.7
Sales	20.9
Marketing	8.8
Strategic planning	8.2
Others	12.4
Total (n=364)	100.0
Working experience (years)	
1-2	32.3
3-5	24.9
6-10	21.0
11-15	7.7
16-20	10.5
21-25	2.5

More than 25	1.1
Total (n=362)	100.0
Experience in servicing disabled customers	
Yes	56.9
No	43.1
Total (n=364)	100.0
Having family/friends with disabilities	
Yes	30.7
No	69.3
Total (n=365)	100.0

Since the majority of respondents worked in accommodation or travel agency/tour operator sector, in the following description of the results, firstly overall perceptions on the market for tourists with disabilities and readiness states of the Korean tourism industry will be presented with using all responses; secondly a comparison between accommodation and travel agency sectors will be presented after excluding responses from those who work for other sectors of the tourism industry.

2. Perceptions of employees of Korean tourism industry on the market for tourists with disabilities

Table 3 shows Korean tourism industry employees' perceptions on the market for tourists with disabilities. Employees in the Korean tourism industry highly agreed on such items as "People with disabilities have the same travel desire as people without disabilities" (Mean= 4.26), "The market sufficiently caters to the desires of tourists with disabilities" (Mean= 3.98), and "The market for tourists with disabilities has different needs and requirements according to individual characteristics such as type of disability, level of disability, usage of assistive instruments" (Mean= 3.90). On the other hand, respondents showed a low level of agreement on such items as "The market for tourists with disabilities is an unprofitable one" (Mean= 2.88), "The market for tourists with disabilities has a great economic potential" (Mean= 2.98), "The market for tourists with disabilities is a useful alternative to overcome seasonality problems confronted by tourism businesses" (Mean= 3.10), "The size of market for tourists with disabilities is too small for tourism businesses to give considerable attention to" (Mean= 3.18), and "The market for tourists with disabilities is a good business target as well as an alternative to secure competitive edge" (Mean= 3.24). In sum, employees in Korean tourism businesses have a basic understanding of travel desires of people with disabilities. They also know that differences exist in terms of travel needs and requirements according to individual situations of people with disabilities (i.e., type and/or level of disability) and those tourism opportunities for people with disabilities are restricted. Furthermore they generally perceived that economic potentiality obtained from the market for tourists with disabilities is negligible; however they regard customers with disabilities as a valuable one to consider.

Table 3

Perceptions of Employees of Korean Tourism Industry on the market for tourists with disabilities

	Tourism Industry			Accommodation Sector			Travel Agency Sector		
	N	Mean	S.D	N	Mean	S.D	N	Mean	S.D
The market for tourists with disabilities has a great economic potential.	366	2.98	.893	160	3.09	.864	154	2.92	.907
People with disabilities are limited in tourism products/service consumption due to their physical/cognitive/sensual impairments. [a]	367	3.13	1.033	160	3.28	.990	155	2.95	1.056
The market for tourists with disabilities is an unprofitable one.	365	2.88	.946	158	2.84	.996	155	2.86	.919
The market for tourists with disabilities has a	365	3.39	.979	160	3.37	.994	153	3.45	.980

great potential as a niche market.									
Segmenting the market for tourists with disabilities is not necessary as they are homogenous.*[a]	363	3.63	1.031	157	3.51	1.060	154	3.75	.994
Tourists with disabilities tend to be loyal, thus it's worth considering accommodating them.	367	3.64	.882	160	3.66	.911	155	3.70	.840
The size of market for tourists with disabilities is too small for tourism businesses to give considerable attention to.	366	3.18	.995	160	3.16	1.021	154	3.23	.994
The market for tourists with disabilities is an important future market that tourism businesses should pay much attention to due to its expected expansion.	365	3.55	.855	160	3.60	.877	154	3.51	.865
People with disabilities have the same travel desire as people without disabilities.	362	4.26	.935	157	4.25	.903	153	4.23	.980
The market for tourists with disabilities has different needs and requirements according to individual characteristics such as type of disability, level of disability, usage of assistive instruments. [a]	367	3.90	.753	160	3.82	.800	155	3.99	.664
Understanding customers with disabilities is not crucial for those who manage tourism businesses.	366	3.82	.830	160	3.78	.844	154	3.88	.827
It is challenging for tourism businesses to accommodate people with disabilities as they tend to travel in a group.	367	3.39	.980	160	3.32	.967	155	3.52	.935
The market for tourists with disabilities is a useful alternative to overcome seasonality problems confronted by tourism businesses. [a]	365	3.10	.913	160	3.21	.912	153	3.01	.862
The market for tourists with disabilities is an object related to social responsibility of tourism businesses.	363	3.77	.845	157	3.80	.807	154	3.73	.886
The market for tourists with disabilities itself does not exist.*	363	3.44	1.272	158	3.49	1.266	153	3.41	1.280
The market sufficiently caters to the desires of Tourists with disabilities.*	365	3.98	.846	160	3.98	.861	153	3.97	.838
The market for tourists with disabilities is a good business target as well as an alternative to secure competitive edge.	365	3.24	.882	159	3.28	.954	154	3.22	.850

Note. * Reverse coding
a: statistically significant at α= .05 between accommodation sector and travel agency sector

In the case of Korean accommodation sector, employees tended to highly agree with such aspects as "People with disabilities have the same travel desires as people without disabilities" (Mean= 4.25), "The

desire of people with disabilities for tourism are sufficiently fulfilled as it is" (Mean= 3.98), "The market for tourists with disabilities has different needs and requirements according to individual characteristics such as type of disability, level of disability, usage of assistive instruments" (Mean= 3.82), and "Understanding customers with disabilities is not crucial for those who manage tourism businesses" (Mean= 3.78). On the other hand, they showed a relatively low level of agreement on such items as "The market for tourists with disabilities has a great economic potential" (Mean= 3.09) and "The market for tourists with disabilities is an unprofitable one" (Mean= 2.84). To sum up these results, employees working with the Korean accommodation sector tended to recognize the rights of people with disabilities to travel and their diverse travel related needs and requirements arising from individual characteristics (e.g., type and level of disability). The employees also recognized the importance of people with disabilities as a customer. However the employees in the accommodation sector did not recognize the opportunity for economic benefit to be accrued from the market for tourists with disabilities.

In the case of travel agency sector employees, they tended to highly agree on such items as "The market for tourists with disabilities has different needs and requirements arising from individual characteristics such as type and level of disability, and/or usage of assistive instruments" (Mean= 3.99), "The desire of people with disabilities for tourism are sufficiently fulfilled as it is" (Mean= 3.97), "'Understanding customers with disabilities is not crucial for those who manage tourism businesses" (Mean= 3.88), "Tourists with disabilities tend to be loyal, thus it's worth considering" (Mean= 3.70). On the other hand, items such as "The market for tourists with disabilities has a great economic potential" (Mean= 2.92), "The market for tourists with disabilities is an unprofitable one" (Mean= 2.86), and "The market for tourists with disabilities is a useful alternative to overcome seasonality problems confronted by tourism businesses" (Mean= 3.01) were relatively less agreed. Thus, employees in the travel agency sector tended to recognize the rights of people with disabilities to travel and their diverse travel related needs/requirements according to their disability characteristics (e.g., type and level of disability). Additionally, they also agreed that people with disabilities are important customers. On the other hand, employees in the travel agency sector did not recognize some economic benefits (e.g., increased revenues and seasonality problem reduction) accrued from serving the market for tourists with disabilities.

Meanwhile there existed statistically significant differences in the perception between two sector employees. They included several items such as "People with disabilities are limited in tourism products/service consumption due to their physical/cognitive/sensual impairments," "Segmenting the market for tourists with disabilities is not necessarily as they are homogenous," "The market for tourists with disabilities has different needs and requirements according to individual characteristics such as type of disability, level of disability, usage of assistive instruments," and "The market for tourists with disabilities is a useful alternative to overcome seasonality problems confronted by tourism businesses." With regards to these items, employees in the accommodation sector perceived the market for tourists with disabilities more accurately than those of the travel agency sector.

3. Readiness states of Korean tourism businesses for the market for tourists with disabilities

In order to identify Korean tourism businesses' readiness states for the market for tourists with disabilities, respondents were asked to express their impression on items showing the readiness states according to a guiding question "The Company I work with." Table 4 reveals the results. As can be seen in the table, Korean tourism businesses seem to be ill-prepared for the market (i.e., mean scores of most of the readiness states were less than 3.0 on a five-point scale). In particular, aspects such as "Reflects the level of accessibility for people with disabilities to facility/service in the company's performance indicator" (Mean= 2.15), "Monitors the level of accessibility of facilities/services for people with disabilities and then promotes it internally and externally" (Mean= 2.23), "Educates and/or trains employees regularly concerning customer service for people with disabilities" (Mean= 2.29), and "Implements extra policies for the convenience of customer with a disability beyond standards or regulations set by disability related laws" (Mean= 2.30) were seldom paid attention to. Only one item was above the medium score: "Has facilities for people with disabilities (ex: ramp, parking spaces for people with disabilities, Braille menus, etc.)." In short, Korean tourism businesses seems to have some facilities for people with disabilities and past experiences of serving customers with disabilities; however, they do not act proactively to enhance their accessibility levels with information provision, employee education/training, reflecting accessibility preparedness into business performance evaluation, or voluntary disability related policies.

