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Remarks from the Editors

We are pleased to publish this third volume of the NUM Research Series which aims to promote the continuing research activities among our faculty members and disseminate their research findings as part of an ongoing process of knowledge sharing with our academic community. Our goal is to promote research activities and publication through a series of volumes of the NUM Research Series. As a university fully committed to promoting a higher quality of academic life, publishing the NUM Research Series is one of the many tasks which will help us to move in this direction.

This third volume consists of fourteen articles on a wide range of topics which include: managing change and assessing total quality management in higher educational institutions, curriculum mapping and reform, entrepreneurship with a focus on women entrepreneurs, human resource management, international and regional trade within ASEAN, consumer behavior and the rise of mobile banking in Cambodia.

We do believe that through the publishing of the NUM Research Series, which covers a wide variety of academic subjects, that this will help to make the National University of Management a center of excellence for academic research, discussion and development in Cambodia.

Thank you all very much.

Sincerely,

Hor Peng, Ph.D., Chief Editor
Ly Sok Heng, Ph.D.
Dr. Kang Sovannara
Stephen Paterson, MA

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CHANGE, MANAGING CHANGE, PUBLIC ORGANIZATION AND PUBLIC UNIVERSITY

Dr. Kang Sovannara [1]

Abstract

Change is an ever-present and essential part of life, and the university a constantly evolving organization. While this can make it a dynamic and vibrant place to work, change can present challenges for individuals and groups, and needs to be expertly managed if we are to realize the benefits of making changes at any scale. The management challenge facing contemporary universities refers to the multiple roles assumed by universities and the extraordinary increase in the number of subject fields, heightening in turn the complexity of the university environment. The main objective of this paper is to examine the evolutionary changes and challenges facing with the National University of Management, discussion and recommendation will be presented in the study. Questionnaires along with interviews with deans, departments, faculties, staff and students were conducted in this study. The success of change for the university included improving physical infrastructure, upgrading technology, developing curriculum, building capacity of human resources, improving research activities and publication, improving work conditions, and redefining internal rules and policy. Current management of the university, however, still criticized by some faculty staff and students as well as public clients on the improvement of quality, the implementation of vision and strategy, insufficient communication, lack of commitment and empowerment, do not clear the roles and responsibilities to implementation of change and lack of control mechanism. To overcome the change challenges, some recommendation was proposed for successful implementation of the changes for the university.

Key words: *Change, Managing Change, Public Organization and Public University.*

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1 Background

Universities, along with the many other institutions rendering higher education services, are experiencing an environment of change and transformation, challenging their traditional structures and strategies and highlighting their problems, such as the slowness of decision making processes, internal bureaucracy, corporatism, teaching competences and standards, and forms of management that have impact on the poor performance of this organizational type (Bratianu, Reinhardt and Almasan, 2010). In the current market reality, the university can be considered as a "company" providing educational services to its clients, students and employers. Similar to other companies and institutions, it should also be natural for higher education institutions to change their ongoing processes and activities, and implement a new institutional model reflecting the provision of educational services within a new social environment (Drozdová, 2008). Hence, at the very core of universities is a need to be companies of knowledge, developing teaching, research and outreach activities without ever losing sight of the business vision contained within its administrative structure (Hardy, 1996; Bryde and Leighton, 2009). This is due to the fact that higher education institutions are forced to explicitly prove to society that they make effective and efficient usage of their resources and that their activities bear relevance to the employment market, aspects only really achievable through modern management acting in accordance with the prevailing environment (Hintea, Ringsmuth and Mora, 2006). Thus, the management challenge facing contemporary universities refers to the multiple roles assumed by universities and the extraordinary increase in the number of subject fields, heightening in turn the complexity of the university environment (Hintea and Loessner, 2005). Simultaneously, financial restrictions, rapid technological change and rising coordination difficulties raise the level of uncertainty and dynamism of the university context. The implications of this scenario for the organization and management of universities may be analyzed within the scope of the evolution from the classical university to the current university environment (Davies, 1987; Hounshell, 1996; Bok, 2003).

2 Statement of Problem

In accordance with the positions of Hardy and Fachin (1990), managing universities means striving for ambiguous objectives involving various electoral groups, relatively ill-defined technologies, highly specialized core professionals (or professors), and working in an exposed and vulnerable environment. Correspondingly, university management has to incorporate such factors and to develop an approach with an appropriately matching style. Frequently, questions of shared governance, the role of leadership and the changeover from bureaucratic management to a more professional approach has been of major concern. In Cambodia, the umber of public universities increased from 8 in 1997 to 39 in 2004 and the number of students increased from nearly 10,000 to more than 200,000 (Higher Education Vision 2030). However, Cambodian higher education has been analyzed by different educational experts as "a cause for concern," "plagued with difficulty," and "in a ferment of concern." It reflects a number of problems with higher learning institutions: they are centrally supervised by the government ministries, they operate with limited financial resources and are fraught with political interference without transparency of academic recruitment, university leader appointment, and program approval (Ford, 2006 and Rany, 2012). The National University of Management (NUM) was founded in 1983 as the Economic Science Institute (ESI), and received assistance from the National Economics University of Hanoi, Vietnam until 1991. With the opening up of Cambodia to the international community during early 1990s, the ESI was renamed to the Faculty of Business (FOB), which supported by Asia Foundation and then USAID (1994-1997). In 1998, the FOB was transformed into the National Institute of Management (NIM), and from 2004, the NIM was renamed into the National University of Management (NUM). From time to time, the university faced with many challenges of managing change such as management system, financial system, curriculum development, organizational culture, and especially the quality of education and services. *Thus, the research problem of this study is on what challenges of managing change in the public universities in general, and particularly in the National University of Management? How to overcome change challenges at the National University of Management?*

3 Objectives of Study

The main objectives of the study:

(1) To overview key concepts of change management in public organization.
(2) To study the evolutionary changes of the National University of Management.
(3) To discuss the challenges of change management of the National University of Management.
(4) To propose guidelines for overcoming the change challenges of the National University of Management as well as for other public universities in Cambodia.

4 Scope and Limitation

The study focuses on the management of change of the National University of Management, which is a leading change in public Universities in Cambodia. Due to time constraints, other public universities as well as private universities will not consider in this study. Only three popular models of change will discuss and compare to select the best fit for the managing change of the public university. The analysis method of this study will use only qualitative analysis, so that some variables use perceptual measures will lead to limitation of making conclusion and recommendation.

5 Significance of Study

The research discussed about the challenges of change management evolution of the National University of Management. The results will be shared to other public universities on how the management challenge of changes and how to overcome the resistance to change. The National University of Management is a leading public university in the transformational change of curriculum and management from period to period, so that many experiences of change challenge would be useful for other public universities to learn and how to overcome those challenges.

6 Research Methodology

The research was designed around one case study site, the National University of Management. The method used in this study is only qualitative method. Historical secondary data collected from NUM through questionnaires and interviews. A set of questions was developed based on the key variables identified in the conceptual framework of change management model. Information was also collected from a separate set of interviews with university management (deans/department heads) and faculties, staff and students to support case analysis. Statistical used is the descriptive analysis.

7 Concepts of Change Management Model

7.1. Definition of Change Management

A simple definition of change in the Sansom and Reid Oxford children's Dictionary (1994) defines change as an act or process through which something becomes different. Van der Merwe tells that the word change is obtained from the Latin word to better (Van der Merwe, 1991). The English Collins dictionary defines change management as a style of management that aims to encourage organizations and individuals to deal effectively with the changes taking place in their work. In general, the word change means is to alter, to make something different or better or transformation of any existing thing by adding some values or giving up for something else. The change is usually planned and there are some responses against changes. The respondent thinks first that what has to change and what have to give up. Changes are always adopted for the good reasons and the subject of interest is always the outcome of the effort (Abbas & Asghar, 2010). According to the Government Accountability Office (1998) defines change management as "activities involved in (1) defining and instilling new values, attitudes, norms, and behaviors within an organization that support new ways of doing work and overcome resistance to change; (2) building consensus among customers and stakeholders on specific changes designed to better meet their needs; and (3) planning, testing, and implementing all aspects of the transition from one organizational structure or business process to another."

7.2.   Importance of Change Management

Change is an ever-present and essential part of life, and the university a constantly evolving organization. While this can make it a dynamic and vibrant place to work, change can present challenges for individuals and groups, and needs to be expertly managed if we are to realize the benefits of making changes at any scale (University of Bath, 2013). We are living in an era where organizations constantly need to be increasing dynamic merely to survive and cope with the rapidly change global economic climate. In the past, organizations assimilated change at times of stability. The relentless pace of change of today's business world created greater anxiety, conflict and risk but also presents amplified opportunities to those organizations able to anticipate and respond (Al-Khouri, 2010). Successful change also involves ensuring employees' capacity to adapt to and work effectively and efficiently in the new environment. The underlying basis of change management is that people's capacity to change can be influenced by how change is presented to them. Their capacity to adapt to change can shrink if they misunderstand or resist the change, causing barriers and ongoing issues. The rationale is that if people understand the benefits of change, they are more likely to participate in the change and see that it is successfully carried out, which in turn means minimal disruption to the organization (Queensland, 2014). Misunderstanding for the concept of change can lead to ongoing and barriers issues. Perceiving the importance and beneficial impact of the change by people is more likely to participate in the change process and see that it is successfully carried out resulting less disruption in the organization (Munassar et al. 2013). Change can be a time of exciting opportunity for some and a time of loss, disruption or threat for others. How such responses to change are managed can be the difference between surviving and thriving in a work or business environment. Change is an inherent characteristic of any organization and like it or not, all organizations whether in the public or private sector must change to remain relevant. Change can originate from external sources through technological advances, social, political or economic pressures, or it can come from inside the organisation as a management response to a range of issues such as changing client needs, costs or a human resource or a performance issue. It can affect one small area or the entire organisation. Nevertheless, all change whether from internal or external sources, large or small, involves adopting new mindsets, processes, policies, practices and behaviour (Queensland, 2014).

7.3.   Planned Change and Emergent Change

Planned change is a term which was first coined by Kurt Lewin to distinguish between change which was consciously embarked upon and planned by an organization in contrast to change which may have come about by accident or impulse (Burnes, 2004). Kurt Lewin became the pioneer of planned change when he introduced the three-step

change model in 1951. This model describes planned change, which is a pre-meditated change which is a product of conscious reasoning and action. The model is often described, as unfreeze, move, and refreeze. The planned change approach largely dominated the theory and practice of change management until the emergent change approach began to gain prominence in early 1980s (Burnes, 2009). The term emergent change is used to describe change that unfolds in an organic or seemingly spontaneous and unplanned way. These were described as either management decisions about seemingly unrelated issues that shape the organization's future and change direction; or factors (either external or internal) beyond the scope of management decisions which influence the change (Iles & Sutherland, 2001). The emergent approach espouses that change is a continuous, open-ended cumulative process of adaptation to changing circumstances and conditions. It views change as a process that unfolds through recurrent variations, accommodations and alterations in practice over time rather than a period of dramatic discontinuity or a discrete series of linear events (Kickert, 2010). This suggests that even planned changes will likely display some elements of emergent change. A number of authors have raised cautions related to emergent approaches to change, and highlight that this approach is relatively new, lacks coherence, and consists of a disparate group of models (Dawson, 1994; Bamford and Forrester, 2003; Todnem By, 2005). This classification of change was adopted and modified by Orlikowski and Hofman (1997) who extended it to include opportunistic change, along with anticipated change (rather than planned) and emergent change in their improvisational model for change management (McCafferty, 2013).

7.4. Developmental Change, Transitional Change, and Transformational Change

Ackerman (1997) in McCafferty (2013) distinguished between types of change by the desired end point of the change in relation to the current position and identified three classifications:

- Developmental change as the name suggests is linked with organizational development and as such can be either planned or emergent. It is described as change that improves or develops the organization, either through introduction of a new process, or through refining and improving an existing function.

- Transitional change describes a change which brings about a shift, transitioning the organization from the existing state to a new desirable state, this sort of change is usually episodic and planned. This type of change echoes the stages proposed by Lewin (1951) of unfreeze, transition or move to new position and refreeze. One such example could be making a transition from a centralized to a decentralized operational system (Marshak, 1993).

- Transformational change is similar to transitional change, but with a more radical shift between the new organizational state and the original state. Transformational change requires a transfiguration from one state to a fundamentally different new state (Marshak, 1993; Ackerman, 1997). Change of this magnitude will require a shift in organizational norms and assumptions, which indicate 'soft' changes as classified by Paton and McCalman (2000). Transformational change can include re-structuring, significant changes in processes, strategy and culture (Iles and Sutherland, 2001).

7.5. Resistance to Change

In organizations, resistance to change which concerns thought of the implication about change appears to be any attitude or behavior indicating willingness to support or make a desired change (Mullins, 2005). In fact, resistance to change is a resistance to loss of something that is valuable or loss of the known by moving to the unknown. Sometimes, people resist the imposition of change that is accepted as a universal truth (Burke, 2008). Nonetheless, resistance can be passive resignation or deliberate sabotage (Kreitner & Kinicki, 2010). Resistance to change is therefore likely to be overcome if: these and the previous issues can be adequately addressed; academic staff are fully involved/have full ownership in the design, development and carrying out of these changes; they have to be an understanding of their new roles; and the results eventually produced are truly ascertainable (Goff, 2006). Even though organizational change is considered as alterations in technology, hierarchy or in structures in the organization, it is obvious that change has tremendous impact on individuals in the organization (Schein, 1980). However, the reason why many organizations fail to accomplish change initiatives is associated with underestimating the influence of change on the individual (Kavanagh & Ashkanasy, 2006). Therefore, neglecting psychological perceptions of employees toward change lead to failure of change initiatives in organizations (Devos, Buelens & Bouckenooghe 2007). Though, for successful change implementations, it is necessary to manage psychological transition of employees effectively (Martin, Jones & Callan, 2005).