Table 4

Readiness states of the Korean tourism businesses for the market for tourists with disabilities

The company I work for…	Tourism Industry			Accommodation Sector			Travel Agency Sector		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Has facilities for people with disabilities (ex: ramp, entrances, rooms, bathrooms, elevators, emergency lights, emergency alarms, parking spaces, Braille menus, etc.) [a]	366	3.12	1.186	159	3.57	1.628	155	2.65	1.177
Has a customer service manual for people with disabilities [a]	364	2.51	1.032	158	2.87	1.081	155	2.16	.922
Educates and/or trains employees regularly concerning customer service for people with disabilities. [a]	365	2.29	1.050	159	2.58	1.081	154	1.95	.881
Monitors the level of accessibility of facilities/ services for people with disabilities and then promotes it internally and externally [a]	366	2.23	.968	159	2.47	.967	155	1.91	.817
Implements extra policies for the convenience of customer with disabilities beyond standards or regulations set by disability related laws [a]	366	2.30	.967	159	2.57	.964	155	1.97	.829
Makes all employees understand different needs, desires, and requirements of segmented market for tourists with disabilities [a]	366	2.59	1.021	159	2.77	1.025	155	2.37	1.001
Makes all employees be aware of facility/service/ policy for customers with disabilities in their workplace. [a]	363	2.61	1.031	158	2.84	1.002	153	2.33	.987
Provides appropriate accessibility information about facilities/services with the consideration of various types of disabilities [a]	366	2.69	.996	159	2.92	.958	155	2.39	.963
Reflects the level of accessibility for people with disabilities to facility/service in the company's "performance indicator" [a]	365	2.15	.944	158	2.46	.914	155	1.85	.854
Checks the existence of impairments and encourages customers with disability to inform their special service needs upon arrival	366	2.79	1.041	159	2.75	.953	155	2.84	1.148
Thinks that the investment on the accessibility improvement of facilities/services/information too costly	361	2.82	1.003	158	2.80	.954	152	2.79	1.059
Provides accessibility information on facilities and services (e.g., ramps, entrances, rooms, bathrooms, elevators, emergency lights, emergency alarms, parking spaces, braille menus, etc.) in various methods [a]	366	2.89	1.042	159	3.16	1.012	155	2.55	1.007

Note. a: statistically significant at α= .05 between accommodation sector and travel agency sector

In the case of the Korean accommodation sector, the current conditions were generally poor and similar to those of the Korean tourism industry. The result revealed that they did not pay much attention to such aspects as "Reflects the level of accessibility for people with disabilities to facility/service in the company's performance indicator" (Mean= 2.46), "Implements extra policies for the convenience of customer with disabilities beyond standards or regulations set by disability related laws" (Mean= 2.57), "Monitors the level of accessibility of facilities/services for people with disabilities and then promotes it internally and externally" (Mean= 2.58), and "Educates and/or trains employees regularly concerning customer service for people with disabilities" (Mean= 2.58). However, aspects such as "Has facilities for people with disabilities (ex: ramp, parking spaces for people with disabilities, Braille menus, etc.)" (Mean= 3.57) and "Provides accessibility information on facilities and services (e.g., ramps, parking spaces for people with disabilities, Braille menus, etc.) in various formats" (Mean= 3.16) were relatively well-prepared. Hence, it can be said that Korean accommodation sector seems to be aware of the existence of customers with disabilities, but they do not proactively approach the customers; thus many things need to be done.

In the case of the Korean travel agency sector, the industry seemed to be worse-prepared in many aspects than the accommodation sector. In particular, aspects such as "Reflects the level of accessibility for people with disabilities to facility/service in the company's performance indicator" (Mean= 1.85), "Monitors the level of accessibility of facilities/services for people with disabilities and then promotes it internally and externally" (Mean= 1.91), "Implements extra policies for the convenience of customer with a disability beyond standards or regulations set by disability related laws" (Mean= 1.97) and "Has a customer service manual for people with disabilities" (Mean= 2.16) were seldom considered by the sector. In sum, Korean travel agency sector's readiness states for tourists with disabilities were terrible.

A comparison of the two sectors (accommodation and travel agency) in terms of the readiness states for the market for tourists with disabilities revealed that there were statistically significant differences in ten aspects out of twelve and that the accommodation sector is better prepared than the travel agency sector. Aspects that did not show statistical differences were "Checks the existence of impairments and encourages customers with disability to inform their special service needs upon arrival" and "Thinks that the investment on the accessibility improvement of facilities/services/information too costly."

V. Discussion and Implications

Recently, the market for tourists with disabilities has gained much attention from both academics and practitioners as a niche market due to the increasing acceptance of the right for people with disabilities to travel. However, tourism environments are not entirely suitable for the market. Accordingly there is still much gap between reality and ideals. In this sense the role of the tourism industry in enhancing accessible tourism environments becomes important as they are the suppliers of tourism products/services. This study aimed to investigate how Korean tourism companies' employees perceive the market for tourists with disabilities, what the current readiness states of Korean tourism industry are for the market, and whether differences exist in these aspects between two leading tourism industry sectors (i.e., accommodation and travel agency). Major summaries of the results are below.

First, according to the results, Korean tourism companies' employees agree basically that people with disabilities have desires and a right to travel as people without disabilities do, but, generally speaking, their opportunities for travel are restricted. They also recognize that there exist differences in terms of travel needs and requirements according to the characteristics of people with disabilities (i.e., types and/or levels of disability). However, the employees generally fail to recognize the economic potentiality of the market for tourists with disabilities, even though they regard people with disabilities as valuable consumers to consider. These findings stand with the results of previous studies (Burnett & Baker, 2001; Darcy & Pegg, 2011; Grady & Ohlin, 2009; O'Neill & Knight, 2000; Open Doors, 2002; Ozturk et al. 2008; Rice, 2006; Takeda & Card, 2002). When analyzed separately, these results were found to be similar in both the accommodation sector and the travel agency sector. In addition, no significant differences in perceptions of the market for tourists with disabilities between the sectors existed, except for four aspects (i.e., "People with disabilities are limited in tourism products/service consumption due to their physical/cognitive/sensual impairments," "Segmenting the

market for tourists with disabilities is not necessarily as they are homogenous," "The market for tourists with disabilities has different needs and requirements according to individual characteristics such as type of disability, level of disability, usage of assistive instruments," and "The market for tourists with disabilities is a useful alternative to overcome seasonality problems confronted by tourism businesses").

Secondly, the results showed that Korean tourism companies are indeed ill-prepared for the market for tourists with disabilities, evidencing little difference from previous research results (O'Neill & Knight, 2000; Open Doors, 2002; Ozturk et al. 2008; Rice, 2006). The companies tend to just abide by minimum requirements (e.g., parking lot for people with disabilities, ramps, etc.) regulated by disability laws. The situation does not differ in both the accommodation sector and the travel agency sector, although the former is a little bit better prepared for the market than the latter. There exist statistically significant differences in ten aspects out of twelve between two sectors. Usually the accommodation sector is bigger in terms of building size, tends to be more regulated by disability laws, and has more opportunities to deliver services to customers with disabilities than the travel agency sector; thus it has become to be more accessible. This implies that, as McKercher et al. (2003) suggested, the travel agency sector may play a role of an inhibitor rather than a facilitator when it comes to the market for tourists with disabilities.

Recently many countries have declared laws prohibiting discrimination towards people with disabilities. International conventions have also emphasized on encouraging social interaction and leisure for people with disabilities. As a result social attitudes towards people with disabilities, including the right to enjoy culture, leisure and travel, have been changing little by little. Tourism environments have also become more, though not sufficiently, accessible. Many governments provide financial subsidization with the disabled so that they could have more opportunities to travel. For instance, Korean government provides a "Travel Voucher (equivalent to US $150)" for people with disabilities according to a priori arranged criterion. The beneficiary can use it for any purpose related to traveling. Hopefully it is expected that all of these efforts would help people with disabilities be more visible in the tourism context. And then tourism companies' employees would understand more of rights of people with disabilities and desires to travel. Furthermore, as having more experiences of providing services with customers with disabilities, employees would recognize economic significance of the customers, though it might take a small portion of total revenue.

At present, unfortunately, Korean tourism companies' employees do not understand the market for tourists with disabilities correctly. They do not recognize some attainable economic potentiality of the market (e.g., increasing revenue, reducing seasonality problem and enhancing competitive advantage). As a result, Korean tourism companies, regardless of types of businesses, are not vigorously trying to dominate the market in advance. Few companies are willing to invest money for more facilities and accommodations than just the minimum standards required by the law. This phenomenon may be originated from tourism industry's reality, that is, major customers of tourism companies are people without disabilities. For them, a person with a disability is probably not a mainstream customer. In a personal interview, a manager of a top class tourist hotel in a large city in Korea mentioned that "Just with people without disabilities, we have almost 100% room occupancy throughout the year. In this situation, who do you think wants to spend money to provide extra facilities/service for customers with disabilities under uncertainty for profits?" This misperception may find its root in the lack of information on the market for tourists with disabilities (e.g., incorrect statistics on the market in terms of size and travel expenditure) and the tendency regarding people with disabilities as not a customer but an object for mercy. Stakeholders doing their best to enhance accessible tourism environments should first of all collect data on the buying power of the market for tourists with disabilities and share benchmarks that show tourism businesses making a significant profit from the market for tourists with disabilities with the tourist industry. Another reason for the ill-preparedness of Korean tourism companies for the market for tourists with disabilities is the lack of enforcement power of laws related to disability in Korea. At present, the law requires minimum standards to be followed without enacting penalties for failure of compliance. As such, abiding by minimum standards (e.g., some parking lots and two rooms for the disabled, open doors, ramps, and elevators) is considered as enough for five-star hotel certification purposes. However, when setting up a travel agency, nothing is necessary. A staff of a local resort, in a personal interview, said, "We just have two parking lots for people with disabilities, ramps, and elevators. But there would be no such facilities unless the law requires." A strong enforcement of the disability laws combined with the carrot (i.e., financial supports for accessibility enhancement) and stick (i.e., financial and administrative penalties) approach is needed to establish an accessible tourism environment.

This research investigated supply-side perspectives on the market for tourists with disabilities in Korea. Implications discussed are expected to contribute to the enhancement of people with disabilities' right to travel. Items themselves measuring each concept of the research will also guide future research considering similar issues. Even though the generalization of the results was not a concern, limitations should be recognized. The sample was selected conveniently, thus not all tourism business types were included in the sample. More rigorous systematic sampling methods may be required in the future. Korean tourism companies readiness state for the market for tourists with disabilities was measured subjectively (i.e., based on impression of tourism companies' employees), but their impression may not be the same with the factual reality. In the future an objective measure (e.g., a checklist) should be developed for more accurate measurement of the readiness state.

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HAMMING DISTANCE AWARE FAULT ANALYSIS ATTACK FOR A LIGHTWEIGHT BLOCK CIPHER PRESENT

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INTRODUCTION

Various national research institutes have launched studies on lightweight ciphers that require a small amount of calculation and a small area when they are embedded in hardware. Since cryptographic circuits protect confidential information, they are the targets of various types of attacks. A method called side-channel attacks is one type of attack that has been used to target cryptographic circuits. Side-channel attacks estimate the cipher keys by intentionally mixing the faults in a cryptographic circuit or by measuring the electricity consumption of a cryptographic circuit during its operation.

PRESENT [1] is a 64-bit block cipher adopted by the International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC). The safety requirements established by the ISO/IEC indicate computational complexity for decryption. Previous studies on the safety of standard ciphers have investigated many cases of computational complexity for decryption. However, the ability of standard ciphers, such as PRESENT, to safeguard against side-channel attacks has not been secured. Therefore, side-channel attacks against lightweight ciphers must be studied. This study proposes a new side-channel attack which is based on fault analysis. The proposed method utilizes hamming distance between incorrect cryptogram and correct one. Simulation results prove the validity of the proposed method.