7.6. Models of Change Management

Over the past decade, multiple change management models and processes have been developed and used to direct change initiatives within industries and organizations. There are numerous models and theories about change management, and it is a topic subject to more than its fair share of management fads and fashions. Popular approaches include the linear, step-by-step methods exemplified by Kurt Lewin's classic three-step model, John Kotter's popular eight-phase model, the McKinsey's 7-S model, and the ADKAR model. Each approach has its pros and cons, however no one framework is

" best" in more that the approach that taken is relevant to the circumstance. In fact the best change approaches appear to use and adapt aspects of various models to suit the culture of the organization and the context of the change (Queensland, 2014).

7.6.1. Kurt Lewin's Model (1951)

Lewin's model emphasizes the need to diagnose the critical steps of a change program in order to reach its goals successfully. The power of Lewin's model does not lay in a formal propositional kind of theory but in the ability to build "models" of processes that can draw attention to the right kinds of variables that needed to be conceptualized and observed. Following are some further elaborations on the three stages (Kurt Lewin, 1951):

1. *Unfreezing*: The essence of this stage is to reduce the forces that maintain the organization's behavior at its present level. It enables a better understanding of the change program and the need for it e.g., through education, training and development program and team building that secures acceptance by helping managers and employees understand the need for the change.

2. *Changing* (Movement /implementing): having analyzed the present situation, the identified solutions are put into action to support the change program e.g., by changing organization structure, roles or processes and introducing performance management systems that recognize particular progress and individual and team contributions.

3. *Refreeze*: stabilizes the change program at a new state of equilibrium in order to ensure that the new ways of working are embedded, maintained and cemented from regression e.g., through new recruitment, induction programs, performance management systems and cultural reinforcement through the creation of new norms and behaviors.

7.6.2. John Kotter's Model (1996)

In generic management and organization science the eight-step model for successful implementation of organizational change by Jonh Kotter (1996) is well-known and widely accepted. The eight steps:

1. *Establishing a sense of urgenc*y: A sense of urgency is crucial in the initial stages of the process. It must primarily overcome any sense of complacency within the organization.

2. *Creating the guiding coalition*: A core group with enough power to lead the change through the transition stat is required to drive the process.

3. *Developing a vision and strategy*: A vision needs to be created in order to direct the course of change. In conjunction with the vision, there should be a strategy designed to achieve the vision.

4. *Communicating the change vision*: The new vision and strategies for implementation of the change process need to be continually communicated using all practical means.

5. *Empowering broad-based action*: How to create an environment in which the actions required for change can take place. Critical empowering actions need to be taken to allow change to occur.

6. *Generating short-term wins*: Positive feedback in the early stages of the project is a critical success factor and plays an important part in sustaining the vision e.g., through the achievement of interim targets; short-term wins.

7. *Consolidating gains and producing more change*: Systems, structures, and policies may be further adapted to be in line with the vision.

8. *Anchoring new approaches in the culture*: Maintaining the results of change in organizational, group and individual culture is crucial e.g., creating better performance through effective management and leadership development and succession.

7.6.3.   Fernandez & Rainey's Eight Step Model (2006)

Fernandez, and Rainey (2006) reviewed the literature on organizational culture change in the public sector. They found "remarkable similarities" among the models and frameworks for organizational change that they reviewed. Fernandez and Rainey identified eight factors that they suggested to "change leaders and change to which participants" should pay special attention.

1. *Ensure the Need*: Managerial leaders must verify and persuasively communicate the need for change. People have to be convinced of the need for change and suggest beginning by crafting a compelling vision for it that is easy to communicate, appealing, provides overall direction for the change process and serves as the foundation from which to develop specific strategies for arriving at a future end state.

2. *Provide a Plan*: Managerial leaders must develop a course of action or strategy for implementing change. The vision for change needs to be transformed into a strategy with goals and a plan for achieving it. The strategy should offer direction on how to arrive at the preferred end state, identify obstacles, and propose measures for overcoming these obstacles.

3. *Build Internal Support for Change and Overcome Resistance*: Managerial leaders must build internal support for change and reduce resistance to it through widespread participation in the change process and other means. Fernandez and Rainey (2006) write that a crisis, shock, or strong external challenge can help reduce resistance to change. They caution that managers run the risk of playing it too safe if the urgency rate is not pumped up enough.

4. *Ensure Top-Management Support and Commitment*: An individual or group within the organization should champion the cause for change. Successful reform requires leadership continuity and stability, which is a particular challenge in the public sector because of frequent and rapid turnover of many executives in government agencies.

5. *Build External Support*: Managerial leaders must develop support from political overseers and key external stakeholder partly because of the ability of these players to impose statutory changes and control the flow of vital resources to public organizations.

6. *Provide Resources*: Successful change usually requires sufficient resources to support the process. Fernandez and Rainey maintain that change is not cheap or without trade-offs. Planned organizational change involves a redeployment or redirection of scarce organizational resources toward a host of new activities.

7. *Institutionalize Change*: Managers and employees must effectively institutionalize and embed changes. Virtually, all organizational changes involve changes in the behavior of organizational members. For changes to endure, members of the organization must incorporate the new policies or innovations into their daily routines.

8. *Pursue Comprehensive Change*: Managerial leaders must develop an integrative, comprehensive approach to change that achieves subsystem congruence. Similar to Stone, Fernandez and Rainey argue that systemic changes are needed to the subsystems of an organization and "must be aligned with the desired end state.

7.7. Comparisons of Change Management Models

Based on the briefing description of three models above, we understand that all models share similar characteristics with identified a process where the organization has to establish a reason and need for change. All of the models incorporate the development of a vision or desired organizations result and movement from the status quo to a future state. The following is the table of comparison between Kurt Lewin Model, Kotter's Eight Phase Model, and Fernandez & Rainey's Eight Step Model:

Kurt Lewin's Three Step Model (1951) (Social Perspective)	John Kotter's Eight Phase Model (1996) (Private Perspective)	Fernandez & Rainey's Eight Step Model (2006) (Public Perspective)
1. Unfreezing	1. Establish a sense of urgency	1. Ensure the need
	2. Create a guiding coalition	2. Provide the plan
	3. Develop a vision & strategy	3. Build internal support for change and overcome resistance
2. Moving	4. Communicate the change vision	4. Ensure top-management support and commitment
	5. Empower others to act on the vision	5. Build external support
	6. Generate short term wins	6. Provide resources
3. Refreezing	7. Consolidating change & producing more change	7. Institutionalize change
	8. Anchoring new approaches in the culture	8. Pursue comprehensive change