1. Related Studies

Fault analysis attacks [2],[3] intentionally generate faults in a cryptographic circuit, cause the circuit to output an incorrect cryptogram (hereinafter referred to as a cryptogram with faults), and maliciously analyze confidential information using a cryptogram with faults and a correct cryptogram. The following methods are used to generate faults in cryptographic circuits: (1) irradiate with a laser, (2) add abnormal voltage, and (3) insert illegal clocks. In particular, the method to insert illegal clocks can be easily implemented, since a clock pulse with a short frequency (hereinafter referred to as clock glitch) can be inserted into a clock that is supplied to a cryptographic circuit. However, since the clock glitch is supplied to all flip-flops, the number and location of the faults to be generated cannot be controlled.

Differential fault analysis (DFA) [4],[5] is a typical fault analysis attack against the data encryption standard. DFA analyzes confidential information using the difference between a correct cryptogram and a cryptogram with faults. For fault analysis attacks against the advanced encryption standard (AES), several methods have been proposed, such as DFA against the encryption processing section and DFA against the key-scheduling section. For fault analysis attacks against PRESENT [6],[7], a method that was developed based on DFA has been reported. However, in DFA, there are several restrictions on the number and location

of the faults to be generated. The present study proposes a new method for fault analysis attacks that places no restriction on the number and location of the fault to be generated.

2. Proposed method

2.1 Analytical Method

The present study defined a correct cryptogram as C and a cryptogram with faults as C'. The proposed method analyzes an output 64-bit cryptogram after dividing it into eight-bit sections. The divided cryptogram is expressed as C[a]. As shown in Figure 1, a fault is assumed to be mixed in C[a] after performing addRoundKey at the 31st round (round 31).

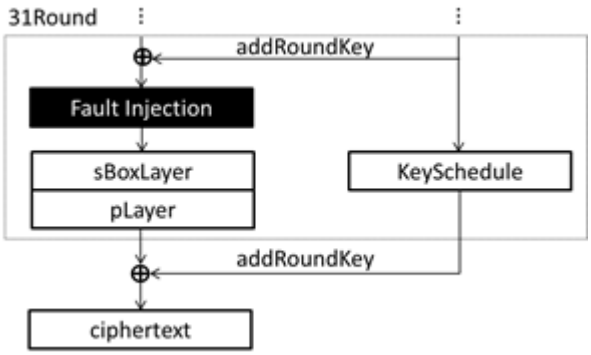


Figure 1 Example of Fault Injection

The intermediate values are expressed as B and B'. The methods to introduce C[a] are expressed as formulae (1) and (2).

$$\mathrm{C}[\alpha] = \mathrm{P}(\mathrm{S}[\mathrm{B}[\alpha]]) \oplus K_{32}[\alpha] \quad (1)$$

$$\mathrm{C}'[\alpha] = \mathrm{P}(\mathrm{S}[\mathrm{B}'[\alpha]]) \oplus K_{32}[\alpha] \quad (2)$$

In these formulae, B[a], B'[a], and K32[a] represent the values that have been divided into eight-bit sections, similar to C[a]. To perform the analysis, the intermediate value must be obtained by the reverse calculation of the cryptogram.

In the reverse calculation, the intermediate value can be obtained by performing an exclusive OR operation with K32, inverse transformation of sBoxLayer $S^{-1}[x]$, and inverse transformation of pLayer $P^{-1}(j)$ from formulae (1) and (2). These calculations are expressed as formulae (3) and (4).

$$\mathrm{B} = S^{-1}[P^{-1}(\mathrm{C} \oplus K_{32})] \quad (3)$$

$$\mathrm{B}' = S^{-1}[P^{-1}(\mathrm{C}' \oplus K_{32})] \quad (4)$$

In the case where the reverse calculation is performed in the eight-bit unit, since the transformation has been performed by the 64-bit bijection pLayer, the number of bits is insufficient when performing $S^{-1}[x]$; consequently, the intermediate value cannot be obtained as shown in Figure 2.

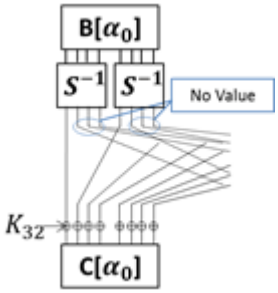


Figure 2 How to calculate the intermediate value

Therefore, when performing the reverse calculation in the eight-bit unit, $P^{-1}(j)$ is first performed for C and C', and an exclusive OR operation with K32, for which $P^{-1}(j)$ has been performed, is simultaneously performed; consequently, the intermediate value immediately after performing sBoxLayer can be obtained. As shown in Figure 3, by performing $S^{-1}[x]$ for the obtained intermediate value in the eight-bit unit (four bits x 2), B and B' can be obtained. These calculations are expressed as formulae (5) and (6).

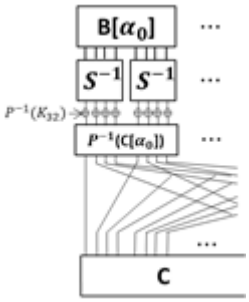


Figure 3 Example of $S^{-1}[x]$ for the obtained intermediate value in the eight-bit unit

$$\mathrm{B}[\alpha] = S^{-1}[P^{-1}(\mathrm{C}[\alpha]) \oplus P^{-1}(K_{32}[\alpha])] \quad (5)$$

$$\mathrm{B}'[\alpha] = S^{-1}[P^{-1}(\mathrm{C}'[\alpha]) \oplus P^{-1}(K_{32}[\alpha])] \quad (6)$$

At this stage of the analysis, the value of K32[a] is unknown. Therefore, B and B' cannot be obtained. Then, using an appropriate eight-bit value X instead of K32[a], formulae (5) and (6) are performed. Here, X is called a key candidate. When the result obtained using X is expressed as Y, formulae (7) and (8) can be valid.

$$\mathrm{Y} = S^{-1}[P^{-1}(\mathrm{C}[\alpha]) \oplus \mathrm{X}] \quad (7)$$

$$Y' = S^{-1}[P^{-1}(C'[\alpha]) \oplus X] \quad (8)$$

When X is the same as K32[a], Y = B[a] and Y' = B'[a] can be valid. However, since B and B' are unknown, the value of K32[a] cannot be specified. Then, the hamming distance (HD) between B and B' is used. The HD indicates the number of bit values that are different between two bit columns. For example, the expected value of HD between two eight-bit columns without correlativity is four (half of eight). Basically, the value of B should be the same as the value of B'. Even if a fault is mixed, all the bit values are not always changed. Therefore, the expected value of HD between B and B' is predicted to be below four.

If the value of X is not K32[a], the expected value of HD between Y and Y' HD(Y, Y') is four, because the non-linear inverse transformation resulted in no correlativity. Based on the above-mentioned matters, formula (9) can be valid from the expected value of HD.

$$\begin{cases} E\big(HD(Y,Y')\big) \le 4 & (X = K_{32}[\alpha]) \\ E\big(HD(Y,Y')\big) = 4 & (X \neq K_{32}[\alpha]) \end{cases} \quad (9)$$

In the proposed method, even if X = K32[a] at one trial, there is a possibility that the value of HD(Y, Y') is accidentally four. In this case, the analysis cannot be performed. Therefore, a sufficient number of trials are performed, and the average value is used. Actually, (Y, Y') is obtained for a pair consisting of a correct cryptogram and a cryptogram with faults (C, C') using formulae (7) and (8), and statistical analysis is performed. When the sufficient number is expressed as N, the average HD can be obtained using formula (10).

$$\overline{HD} = \frac{1}{N}\sum_{n=1}^{N} HD(Y_n, Y'_n) \quad (10)$$

In the case where the average HD is below four, part of the round keys can be obtained when K32[a] = X. Since a round key consists of 64 bits, the analytical processing must be performed eight times to estimate all the round keys.

2.2 Estimation of an 80-bit Secret Key

In PRESENT, the length of a round key is 80 bits and only 64 of the 80 bits are used. The proposed method cannot be used to analyze the remaining 16 bits. If unknown bits exist in PRESENT, KeySchedule cannot be performed; consequently, the secret key of the cryptographic circuit in which PRESENT has been embedded cannot be estimated. Therefore, a method to specify the remaining unknown 16 bits in the round key K32 is proposed.

When the round key K32 is obtained in KeySchedule at the final round, 64 bits between the zero bit and the 63th bit from the left side of the 80 bits are used. The values of the remaining 16 bits between the 64th bit and 79th bit are unknown. To obtain the values of these 16 bits, the round key K31, a round before round

32, must be obtained. After obtaining the intermediate value B31 at round 31, a fault is mixed after performing addRoundKey at round 30, a round before round 31. The intermediate value B31 can be estimated since the round key K32 has been specified by the first fault analysis attacks. The intermediate value B'31 with faults can also be estimated, which has been generated by mixing a fault at the second fault analysis attacks.

Therefore, when B31 and B'31 are replaced with C and C', K31 can be specified using a method that is similar to the first fault analysis attacks. Based on the obtained K31 and K32, the secret key is specified. K32 is obtained by applying formulae (2), (3), and (4) to K31. Here, the unknown 16 bits in K32 agree with the 16 bits between the 46th and 61th bits in K31, as shown in Figure 4. However, since the 60th and 61th bits are in the range of masking using a round counter in formula (4), an exclusive OR operation must be performed with a round counter at round 31 (R31_counter).

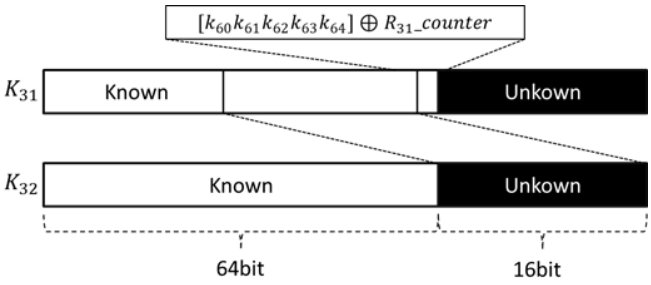


Figure 4 Example of processing between key31 and key32

3. Experiments

To evaluate the validity of the proposed method, a simulation was performed. Table 3 shows the conditions that were adopted in the simulation. To estimate the 64-bit round key K32, it is necessary to acquire a correct cryptogram and a cryptogram with faults from the same plain text and to perform the encryption processing 2000 times in order to compare the findings. To calculate HD, the encryption processing must be performed 256 x 8 times for a pair of cryptograms. Specifically, the encryption processing must be performed a total of 204,800 times (256 x 8 x 1000). This number is extremely smaller than the number of trials performed for all of the 64-bit key candidates (= 2^{64} times). In the simulation, the occurrence probabilities of a fault were set at 40% and 20%. Figures 5 and 6 show the simulation results. In these figures, the vertical axis represents the average HD of 256 key candidates and the horizontal axis represents each key candidate. In these figures, the value of a point (peak) with the lowest average HD indicates the correct partial key. The eight correct partial keys were then summarized into one and pLayer was performed for the summarized correct partial key. The obtained result indicated that the round key had been actually used for the final addRoundKey. pLayer was performed because the inverse transformation of pLayer $P^{-1}(j)$ had been performed for the obtained result, as shown in formulae (9) and (10). In Figure 5, the maximum value of the graph is 3.8. Therefore, the average HD was generally lower than the expected value (4). This is because the occurrence probability of a fault was 40%. Therefore, a no fault cryptogram was

sometimes mixed in the eight-bit cryptogram with faults when the encryption processing was performed 1000 times. As shown in formula (9), when the key candidate was incorrect, the average HD was approximately 3.6 instead of 4 when the occurrence probability of a fault was 40%. When the occurrence probability of a fault was 20%, the average HDs was 2.2.

The average HD was also low before and after the peak. This is thought to be because the value of the key candidate that was used was close to the value of the correct key candidate. This phenomenon was observed in all the results. Figure 7 shows an example of this phenomenon.

Figure 5 Result of occurrence probability 40%

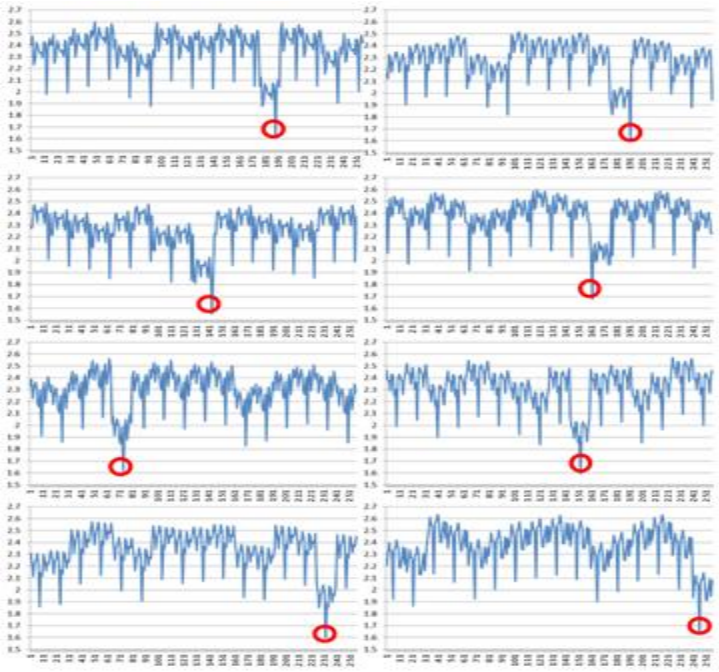


Figure 6 Result of occurrence probability 20%

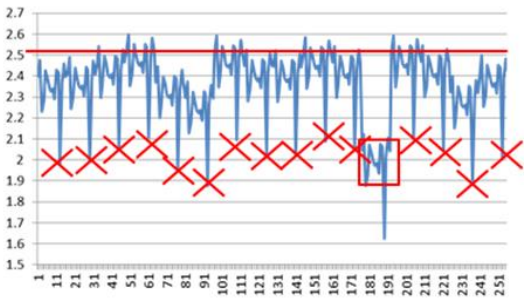
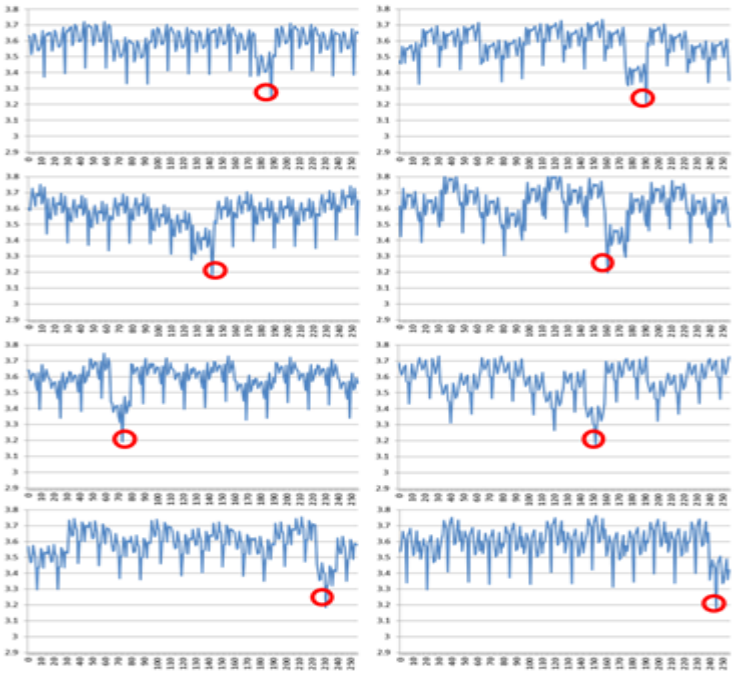


Figure 7 Example of average HD around the peak



CONCLUSION

This study proposed a new fault analysis for a 64-bit block cipher PRESENT which is an encryption standard. The proposed method utilizes hamming distance between incorrect cryptogram and correct one. Simulation results proved the validity of the proposed method. Further works include the experiments using laser fault attack to evaluate the validity of the proposed method on actual devices.

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SOLITON SOLUTION IN (3+1)- DIMENSIONS

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ABSTRACT

Abstract—Solitons are among the most beneficial solutions for science and technology, from ocean waves to transmission of information through optical fibers or energy transport along protein molecules. The existence of multi-solitons, especially three-soliton solutions, is essential for information technology: it makes possible undisturbed simultaneous propagation of many pulses in both directions.

In this talk, we will use the Pfaffian technique, along with the Hirota bilinear method to construct new classes of exact multi-soliton solutions in the 3+1 dimensions to various of the most fundamental nonlinear partial differential equations such as the prestigious Korteweg-de Vries (KdV), nonlinear Schrödinger (NLS) equations, Kadomtsev-Petviashvili (KP), Davey-Stewartson (DS) equations, B-type KP equation, nonlinear equations of Jimbo-Miwa type and many others.

Index Terms— Pfaffian solutions, N-soliton solutions, NLPDEs, Soliton equations, Jimbo-Miwa.

I. INTRODUCTION

The Korteweg-deVries equation is a typical example of what is known as completely integrable nonlinear partial differential equation, whose many remarkable properties were first discovered in the mid 1960's. A surprisingly large number of such completely integrable nonlinear systems arise in a wide range of applications, and their analysis remains an active area of contemporary research. In 1971, Hirota [1] developed an ingenious direct method for obtaining the exact multi-soliton solution of the Korteweg-deVries equation and suggested an explicit and beautiful expression for N-soliton solutions. His method consists of employing a perturbation method after transforming the soliton equations into bilinear forms. This method was shown to be applicable to a large class of soliton equations such as the KP equation, the Boussinesq equation and the Burgers equation [2, 3]. A central issue in the study of soliton equations and non-linear evolution equations is that solutions may exist locally in time (that is, for short times) but not globally in time. Indeed, finite-time blow-up of solutions can often happen. One of the simplest nonlinear PDE's which exhibits blow-up is the in-viscid Burgers equation. Over the past decades, various kinds of powerful methods have been proposed to find N-soliton solutions to soliton equations such as the dressing method [4] and inverse scattering method [5]. In recent years, Hirota method has been extended to construct more general exact solutions for many soliton equations, including Wronskian determinant solutions [6, 7, 14, 17, 20, 21] and Grammian determinant solutions [2, 8, 12, 13,16, 18]. Interestingly, some Hirota bilinear equations even possess linear subspaces of their solutions [9]. Grammian solutions to a (3+1)-dimensional generalized KP equation were constructed in [10] and Pfaffian solutions to a (3+1)-dimensional generalized BKP equation were constructed in [11, 19].

In this paper, we would like to discuss the non-linear soliton equation [9]:

$$2v_{yt} + v_{xxxy} + 3v_{xx}v_y + 3v_x v_{yx} - 3v_{zz} = 0,$$

which can be written in terms of the Hirota bilinear operator. In fact, the above soliton equation belong to a class of 3+1 dimensional soliton equations of Jimbo-Miwa type presented in [9], but does not belong to a class of generalized non-linear evolution equations [16]:

$$(u_{x_1x_1x_1} - 6uu_{x_1})_{x_1} + \sum_{i,j=1}^{M} a_{ij}u_{x_i}u_{x_j} = 0,\ a_{ij} = \text{Constant},\ M \in \mathbb{N}.$$

We will show the above (3+1)-dimensional soliton equations have a class of Pfaffian solutions, with all generating functions for matrix entries satisfying linear systems of partial differential equations involving free parameters. The Pfaffian identities for determinants are the key to establish the Pfaffian formulation [13]. Examples of Pfaffian solutions are explicitly computed, and a few plots of particular solutions are made.

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II. BILINEAR FORM AND PFAFFIAN

A. Bilinear Form

In the present paper, we consider the following (3+1)-dimensional soliton equation of Jimbo-Miwa type:

$$2v_{yt} + v_{xxxy} + 3v_{xx}v_y + 3v_x v_{yx} - 3v_{zz} = 0, \quad (1)$$

under the dependent variable Cole-Hopf transformations

$$u = 2(ln\,\tau)_x, \quad v = 2(ln\,\omega)_x, \quad (2)$$

the above (3+1)-dimensional nonlinear Jimbo-Miwa type equation are mapped into Hirota bilinear equation:

$$\left(2D_tD_y + D_x^3D_y - 3D_z^2\right)\omega.\omega = 0. \quad (3)$$

Here the bilinear differential operator D_x and $D_y : \Omega \times \Omega \to \Omega$ are defined by

$$D_x^n D_y^m g(x,y).f(x,y) = (\frac{\partial}{\partial x} - \frac{\partial}{\partial x'})^n (\frac{\partial}{\partial y} - \frac{\partial}{\partial y'})^m g(x,y)f(x',y')|_{x=x',y=y'},$$

where $n, m \geq 0$ and $g, f \in \Omega : C^\infty \to C$, where C^∞ is the space of differentiable functions. We can rewrite the equations (3) in terms of ω as follows

$$\left(\omega_{xxxy} + 2\omega_{ty} - 3\omega_{zz}\right)\omega - 3\omega_{xxy}\grave{}\omega_x + 3\omega_{xx}\omega_{xy} - 2\omega_t\omega_y - \omega_{xxx}\omega_y + 3\omega_z^2 = 0.$$

In this paper, we will use the Pfaffian technique to find exact solutions to the above (3+1)-dimensional soliton equation of Jimbo-Miwa type. In what follows, we will introduce two useful lemmas about the Pfaffian expansion and derivatives formulation.