Kurt Lewin's Model saw successful change as a group activity, because unless group norms and routines are also transformed, changes to individual behavior will not be sustained. In organizational terms, refreezing often requires changes to organizational culture, norms, policies and practices (Cummings & Worley, 2001). The simplicity of this model is an advantage since it is easy to understand and communicate. However under the rapid-pace of ongoing changes in today's organizations it lacks some flexibility, adaptability and this feature of perpetual transition (Sarayreh, Khudair & Barakat, 2013). For Kotter's Eight Phase Model, there has problem in all eight stages is that changing people's behavior, not strategy, not systems, not culture. These elements are extremely important, but the core issue is the behavior of what people do and that is how they need to be changed significantly reacting. However, Kotter's plan is built in a corporate context and its success in a public one may be questionable. Conversely, Fernandez and Rainey (2006) describe eight factors serving as a "compass" for public managerial leaders "seeking to find their way amid the sustained, persistent, and challenging pressures for change they confront daily". This eight-step plan of Fernandez and Rainey clearly resembles the one of Kotter. The fact that an acknowledged specialist in the field of specifically public sector oriented management theory (Rainey, 1997) ended up with more or less the same eight-step plan as Kotter does seem to implicate that change management is generic and not specific for the public sector (Kickert, 2010).

8 Discussion of Findings

This section will be presenting the findings of management challenges of change at the National University of Management. The discussion will be based on the theoretical model of change, especially based on the change model of Fernandez and Rainey (2006).

8.1. Number of Respondents

The findings of this study was collected from 32 questionnaires along with interviewing with the respondents that included 16% deans, 19% department heads, 22% faculty and staff and 43% students.
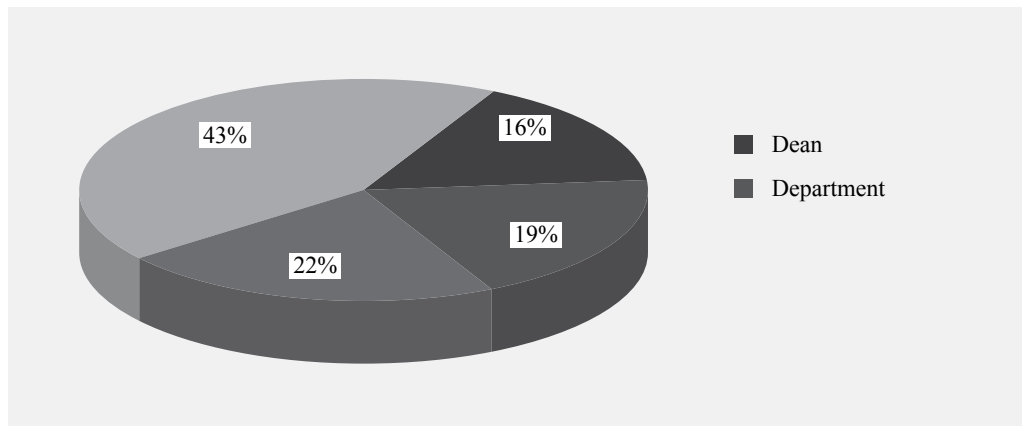
Figure 8.1: Number of qualitative survey

8.2. Working Experience at the National University of Management

Among 32 interviews, in figure 8.2, there are 7 respondents have more than 20 years working experiences in the National University of Management, 9 respondents have 10 to 20 years working experiences, 6 have from 5 to 10 years of working experiences and 10 respondents have less than 5 years in the national university of management.
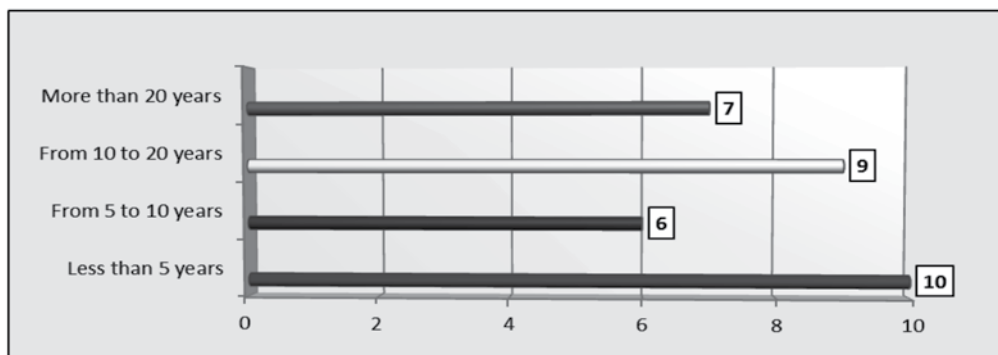
Figure 8.2: Working experience at NUM

8.3.   The Evolutionary Changes at NUM

8.3.1.   The Institute of Economics (1983-1991)

The National University of Management (NUM) founded in 1983 (18 March 1983) as the Institute of Economics under socialism economic system and directly controlled by the Government. The University operation was under the support of the National Economics University in Hanoi, Vietnam. All academic advisors and faculty members are from Vietnam. During that period, the curriculum of five years followed the socialist model included one year of Vietnamese language. There were five major fields of study those are Agricultural Economics, Industrial Economics, Commerce, Finance, and Planning. All majors conducted by Vietnamese lecturers in Vietnamese language. From 1989 (18 July 1989), the Institute of Economics changed the name to the Economic Science Institute (ESI) and still under supported by the National Economics University in Hanoi, Vietnam. The change of university is affected by the change the world politics, the fall down of Soviet Unions. Vietnamese faculties are cut and replaced by Cambodian lecturers who graduated from socialist countries such as East Germany, Soviet Unions, Vietnam, etc. According to the interview with faculties and staff who have worked at the National University of Management for more than twenty years, they found that there were some change in the University and most of them said that the change was radically due to the collapsed of Soviet Union. Most of faculties and staff mentioned that the forces for change in the university came from external factors such as the reform of economics policy, advance of technology, the government regulations, and the change toward market economy.

8.3.2. The Economics Science Institute (1991- 1994)

Since the opening up of Cambodia to the international community and the signing of the Paris Peace Accord in 1991, both the curriculum and the language policy of the Economic Sciences Institute underwent significant change, new courses such as micro and macroeconomics, management, marketing, accounting and finance added to the curriculum. In 1993, the curriculum was completely changed from the socialist model into capitalist model, however a major policy decision developed over the pursuit of the more traditional French system of higher education and language, or one more consistent with an international standard and the use of the English language.