B. Pfaffian

Let us recall some basics about the Pfaffian. The Pfaffian of even order denoted by $(\alpha_1, \alpha_2, \dots, \alpha_{2N})$ is defined by [15]

$$(\alpha_1, \alpha_2, \dots, \alpha_{2N}) = \sum_\sigma \mathrm{sgn}(\theta)(\alpha_{i_1}, \alpha_{i_2})(\alpha_{i_3}, \alpha_{i_4}) \dots (\alpha_{i_{2N-1}}, \alpha_{i_{2N}}), \quad (4)$$

where the summation is taken over all permutations

$$\theta = \begin{pmatrix} 1 & 2 & \dots & 2n \\ i_1 & i_2 & \dots & i_{2n} \end{pmatrix}$$

with

$$i_1 < i_2, i_3 < i_4, \dots, i_{2n-1} < i_{2n}, i_1 < i_3 < \dots < i_{2n-1},$$

and $\mathrm{sgn}(\theta) = \pm 1$ denotes the parity of the permutation θ. The elements (α_i, α_j) are called the Pfaffian entries satisfying

$$(\alpha_i, \alpha_j) = -(\alpha_j, \alpha_i).$$

The interchange of labels α_i and α_j changes the parity of each permutation θ in the sum, and thus, the Pfaffian has the skew-symmetric property

$$(\alpha_1, \dots, \alpha_i, \dots, \alpha_j, \dots, \alpha_{2N}) = -(\alpha_1, \dots, \alpha_j, \dots, \alpha_i, \dots, \alpha_{2N}), \quad (5)$$

where $1 \leq i \leq j \leq 2N$. The Pfaffian also satisfies

$$(\alpha_1, \alpha_2, \dots, \alpha_{2N})^2 = \det(a_{ij})_{1\leq i,j\leq 2N}, a_{ij} = (\alpha_i, \alpha_j), \quad (6)$$

and so, it is denoted conventionally by

$$\mathrm{Pf}(a_{ij})_{1\leq i,j\leq 2N} = (\alpha_1, \alpha_2, \dots, \alpha_{2N}) =$$

$$= \begin{vmatrix} a_{1,2} & a_{1,3} & \cdots & a_{1,2N} \\ & a_{2,3} & \cdots & a_{2,2N} \\ & & \ddots & \vdots \\ & & & a_{2N-1,2N} \end{vmatrix}.$$

When $N = 1,2,$ the Pfaffian read

$$(\alpha_1, \alpha_2) = a_{1,2}, (\alpha_1, \alpha_2, \alpha_3, \alpha_4) = a_{1,2}a_{3,4} - a_{1,3}a_{2,4} + a_{1,4}a_{2,3}. \quad (7)$$

Moreover, the Pfaffian obeys an expansion rule

$$(\alpha_1, \alpha_2, \dots, \alpha_{2N}) = \sum_{j=1}^{2N}(\alpha_i, \alpha_j)\Gamma(i,j), \quad 1 \leq i \leq 2N, \quad (8)$$

with the cofactor $\Gamma(i,j)$ being defined by

$$\Gamma(i,j) = (-1)^{i+j}\left(\alpha_1, \dots, \hat{\alpha}_i, \dots, \hat{\alpha}_j, \dots, \alpha_{2N}\right), i < j,$$
$$\Gamma(i,j) = -\Gamma(j,i), i > j, \Gamma(i,i) = 0,$$

where $\hat{\alpha}_k$ means that the label α_k is omitted. We have several expansion theorems on the Pfaffian. Below we describe two of them, which are relevant to the present paper.

Lemma 1 Let n be a positive integer. Then

$$(\alpha_1, \alpha_2, 1,2, \dots, 2n) = \sum_{j=2}^{2n} (-1)^j (\alpha_1, \alpha_2, 1, j)\,[(2,3, \dots, \hat{j}, \dots, 2\mathrm{n}) + (1,j)(\alpha_1, \alpha_2, 2, 3, \dots, \hat{j}, \dots, 2\mathrm{n})] - (\alpha_1, \alpha_2)(\alpha_1, \alpha_2, 1,2, \dots, 2n), \quad (9)$$

and

$$(\beta_1, \beta_2, \gamma_1, \gamma_2, 1,2, \dots, 2n) = \sum_{j=1}^{2n} \sum_{k=j+1}^{2n} (-1)^{j+k-1} (\beta_1, \beta_2, j, k) \times \left(\gamma_1, \gamma_2, 1,2, \dots, \hat{j}, \dots, \hat{k}, \dots, 2n\right), \quad (10)$$

provided that

$$\left(\beta_j, \gamma_k\right) = 0, \text{for } j,k = 1,2.$$

We shall use the equality (11) and the equality (12) to express the derivatives of the Pfaffian by the Pfaffians of lower order. In the next lemma, we describe two of the identities of Pfaffians which correspond to the Jacob identity of determinants.

Lemma 2 Let m and n be positive integers. Then

$$(\alpha_1, \alpha_2, \dots, \alpha_{2m}, 1,2, \dots, 2n)(1,2, \dots, 2n) = \sum_{s=2}^{2m} (-1)^s (\alpha_1, \alpha_s, 1,2, \dots, 2n) \times (\alpha_2, \dots, \hat{\alpha}_s, \dots, \alpha_{2m}, 1,2, \dots, 2\mathrm{n}), \quad (11)$$

and

$$(\alpha_1, \alpha_2, \dots, \alpha_{2m-1}, 1,2,3, \dots, 2n-1)(1,2, \dots, 2n) = \sum_{s=1}^{2m-1} (-1)^{s-1} (\alpha_s, 1, \dots, 2n-1) \times (\alpha_1, \alpha_2, \dots, \hat{\alpha}_s, \dots, \alpha_{2m-1}, 1, \dots, 2\mathrm{n}). \quad (12)$$

We shall use the above Lemma with $m = 2$ to get the desired Pfaffian identities

III. PFAFFIAN SOLUTIONS

In this section, we would like to discuss Pfaffian solutions to two (3+1)-dimensional soliton equations of Jimbo-Miwa type (1). Let us take the following Pfaffian

$$\omega_n = \mathrm{Pf}(\mu_{i,j})_{1 \le i,j \le 2n}, \quad (13)$$

$$\mu_{ij} = C_{ij} + \int_{-\infty}^{x} D_x\xi_i \cdot \xi_j dx, \quad i,j = 1,2,\dots,2n, \tag{14}$$

where $C_{ij} = (-C_{ji} \text{ for } i \neq j)$ are constants, and all $\xi_i, 1 \leq i \leq 2n,$ satisfy the linear differential equations:

$$\xi_{i,y} = 2\alpha^2 \int_{-\infty}^{x} \xi_i(x)\, dx, \quad \xi_{i,z} = \sqrt{2}\alpha\xi_{i,x}, \quad \xi_{i,t} = -\frac{1}{2}\xi_{i,xxx}, \tag{15}$$

where α being an arbitrary nonzero parameter, and all ξ_i satisfy the boundary condition $\xi_i(-\infty) = 0$ for $i = 1,2,\dots,2n$.

Theorem 3. If $\xi_i(x,y,z,t), \ 1 \leq i \leq 2n,$ satisfy (39), then the Pfaffian defined by (37) solves the Hirota bilinear equation (5) and the function $v = 2(ln\,\omega_n)_x$ solves the (3+1)-dimensional soliton equation of Jimbo-Miwa type (2).

Proof . Let us express the Pfaffian as

$$\omega_n = (1,2,\dots,2n) = (\bullet). \tag{16}$$

By using the same technique as before and the equation (38) and the equation (39), we may get

$$\mu_{ij,x} = \xi_j\xi_{i,x} - \xi_i\xi_{j,x} = (d_0, d_1, i, j), \tag{17}$$

$$\mu_{ij,y} = \frac{\partial}{\partial x_{-1}}\int_{-\infty}^{x}[\xi_j\xi_{i,x} - \xi_i\xi_{j,x}]dx$$

$$= 2\alpha^2\left[\xi_i\xi_{j,x_{-1}} - \xi_j\xi_{i,x_{-1}}\right] = 2\alpha^2(d_{-1}, d_0, i, j), \tag{18}$$

$$\mu_{ij,z} = \sqrt{2}\alpha(d_0, d_1, i, j), \tag{19}$$

$$\mu_{ij,t} = -\frac{1}{2}\left[\xi_j\xi_{i,xxx} - \xi_i\xi_{j,xxx} - 2(\xi_{j,x}\xi_{i,xx} - \xi_{i,x}\xi_{j,xx})\right]$$

$$= -\tfrac{1}{2}[(d_0, d_3, i, j) - 2(d_1, d_2, i, j)]. \tag{20}$$

Therefore, from the above results (17)-(20), we have the following di¤erential formulae for ω_n:

$$\omega_{n,x} = (d_0, d_1, \bullet), \quad \omega_{n,y} = 2\alpha^2(d_{-1}, d_0, \bullet), \tag{21}$$

$$\omega_{n,z} = \sqrt{2}\alpha(d_0, d_1, \bullet), \quad \omega_{n,t} = -\tfrac{1}{2}[(d_0, d_3, \bullet) - 2(d_1, d_2, \bullet)], \tag{22}$$

$$\omega_{n,xx} = (d_0, d_2, \bullet), \quad \omega_{n,zz} = 2\alpha^2(d_0, d_2, \bullet), \tag{23}$$

$$\omega_{n,xxx} = (d_1, d_2, \bullet) + (d_0, d_3, \bullet), \quad \omega_{n,yx} = 2\alpha^2(d_{-1}, d_1, \bullet), \tag{24}$$

$$\omega_{n,yxx} = 2\alpha^2[(d_{-1}, d_2, \bullet) + (d_0, d_1, \bullet)], \tag{25}$$

$$\omega_{n,yt} = -\alpha^2[(d_{-1}, d_3, \bullet) - (d_0, d_2, \bullet) - 2(d_{-1}, d_0, d_1, d_2, \bullet)], \tag{26}$$

$$\omega_{n,yxxx} = 2\alpha^2[(d_{-1}, d_3, \bullet) + 2(d_0, d_2, \bullet) + (d_{-1}, d_0, d_1, d_2, \bullet)], \tag{27}$$

where we have used the abbreviated notation $\bullet = 1, 2, \dots, 2n$. Substituting the above derivatives of ω_n into the LHS of the equation (5), we arrive at

$$\left(\omega_{xxxy} + 2\omega_{ty} - 3\omega_{zz}\right)\omega - 3\omega_{xxy}\omega_x +$$

$$
\begin{aligned}
&3\omega_{xx}\omega_{xy} - 2\omega_t\omega_y - \omega_{xxx}\omega_y + 3\omega_z^2 \\
&\quad = 6\alpha^2[(d_{-1}, d_0, d_1, d_2, \bullet)(\bullet) - (d_{-1}, d_0, \bullet)(d_1, d_2, \bullet) \\
&\quad\quad + (d_0, d_2, \bullet)(d_{-1}, d_1, \bullet) - (d_0, d_1, \bullet)(d_{-1}, d_2, \bullet) \\
&\quad = 0,
\end{aligned} \tag{28}
$$

where we have made use of the equation (11) with $m = 2$ to get our Pfaffian identities for determinants. This shows that the Pfaffian $\omega_n = \mathrm{Pf}(\mu_{i,j})_{1\le i,j\le 2n}$, with the conditions (15) solves the (3+1)-dimensional soliton equation of Jimbo-Miwa type (1), which ends the proof.

The system (15) has the solution in the form

$$
\xi_i = \sum_{j=1}^{p} \rho_{ij} e^{\varphi_{ij}}, \quad \varphi_{ij} = l_{ij}x + 2\alpha^2 l_{ij}^{-1} y + \sqrt{2}\alpha l_{ij} z - \frac{1}{2} l_{ij}^3 t + \varphi_{ij}^0, \tag{29}
$$

where ρ_{ij}, l_{ij}, and φ_{ij}^0 are free parameters and P is arbitrary natural number. In particular we have the following specific solutions, letting

$$
\xi_i = e^{\varphi_i}, \quad \varphi_i = l_i x + 2\alpha^2 l_i^{-1} y + \sqrt{2}\alpha l_i z - \frac{1}{2} l_i^3 t + \varphi_i^0, \tag{30}
$$

where l_i and φ_i^0 are free parameters, and α arbitrary nonzero parameter. In order to investigate those solutions of (5), we choose special values for $(C_{ij})_{n\times n}$ and the functionξ_i. For example, let

$$
\xi_i = e^{\varphi_i}, \tag{31}
$$

$$
\varphi_i = l_i x + 2\alpha^2 l_i^{-1} y + \sqrt{2}\alpha l_i z - \frac{1}{2} l_i^3 t + \varphi_i^0, \tag{32}
$$

we obtain

$$
(i,j) = C_{ij} + \frac{l_i - l_j}{l_i + l_j} \xi_i \xi_j. \tag{33}
$$

Let us consider the two-soliton and three-soliton solution for the equation (5). For the two-soliton solution we may choose $C_{12} = C_{34} = 1,\ C_{13} = C_{14} = C_{23} = C_{24} = 0$. Then

$$
\begin{aligned}
\omega_2 &= (1,2)(3,4) - (1,3)(2,4) + (1,4)(2,3) \\
&= 1 + \frac{l_1 - l_2}{l_1 + l_2} e^{\varphi_1 + \varphi_2} + \frac{l_3 - l_4}{l_3 + l_4} e^{\varphi_3 + \varphi_4} \\
&\quad + \frac{(k_1 - k_2)(k_1 - k_3)(k_1 - k_4)(k_2 - k_3)(k_2 - k_4)(k_3 - k_4)}{(k_1 + k_2)(k_1 + k_3)(k_1 + k_4)(k_2 + k_3)(k_2 + k_4)(k_3 + k_4)} e^{\vartheta_1 + \vartheta_2 + \vartheta_3 + \vartheta_4}.
\end{aligned}
$$

Putting

$$
\varpi_i = \varphi_i + \varphi_{i+1} + \rho_i, \text{where } e^{\rho_i} = \frac{l_i - l_{i+1}}{l_i + l_{i+1}}, \tag{34}
$$

we may rewrite ω_2 as

$$
\omega_2 = 1 + e^{\varpi_1} + e^{\varpi_3} + l_{12}^{34} e^{\varpi_1 + \varpi_3}, \tag{35}
$$

where

$$
l_{ij}^{lm} = \frac{(l_i - l_l)(l_i - l_m)(l_j - l_l)(l_j - l_m)}{(l_i + l_l)(l_i + l_m)(l_j + l_l)(l_j + l_m)}. \tag{36}
$$

In a similar way we can obtain the three-soliton solution for the equation (5) by select some special values to the parameters. We may choose $C_{12} = C_{34} = C_{56} = 1$, otherwise $C_{ij} = 0$, and then we may rewrite ω_3 as

$$\omega_3 = 1 + e^{\varpi_1} + e^{\varpi_3} + e^{\varpi_5} + l_{12}^{34} e^{\varpi_1+\varpi_3} + l_{12}^{56} e^{\varpi_1+\varpi_5} + l_{34}^{56} e^{\varpi_3+\varpi_5} + l_{123}^{456} e^{\varpi_1+\varpi_3+\varpi_5}, \quad (37)$$

where

$$l_{ijp}^{lmn} = l_{ij}^{pl} l_{ij}^{mn} l_{pl}^{mn}. \quad (38)$$

Therefore, if we put $l_{ij}^{lm} = e^{L_{ij}^{lm}}$ then the N-soliton solution of the equation (5) is expressed as

$$\omega_N = \sum \exp\left(\sum_{i=1}^{N} \beta_{2i-1}\, \varpi_{2i-1} + \sum_{i<j<l<m}^{(2N)} L_{ij}^{lm} \beta_i \beta_l\right). \quad (39)$$

Where $\sum$ denotes the summation over all possible combinations of $\beta_1 = 0,1,\ \beta_2 = 0,1,\dots,\ \beta_{2N} = 0,1,$ and $\sum_{i<j<l<m}^{(2N)}$ is the sum over all $i,\ j,\ l,\ m\ (i < j < l < m)$ chosen from $\{1,2,\dots,2N\}$. Furthermore, the equation (1) has the N-soliton solution

$$v = 2\frac{\partial}{\partial x}(\ln \omega_N). \quad (40)$$

The following three Figs. 3.1, 3.2 and 3.3 of three dimensional plots and two dimensional contour plots show the corresponding Pfaffian solutions defined by (40) on the indicated specific regions, with specific values being chosen for the parameters. In the contour plots, we see the interaction regions and patterns of the involved solitons.

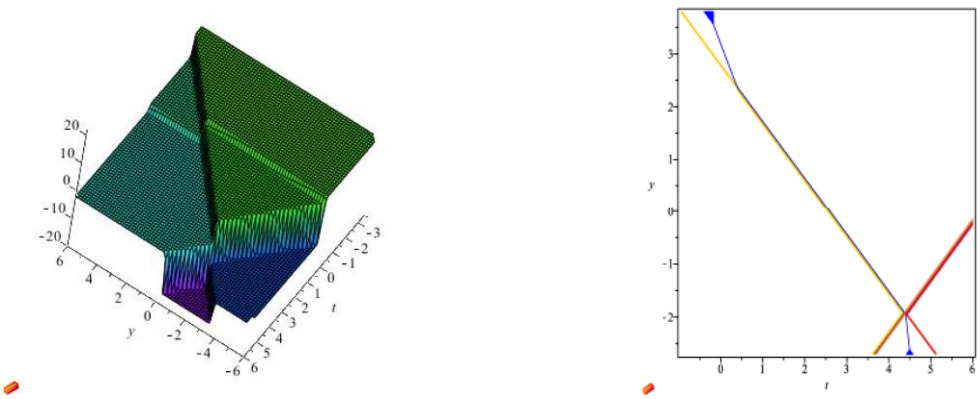

Figure 3.1: *N=3: k_1=-4,k_2=-3,k_3=-7,k_4=6,k_5=-1,k_6=5-6,a=6,x=-2,z=5.*

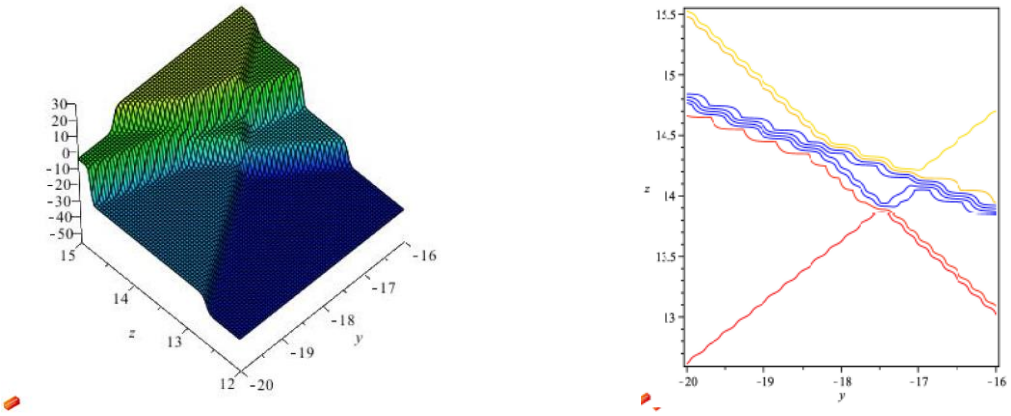

Figure 3.2: *N=3:* $k_1=7,k_2=-2,k_3=-3,k_4=-4,k_5=-5,k_6=-6,a=5,x=6,t=5.$

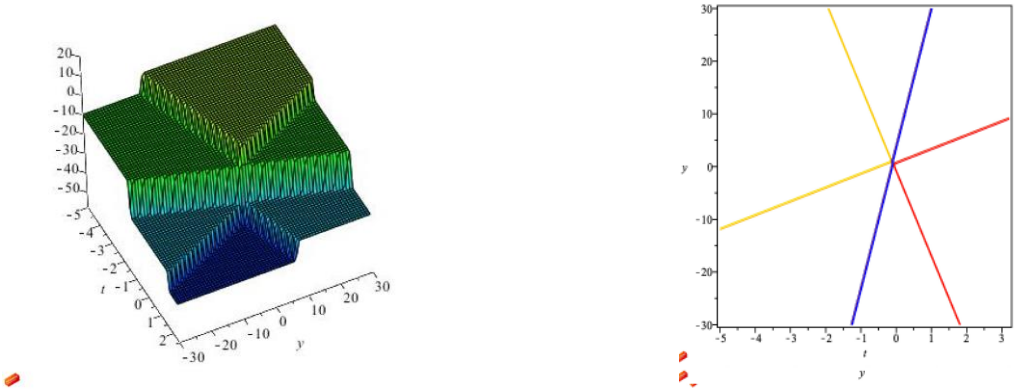

Figure 3.3: *N=3:* $k_1=-5,k_2=-4,k_3=-3,k_4=-2,k_5=1,k_6=-6,a=-2,x=1,z=1.$

IV. Conclusions

It is known that the Jimbo-Miwa equation is the second equation in the well-known KP hierarchy of integrable systems, which is used to describe certain interesting (3+1)-dimensional waves in physics but not pass any of the conventional integrability tests. In this paper, we have built an Pfaffian formulation for the (3+1)-dimensional soliton equation of Jimbo-Miwa type:

$$2v_{yt} + v_{xxxy} + 3v_{xx}v_y + 3v_xv_{yx} - 3v_{zz} = 0.$$

The facts used in our construction are the Pfaffian identities. Theorems 3 present the main results on Pfaffian solutions, which say that

$$v = 2\frac{\partial}{\partial x}(ln\,\omega_n), \qquad \omega_n = \mathrm{Pf}(\mu_{i,j})_{1\le i,j\le 2n},$$

where ω_n is defined by

$$\mu_{ij} = C_{ij} + \int_{-\infty}^{x} D_x\xi_i(x)\cdot\xi_j(x)dx,$$

with $C_{ij} = \text{constant},\ \mathrm{i,j} = 1,2,\dots,2\mathrm{n},$ and $\xi_i,\ 1 \le i \le 2\mathrm{n},$ satisfying

$$\xi_{i,y} = 2\alpha^2 \int_{-\infty}^{x} \xi_i(x)\,dx, \quad \xi_{i,z} = \sqrt{2}\alpha\xi_{i,x}, \quad \xi_{i,t} = -\frac{1}{2}\xi_{i,xxx},$$

where α is an arbitrary nonzero parameter, solve the (3+1) dimensional soliton equation of Jimbo-Miwa type (1). Examples of the Pfaffian solutions were made, along with a few plots of particular solutions. In Theorem 3, we only considered specific sufficient conditions: (15), though there is a free parameter α in the conditions. It would be great to look for more general conditions involving combined equations for Pfaffian solutions.

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IMPOTENT FACTORS FOR INFLOW OF FOREIGN DIRECT INVESTMENT IN "SAARC" COUNTRIES

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ABSTRACT

Aim of study was to determine such factors that can attract Foreign Direct Investment (FDI) in SAARC countries. Data was available for seven countries who are the members of SARRC countries but Afghanistan who is a new member of SAARC countries cannot contribute in this study due to unavailability of data. All seven factors like Subsidies, Tax, Exchange rate, Interest rate, Return, GDP per capital, and Population have significant effect on Foreign Direct Investment in all SAARC countries in short run and in long run but three factors like Government expenditure, inflation and financial production have insignificant effect on FDI in this study. Results of the study are strongly applicable in all SAARC countries.

Keywords: Determinants, FDI, SAARC.

INTRODUCTION

SAARC (South Asian Association for Regional Corporation) a bunch of eight countries was created in 1985 to develop some trade relationships among these countries. The eight members are Pakistan, Afghanistan, Nepal, Bangladesh, Bhutan, Maldives, India and Sri Lanka. The trade relationship and some other economic factors in SAARC are very important for their foreign direct investment. Exchange in workforce, movement of goods and services and foreign investment play an important role in development of the economies and create a significant integration among developing countries (Agmon 1972; Johansen 1988; Bremnest et al.2001).

As the determinant of FDI in previous literature Main variables were related to cost, revenue related, risk related and some other variables. But the effect of these variables on FDI was different in different studies which explained in literature review.

1.1 Revenue related determinants

In this category there are following factors:

Market size, proxy is Population, GDP per capita, the growth of local markets, GDP growth is the change in trade shares and Trade restrictions

1.2 Cost factors

In this category there are following factors:

Factors relating to taxes, labor cost, Government expenditures, Infrastructure development cost and R & D cost

1.3 Risk factors

In this category there are following factors: Political instability, Economical instability and Terrorism

1.4 Other factors

In this category there are following factors: Employment conditions, Inflation rate and Interest rate

LITERATURE REVIEW

Investment in a foreign country through another country to increase the globalized market system, that is very important for economic growth of a country. There are many determinants which are important for foreign direct investment; one of them is market size and its growth. It can be measured by population or GDP per capital of that country where the investment is mad. If market size is larger than there must be more attraction for investor to invest their assets in this economy, because it offer a large customer base for investment. So market size has a positive effect on FDI (yamori1998).

High per capital income of the country also a positive point to predicts a good spending of consumers in an economy. Imports and exports are also impotent determinants through an investor can point out the investment opportunities, so it is also a spillover effect on FDI (Edverd 1990: Gastanga et al 1998).

Human capital recourses also an attraction for foreign investors, quality of labor can represent these recourses. Most important country regarding this quality is china where quality of labor attracts the investment. Low cost labor is also an important factor for FDI. Inexpensive labor can attract more foreign investment then expensive labor. Good infrastructure is a sign of good opportunity of investment, so well placed infrastructure can increase the foreign direct investment (Weeler and Mody 1992).

Legal frame of work of a country also predict the investment opportunities, trade barriers among countries can decrease the investment opportunities. Government taxes and subsidies also have direct effect on FDI (Asiedu 2002).

In old literature different proxies were used to evaluate the country characteristics such as GDP, distance between countries, trade and other political relationships. These factors were very important for foreign investments. Empirically it was evaluated in 18 economies which having a transition environment (Jun and Singh 1996; Brainard 1997; Helpman 2004).

A study was conducted in US in which it was find that population and its growth is also important factors. In other study labor market was discussed as a determinant of FDI which can calculate through skilled labor which is represented by engineers or scientist of that country. Infrastructure expenditures also attract the foreign investors (Karfakis and Moschos 1990; Katsimbris and Miller 1993).

According to new theory of growth FDI is an initiator of growth of a country. To describe the growth of any developing country FDI is an important factor that can explain it. This variable determines the technological change and production improvements of a country, through which it is, distinguish-able from foreign aid or any other foreign investment such as portfolio investment of a country. It was acknowledged that high progress in technology may leads to low growth in developing countries. FDI also promote capital account, which help also enterprise growth (Shaw, I992).

A study finds that low inflation rate, low wage rate and low country risk or political risk leads high FDI opportunities. On other hand good work force in education term and developed infrastructure can attract foreign investors. In other study exports and expenditures on R&D also indicate a good opportunity for FDI (Braunerhjelm and Svensson 1996; Mody and Srinivasan 1998)

Foreign integration like political or economical relation, especially trade relationships with foreign countries is very important for FDI; it was empirically described in 1998 that membership of European Union is a positive sign for FDI (Mayhew 1998). Research and development expenditure also a good indicator of transition economies and can be an important factor or determinant of FDI because it explains the positive or negative change in technology or growth of a country (Barrell and Pain 1999).

For foreign interaction country risk is very important factor, which is determined by different proxies in 1998, such as industrial development and privatization, legal framework of that country were main parts of country risk. Institutional variables were studded particularly for FDI (Meyer 1998; Brenton et al. 1999).

To evaluate the determinants of FDI the European economy is a best market to identify them, the flow of FDI and its changing through the size of market and economical development was empirically investigated. Market attraction for investment is also an impotent factor for FDI which was studded in depth in old literature; bilateral flow was investigated in these previous studies for foreign investment opportunities in country (Wheeler & Mody 1992; Resmini 2001).

Corporate governance can provide a good platform for FDI through which economical growth is possible. Enterprise growth is actually important for collaboration of other country through FDI (Djankov and Murrell 2002).

Literature review explains that foreign direct investment is based on country conditions and location of the country where the investor can make profit through its investment. Condition of market can be determined through analysis of different factors, such as per capital income, employment rate and taxes implication is important. Labor market is an important factor for FDI which has a negative impact on like if wage rate is high it leads to low FDI in country. On other hand infrastructure expenditure has a positive impact on FDI, higher the expenditure leads higher the investment. Production of manufacturing industries and infrastructure of a country also has a positive effect on FDI In earlier studies it was very clear that market size of a country has positive point to attract the foreign investment. Other factors such as GDP related factor are also help to attract FDI such as Growth of GDP and GDP per capital (Agarwal 1980;

Wheeler and Mody 1992; Jackson and Markowski 1995; Taylor 2000; Chakrabarti 2001; Nunnenkamp 2002).

FDI (Foreign direct investment) is an important variable for integration among the SAARC countries, it is also important for economical growth of a country. This relationship was found in 1999 that investment inflows and trade relationships are important for integration in European countries (Di Mauro, 1999; Buch et al., 2003).

Variables were identified through literature review of old studies. Different authors had identifies many variables which are the determinants of FDI in that particular region or countries. This study is held on SAARC countries because these countries have almost same pattern of economies so their determinants for FDI should be same for all.

METHODOLOGY

3.1 Data

To evaluate the FDI determinants among SAARC countries, in this study different variables were taken from these seven countries because data was not available for Afghanistan, data is taken from the web site of " IMF" (international monetary fund). Data was on annual basis for fourteen years such as, Jan 2000 to Dec 2013.

The variables which are evaluated in this study are; FDI, GDP per capital, Government Expenditures, Exchange Rates, Trade restrictions, Tax, Population, Interest rate, Production, Inflation rate, Subsidies and Dummy of seven SAARC countries. Variables were identified through literature review of old studies. Different authors had identifies many variables which are the determinants of FDI in different regions.

3.2 Method of Analysis

First of all after collecting data a unit root test ADF is applied to check the data movements, the result is reported in Table 1 in which it is showing that unit root test rejected its null hypothesis and all data comes stationary at first difference.