8.3.3. The Faculty of Business (1994-1998)

In 1994 (23 July 1994), the Economic Science Institute separated into two departments: Business and Economics. Department of business was changed into the Faculty of Business (FOB) which located in the former Economic Science Institute (ESI) and department of economics was changed into the Faculty of Economic Sciences moved to combine with the Faculty of Law and became the Faculty of Law and Economic Sciences located in Boeng Trabek School (Currently is the Royal University of Laws and Economics, RULE). Initial support for the Faculty of Business (FOB) provided by the Asian Foundations and later through a USAID provided grants to U.S. institutions to assist the FOB in experimenting with the credit system, training teachers in English, modernizing its curriculum, and strengthening its teaching staff. The U.S. institutions were under contract with USAID to work with Georgetown University in areas of small business training and strengthening of the teaching faculty, and University of San Francisco in the area of legal education. Marketing and Accounting majors were introduced during this period, and the length of the undergraduate program was reduced from five to four years of study. Commercial law courses were also added to the curriculum. Development activities at the FOB during that time have led to the introduction of English as a second language and the establishment of subject matter content designed to support Cambodia's overall transition to a market economy. The change initiated at the FOB have taken on added significance with the recent award of Most Favored Nation status by the Government of the United States and the anticipated membership of Cambodia in the Association of Southeast Asian Nations (ASEAN).

8.3.4. The National Institute of Management (1998-2004)

In 1998 (14 July 1998), the Faculty of Business (FOB) changed to the National Institute of Management (NIM) and permitted to charge tuition fees from the students.

The mission of NIM is to serve the nation by providing competent, socially responsible managers and entrepreneurs. The vision of NIM is to be the national leader in management education, research, and entrepreneurship training in Cambodia. The main objectives of NIM in that time are preparing undergraduate students for the day-to-day work environment by equipping the with knowledge, skills, and attitudes that lead to satisfying and rewarding careers; introducing prospective managers and entrepreneurs to real world work problems and solutions through internship programs; providing an opportunity for more mature students to learn the basic techniques of business and management through part-time undergraduate and graduate (EMBA) programs; establishing and maintaining educational outreach centers and campuses throughout the country. The National Institute of Management offered different major fields including Tourism and Hospitality, Finance and Banking, Management Information Technology and also opened the first MBA program in Cambodia in cooperation with the University of Utara Malaysia (UUM), which is a state sponsored university located in Northern Malaysia. NIM also maintains a five-year faculty exchange and research program with the University of Antwerp, Belgium. There were more than 10,000 students attended courses at NIM's main campus in Phnom Penh. NIM also operates a full Bachelor of Business Administration degree program in Battambang with more than 700 students attending courses at NIM's provincial campus.

8.3.5. The National University of Management (2004-Present)

In 2004 (16 April 2004), the National Institute of Management (NIM) was transformed into the National University of Management (NUM). There are six faculties and one School of Graduate Studies that provided training for all academic levels from Bachelor, Master to Doctoral degrees. From 2005 (01 March 2005), the National University of Management became the Public Administration Institution (PAI) which operating in the financial autonomous and under major decision-making of the Board of Directors. The members of the Board of Directors included one representative from the Ministry of Education Youth and Sport, one from the Ministry of Economic and Finance, one from the Council Ministers and one representative of the NUM staff. From 2005 until now, the NUM has changed a lot with the university infrastructure, management system, financial performance, curriculum development and leadership. The University, actually, built the new buildings, library and upgraded classrooms, installed new technology, diversified new curriculum in both undergraduate and graduate programs, and changed financial compensation systems. However, many challenges faced with management of transforming NUM to a leading public university in business and management in Cambodia.

Based on information from period to period of historical changes at the National University of Management, the following table showed the summary of management challenges for the university changes from 1983 to the present.

Summary of Historical Changes for NUM from 1983 to 2015				
1983-1991 **Institute of Economics**	**1991-1994** **Economic Science Institute**	**1994-1998** **Faculty of Business**	**1998-2004** **National Institute of Management**	**2004-Present** **National University of Management**
- Most of the changes came from communism ideology. - Under controlled by Government/ Ministry of Planning. - Curriculum followed the socialist system/ communism. - Technical supported from Vietnam, both curriculum and faculty members. - 5-year program for Bachelor degree and conducted in Vietnamese language. - No resistance to change due to close system and centralized management.	- Changes came from the collapse of Communism system. - Under controlled by Government and the starting point to market economy - Technical support from two different systems (French & American). - Period of conflict between two different systems. - Faculty of Economics moved to RULE & only Faculty of Business stayed the same campus at NUM.	- Changes came from International Community and supported by USAID. - Government implemented privatization and opened for private education sector. - Curriculum was transformed to align with International/ American style business school. - Some faculty members sent to abroad for upgrading their knowledge. - First Strategic Plan with clear mission, vision, and guidelines for university implementation.	- Changes came from the external forces of market demands, competitions, and government policy. - The period of big challenges with quantity of demands and the quality of supply. - Curriculum was diversified to adapt of the market needs. - The period of starting internal conflicts due to the inequity of interest sharing and not transparency in organization and promotion.	- Changes challenges from national and regional competitions. - The period of becoming fully financial autonomy. - Government step by step empowered to the university to develop human capital for society. - All levels of academic curriculum were offered from Bachelor, Master and Doctoral degrees. - Changes faced many resistances due internal interest, culture, and leaderships

8.4. Forces for University Changes

Figure 8.4 showed that 47% of the respondents believed that the forces for change come from external factors. According to the interview, most of them said that external factors come from competition, government regulations and policy, technology, national and regional integration, and labor market demands. 43% of respondents argued that the factors forced the change of the university come from both external and internal, for examples, internal factors such as leadership change, management system, information system, physical infrastructure, student services, disciplines, culture, internal politics, interest conflicts, ability to lean new concepts and theories, teaching and research capability. There was only 10% believed on only internal factors.
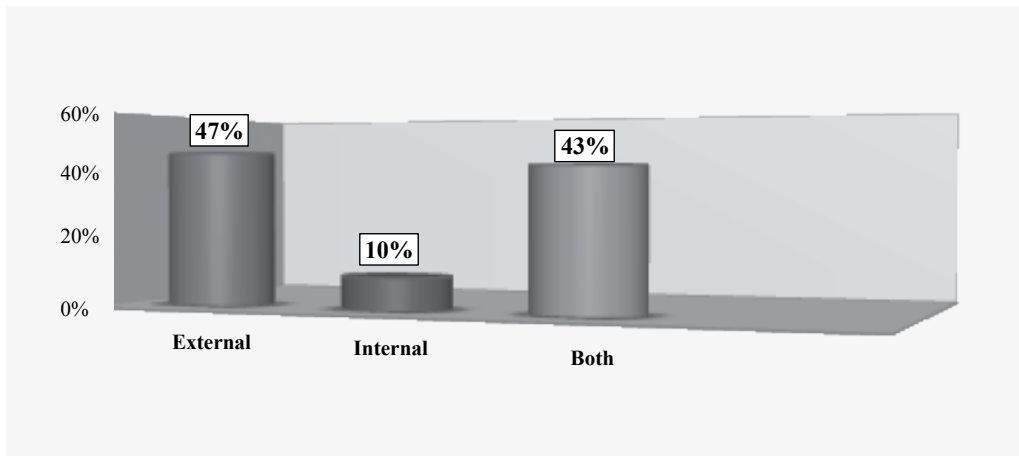
Figure 8.4: External and Internal factors force to change