To evaluate the short run relationship vector error correction model was applied. To evaluate the effect of different variables, Granger Causality was applied on these variables and FDI of all countries. This test was applied in pair combinations of variables of these SAARC members with FDI. Vector Error Correlation also applied to evaluate the short term relationship among variables. To evaluate the long run relationship among variables, a statistical test "co-integration' test is applied on the data of these SAARC countries. To analyze the impact of all variables on FDI in SAARC countries, Ordinary least Square (OLS) test is applied. Basic data for variables were collected but further it was amended for requirements which are

stated in Table 1. To evaluate the impact on FDI in all countries, dummy variables were created in OLS equation which is stated as:

3.3 OLS Equation 1

$$(FDI)_{it} = \alpha + \beta_1(INF)_{it} + \beta_2(GOVEX)_{it} + \beta_3(EXCH)_{it} + \beta_4(TRADR)_{it} + \beta_5(TAX)_{it} + \beta_6(POPU)_{it} + \beta_7(PRO)_{it} + \beta_8(INTR)_{it} + \beta_9(RET)_{it} + \beta_{10}(DBANG)_{it} + \beta_{11}(DBHUT)_{it} + \beta_{12}(DMAL)_{it} + \beta_{13}(DPAK)_{it} + \beta_{14}(DNEP)_{it} + \beta_{15}(GDP)_{it} + \beta_{16}(DIND)_{it} + \beta_{17}(SUBS)_{it} + \beta_{18}(DSIRI)_{it}$$

Table 1

Variable Measurement for FDI Determinants

Variable	Variable Measurement
FDI	Foreign Direct Investment = (100*FDI/GDP)
GDPC	GDP per Capital = (GDP/Population)
GOVEX	100*Government expenditures / GDP
EXCH	Exchange Rates of the country
TRADR	Trade Restrictions = (imports+ export/GDP)
TEX	Annual Tax of the country
POPU	Population of the country
PRO	Production of financial depth = (100*M2/GDP)
INTR	Interest rate = (I /100)
RET	Return = (log of 1/GDPC)
DBANG	Dummy of Bangladesh country
DBHUT	Dummy of Bhutan country
DMAL	Dummy of Maldives country
DPAK	Dummy of Pakistan country
DNEP	Dummy of Nepal country
DSIR	Dummy of Siri Lanka country
SUBS	Subsidies by Government
INF	Inflation rate

RESULTS AND DISCUSSION

To test the "stationarity" of data ADF test applied which mention that further data can be use for analysis. The results of all variables were significant accept inflation. ADF value is less than the critical value when test applied at 1st difference. All variables are significantly sport "stationarity" at first differential like *I*(1) but not at *I*(0) level. For further analysis all data which is stationary will use For further analysis. So

to evaluate the stationarity of the variables a test which was introduced in 1981 by "Augmented Dickey Fuller" (ADF) Test was applied and the results are described in table two (2).

Critical value is also written for the comparison of results that at first difference all data is stationary and ADF is significant. For example FDI result was 5.48765, which is greater than the 3.5312, this result was at level. All variables show greater value than critical value.

The effectiveness of these determinants different statistical techniques are applied on data, such as Cointegration test, which explains the long run relationship among these determinants, and to evaluate the short run relationship the Vector Error Correction test is very helpful. To test the effect of FDI on other variables and effect of other variables on FDI, means to evaluate a bidirectional relationship "Granger Causality" is an important test and this test is applied in pair combinations of all economic variables with FDI, results are described in Table 3. Only three variables were not significant results which cause each other. Population, subsidies and trade restrictions had no relationship with FDI. Other variables were significant relationship with FDI.

According to previous studies all SAARC countries have a strong trade links and FDI also show the relationship with other economic variables, that is statistically proved in literature that these variables having effect on it. To find out the long run relationship among detriments or economic variables of FDI a statistical test "co-integration" applied. Results are stated in Table 4 in which Likelihood ratio is greater than critical values from at most 1 to at most 2, which is showing that variables have long run integration. Significant results have low critical values are less then likelihood values. For detail description results of equation one are reported at the end of Table 4, in which three variables have insignificant values such as financial production, Inflation and Government Expenditure.

Vector Error Correlation also applied to evaluate the short term relationship among variables. In this paper the results of the VEC test are stated in Table 5, which shows the same results such as three variables have insignificant values. These values are indicating that other than these three variables all variables are the determinants of FDI with significant values. These variables can affect the foreign investment in short terms.

To analyze the impact of all variables on FDI in SAARC countries, Ordinary least Square (OLS) test is applied. Variables explained in Table 1 that was used in OLS equation, the results of this test are stated in Table 6. Dummy variables explain that the same effect in all countries exists or not. All dummy variables show very significant values; these values explain that all SAARC countries environment is same with respect to FDI. Population variable and Trade restrictions are those variables which act in same way in all these countries, or these variables are common factors in SAARC countries as determinants' of FDI.

CONCLUSION

This paper determines the factors that can affect the foreign direct investment. This study evaluates variables in SAARC countries which can attract FDI positively or negatively. Many authors described positive and negative effect on FDI through different variables. Population was a variable which has significant results in this study. All seven factors like subsidies, tax, exchange rate, interest rate, return, GDP per capital, and population have significant affect on Foreign Direct Investment in all SAARC

countries in short run and in long run but three factors like Government expenditure, inflation and financial production have insignificant effect on FDI. All economies have similar economic stability and effect is also similar with respect to FDI. Cost of the economy which is a positive effect on FDI according to different authors that is described in literature review. Government expenditures and good infrastructure are the cost of the economy, but these factors have no significant impact on FDI in SAARC countries. Limitation of this study is unavailability of data of different variables which are also important for attraction of foreign investment. Such as infrastructure, labor cost, political instability, R& D expenditures and labor quality of these SAARC countries.

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Table 2

ADF Results for FDI Determinants

variables	ADF value	Critical Value		variables	ADF value	Critical Value	
EXCH	-4.52346	1% *	-3.5312	INTR	-5.45793	1% *	-3.5312
		5%	-2.9055			5%	-2.9055
		10%	-2.5899			10%	-2.5899
FDI	-5.48765	1% *	-3.5312	PRO	-4.75755	1% *	-3.5312
		5%	-2.9055			5%	-2.9055
		10%	-2.5899			10%	-2.5899
GDPC	-6.77319	1% *	-3.5328	SUBS	-4.87525	1% *	-3.5312
		5%	-2.9062			5%	-2.9055
		10%	-2.5903			10%	-2.5899
GOVEX	-4.82021	1% *	-3.5312	TAX	-5.36929	1% *	-3.5312
		5%	-2.9055			5%	-2.9055
		10%	-2.5899			10%	-2.5899
INF	-4.45996	1% *	-3.5297	TRADR	-4.45762	1% *	-3.5312
		5%	-2.9048			5%	-2.9055
		10%	-2.5896			10%	-2.5899
PRO	-5.29607	1% *	-3.5312	RET	-4.49763	1% *	-3.5312
		5%	-2.9055			5%	-2.9055
		10%	-2.5899			10%	-2.5899

Table 3

Granger Causality Results for FDI Determinants

Granger Causality	Result	Granger Causality	Result
GDPC → FDI	YES	FDI → SUBS	NO
FDI → GDPC	YES	SUBS → FDI	NO
GOVEX → FDI	YES	POPU → FDI	NO
FDI → GOVEX	YES	FDI → POPU	NO
TRADR → FDI	YES	PRO → FDI	YES
FDI → TRADR	NO	FDI → PRO	YES
INTR → FDI	YES	RET → FDI	YES
FDI → INTR	YES	FDI → RET	YES
EXCH → FDI	YES	TAX → FDI	YES
FDI → EXCH	YES	FDI → TAX	YES

Table 4

Co integration Results for FDI Determinants

Egn. value	LikeliH. Ratio	5% Cr. Value	1% Cr. Value	Hypothesized Results
0.790186	428.7456	233.13	247.18	None **
0.744002	324.1227	233.13	247.18	At most 1 **
0.564969	232.8295	192.89	205.95	At most 2 **
0.53997	177.0628	156	168.36	At most 3 **
0.46242	125.0398	124.24	133.57	At most 4 *
0.349889	83.45434	94.15	103.18	At most 5
0.262589	54.60333	68.52	76.07	At most 6
0.224443	34.19444	47.21	54.46	At most 7
0.144584	17.16481	29.68	35.65	At most 8
0.091851	6.701578	15.41	20.04	At most 9
3.67E-03	0.246324	3.76	6.65	At most 10

FDI	SUBS	GOVEX	INTR	EXCH	PRO
Equation	-0.0414	0.199091	-9.75689	-11.7125	1.178839
one	-0.00793	-0.17551	-11.4349	-1.59983	-0.66514
C	POPU	RET	INF	TEX	TRADR
-46.7249	0.042248	-8.79754	67.62087	0.000201	0.000451
	-0.00795	-1.59682	-12.6462	-4.90E-05	-0.00013

Table 5

Vector Error Correlation Estimated for FDI Determinants

Co integrating Equation # 1			
FDI	1	PRO	1.178839
			-0.66514
C	-46.72493		-1.77232
GDPC	9.48E-05	RET	-8.797542
	-5.10E-05		-1.59682
	-1.87511		(-5.50943)
GOVEX	0.199091	TAX	0.000201
	-0.17551		-4.90E-05
	-1.13437		-4.07218
INTR	-9.756886	TRADR	0.000451
	-11.4349		-0.00013
	(-0.85326)		-3.59375
POPU	0.042248	EXCH	-11.7125
	-0.00795		-1.59983
	-5.31265		(-7.32109)
INF	67.62087	SUBS	-0.041402
	-12.6462		-0.00793
	-5.34715		(-5.22238)

Table 6

OLS Results for FDI Determinants

Variable	Coefficient	(t)Statistic	Prob.	Sig.Results
EXCH	-10.771	-0.65279	0.5167	No
GOVEX	0.445881	1.007413	0.3183	No
INF	-3.02669	-0.28366	0.7778	No
INTR	-17.6004	-0.32145	0.7491	No
POPU	0.678639	9.294998	0.000	Yes
PRO	0.023263	0.020431	0.9838	No
RET	0.451796	0.028116	0.9777	No
SUBS	0.010721	0.769077	0.4453	No
TAX	-9.98E-06	-0.07889	0.9374	No
TRADR	-0.00061	-2.59251	0.0123	Yes
DBANG	651.2526	10.9795	0.000	Yes
DBHUT	715.5706	7.260069	0.000	Yes
DMAL	709.5186	7.021552	0.000	Yes
DNEP	708.9958	7.946153	0.000	Yes
DPAK	657.4377	11.07374	0.000	Yes
DSIR	718.1137	7.525996	0.000	Yes