8.5.   Approaches to Make Change Happen

Based on interview with deans, departments, faculty and staff, and students, there are 75% of the respondents said that the decision-making of the university changes almost came from top management more than bottom-up, they said that the change related to policy, strategy, structure, technology/financial system, infrastructure and physical facilities initiated from top management. The respondents also said that the top management of the university sometime proposed change and asked approval from the board of directors and then implemented it, for examples, such as the rate policy for the lecturers that created conflicts with some people and others got benefits. Only 25% believed that change initiated from bottom-line, especially from day-to-day working with student services.
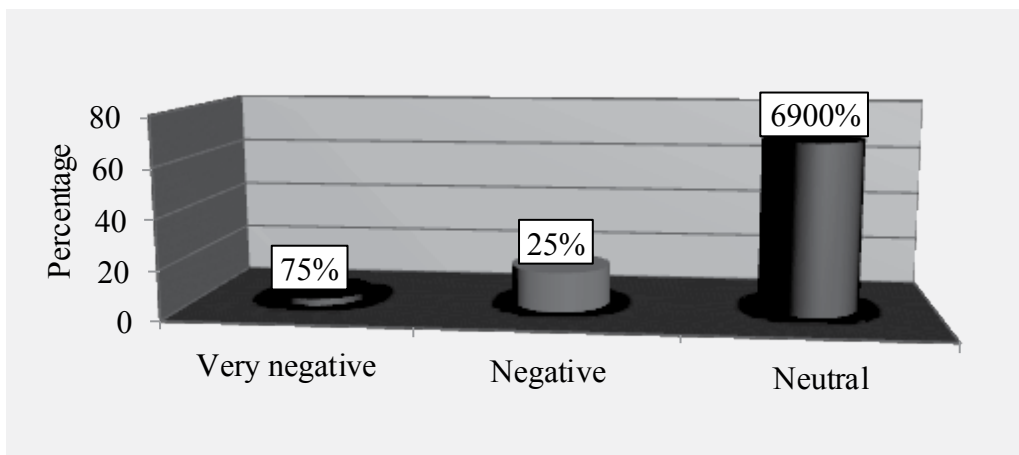

Figure 8.5: Approach to make the change happen

8.6.   Receiving Information Before Change

Due to the survey with interview among 32 respondents at NUM, in figure 8.6 showed that 72% of respondents received information before the University change, however, the information are not enough. They said that the information on why and how we need to change, for examples, like assigning work positions or renovation of the building, space or classrooms, etc. Some of them said that even information of preparation of developing strategic plan, they did not know clearly about objectives and actions. Only 19% of respondents received enough information before change of the university and there are 9% did not receive information at all.

Figure 8.6: Received information about change
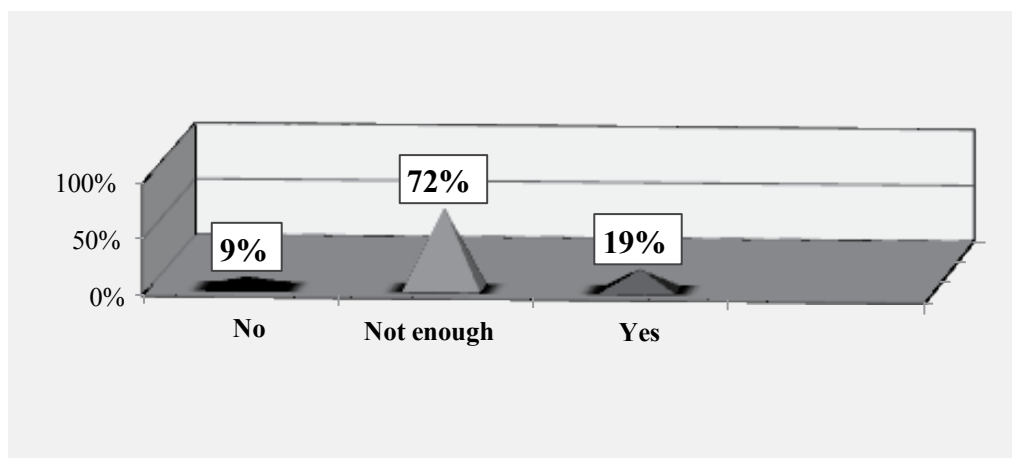
8.7.   Create a Sense of Urgency to the Need for Change

According to the figure 8.7 the results of study showed that 41% of the respondents presented sometime for the creating a sense of urgency to the need for change. 34% argued that rarely to create a sense of urgency for University change and 12% said mostly.
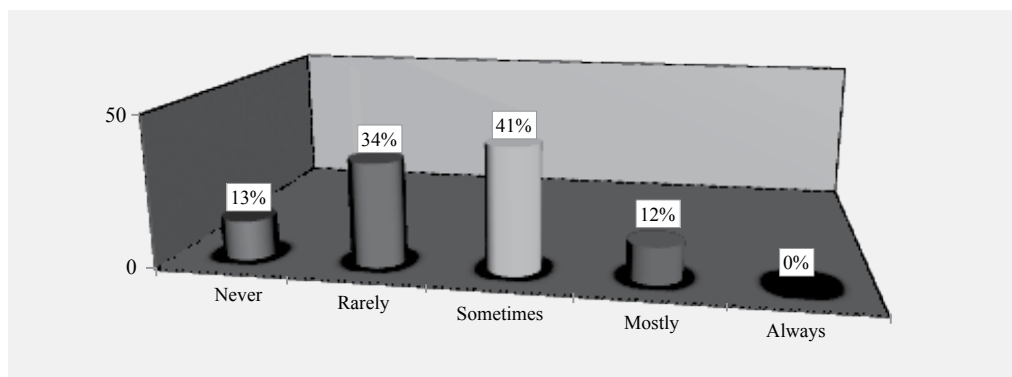

Figure 8.7: Create a sense of urgency to the need for change

8.8. Provide Evidence to Persuade the Need for Change

Based on the interview, there are 41% of the respondents argued that it's rarely in providing evidence to persuade the need for change of the University, they said that sometime the change initiated from the top management without clear evidence to support the need for change. For examples, renovation of building, conference room, library, campus environment, etc., they mentioned that other things such as toilets, cleaning, garbage controlling, classroom facilities, Internet capacity, that all these proved the need for change, however, they are still not the priority. There are 28% of the respondents provided that the University has never provided clear evidence to the need of change and 28% of the respondents believed that there are sometimes.
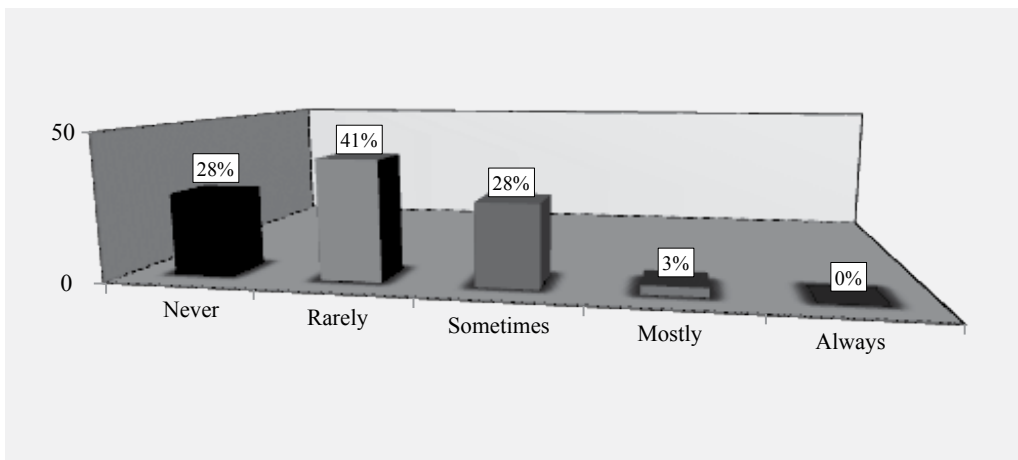
Figure 8.8: Provide evidence to persuade the need for change

8.9. Creating a Clear Vision for Change

Figure 8.9 indicated that there are 47% of the respondents argued that they are not clear about the vision of the university for change. They criticized that the vision of change did not provide chance to discussion. They said that the vision statement is created by top management and without participation and consultation, so that it is too broad for achievement. They said that it is very important for the vision of the change to develop commitment of faculty and staff, to support the implementation of change if they are clear what we are going to do and how to do it. However, 22% argued that it was sometime the vision has been explained and did not clear. At least 19% of the respondents believed that the vision for change has been created clearly and only 12% of respondents provided never.
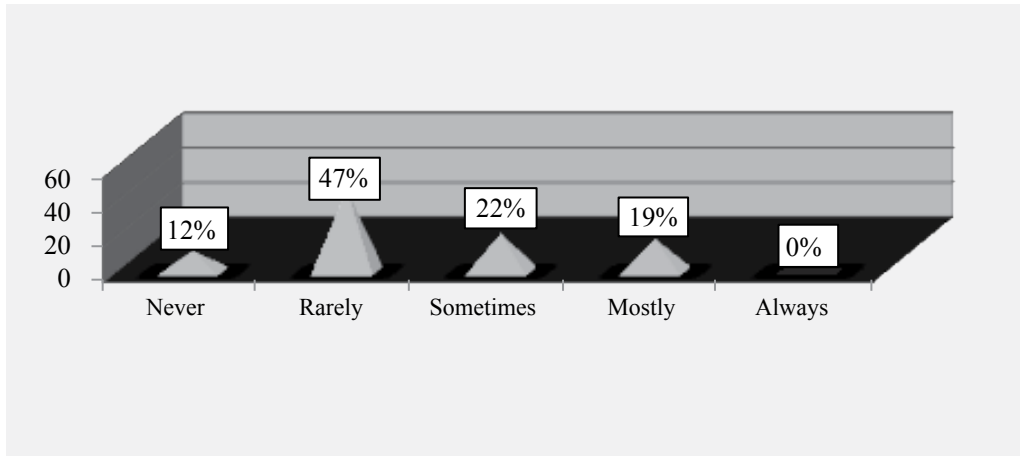
Figure 8.9: Create a clear vision for change

8.10. Develop Effective Strategies to Deliver the Vision of Change

Figure 8.10 showed that 47% of the respondents said that there is rarely to the development of effective strategic actions to deliver the vision of change. Most of the respondents said that there was not clear on the action plans for delivering the vision of change, they said the university should have workshop and training for at least three to four times to make understanding of how to implement the strategies and this is the way to offer opportunity for faculty and staff to develop commitment of change. 22% of the respondents provided sometimes and 19% presented mostly.
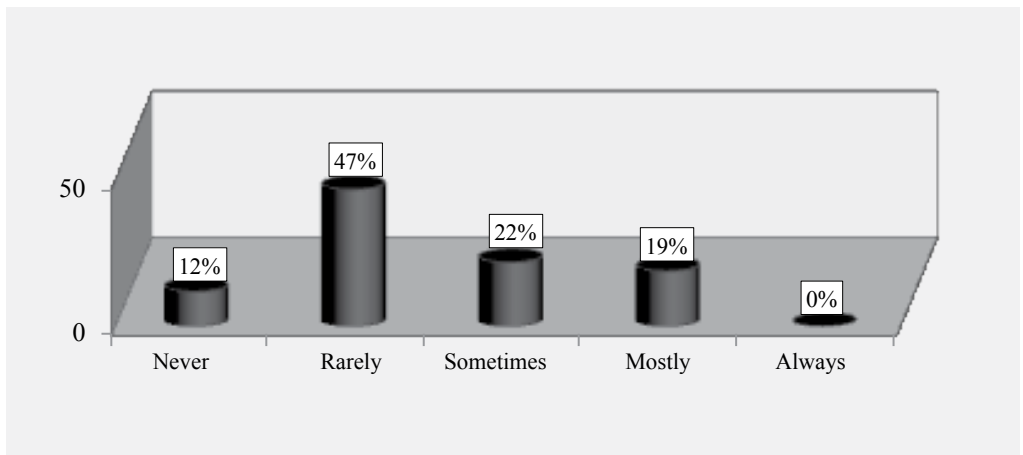
Figure 8.10: Develop effective strategies to deliver the vision of change

8.11.   Clear Roles and Structure to Deliver the Change Vision

According to the interview, 38% of respondents indicated that the assigning roles and authority, sometimes, clear and do not clear to the implementation of the change vision. However, 34% argued that there is rarely clear in allocating the roles and responsibilities to the faculty and staff. They argued that generally, there have no clear job descriptions and motivation for delivering the change vision of the University. Even though the University developed the strategic plan to support change, translating into action is still not clear and a bit hard.
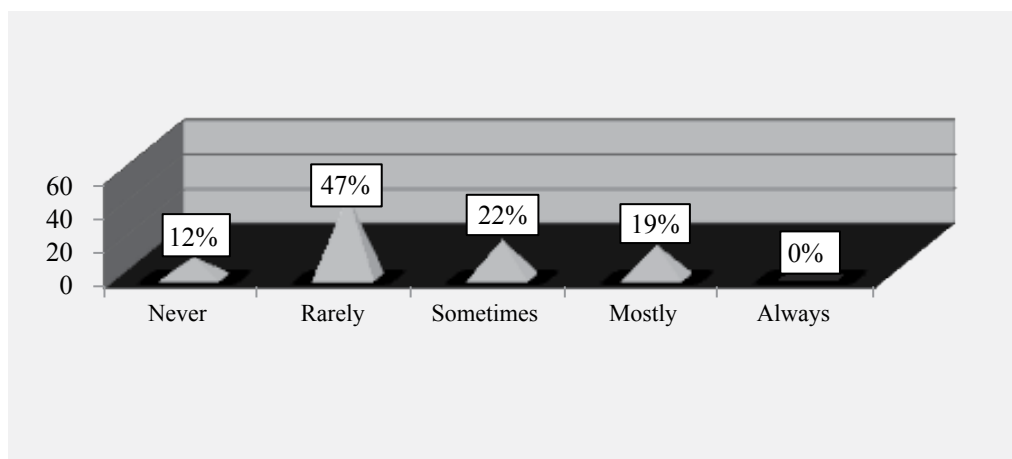
Figure 8.8: Provide evidence to persuade the need for change

8.12.   Encourage People Take Actions to Deliver the Change Vision

There are 41% of the respondents indicated sometimes to encourage people taking account to deliver the change vision. They said that there lack of positive motivation, sometime, they work hard but it seems to be not recognized by the management. There are 34% of the respondents argued rarely of encourage people to take in account for delivering the change vision, 19% said never and only 6% showed that mostly.
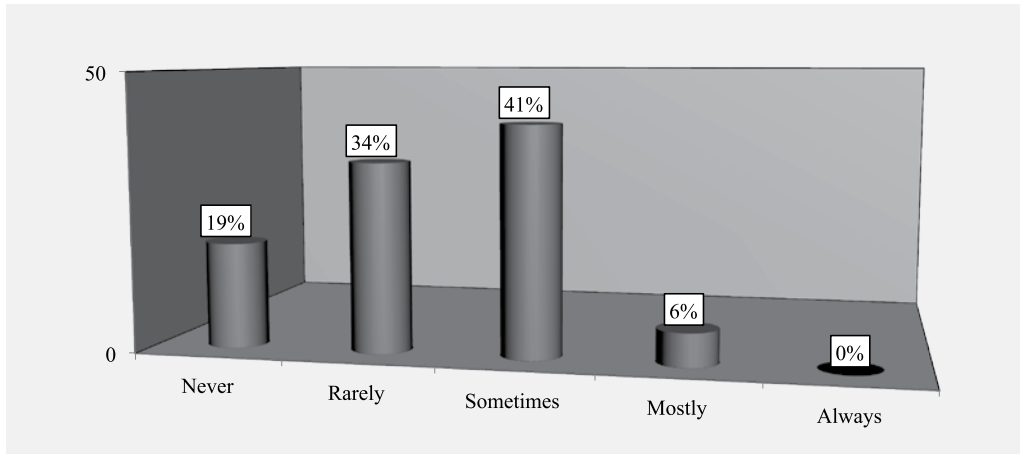
Figure 8.12. Encourage people take actions to deliver the change vision

8.13. Ensure that the Right People are Chosen for Leadership and Management Roles

In figure below showed that 44% of the respondents argued sometime in ensuring that the right people were chosen for leadership and management roles to anchor the change of the University. However, 41% of the respondents indicated that it is rarely to choose the right people for leadership and management roles to anchor the new cultural change of the University.
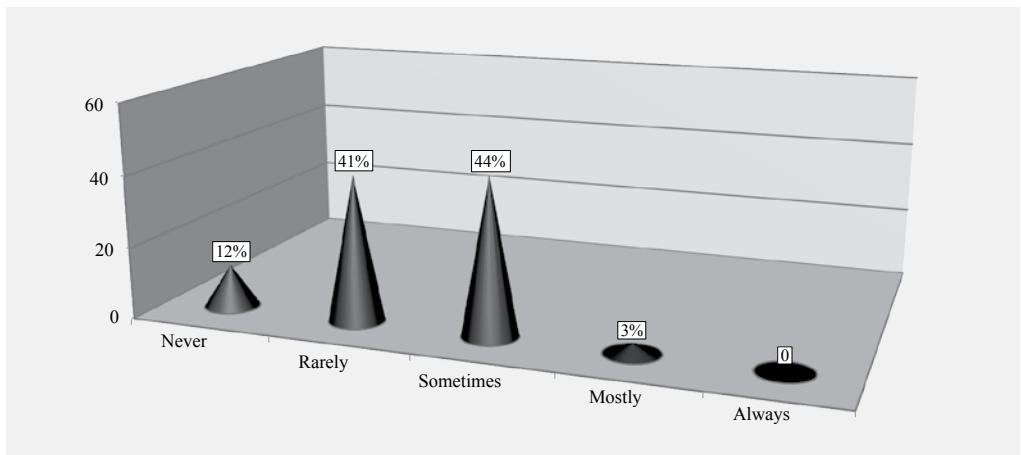
Figure 8.13: Ensure that right people are chosen for leadership and management roles

8.14. Model and Example of New Behaviors for Cultural Change

This figure showed that 53% of the respondents indicated that it is rarely in showing the model and example of the new behavior for the cultural change in the organization, however, 41% showed that sometimes in behaving the new culture.
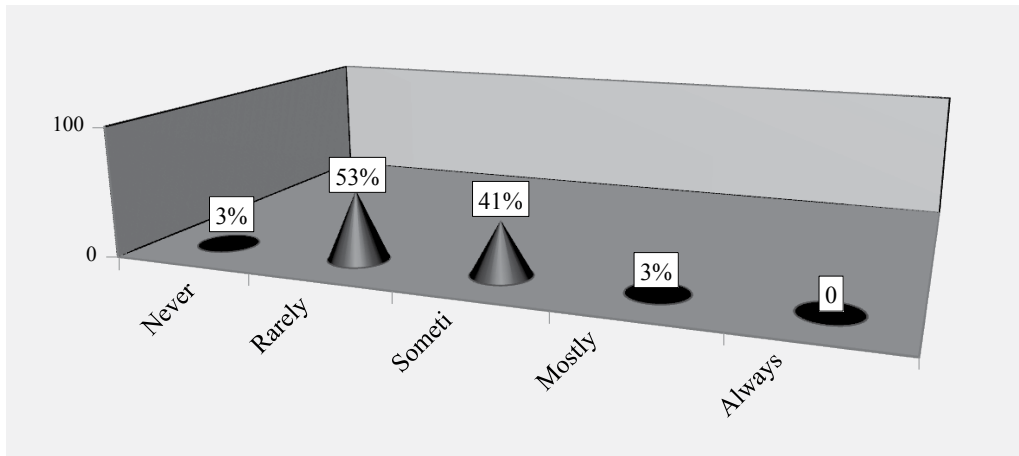
Figure 8.14: Model and Example of new behaviors for cultural change

8.14. Attitude towards the University Changes

The question on how your attitude toward the change of the University, in figure 8.14 showed that 69% of respondents hesitated to show positive or negative attitudes, they pointed that on the neutral, means that they think there are not positive or negative. There are 16% of the respondents, however, showed that their attitudes are negative and only 12% was positive. At least 3% of the respondents are very pessimistic on the attitudes toward the change of the University, they feel that the change did not gain more benefits to them and affected to their relatives.
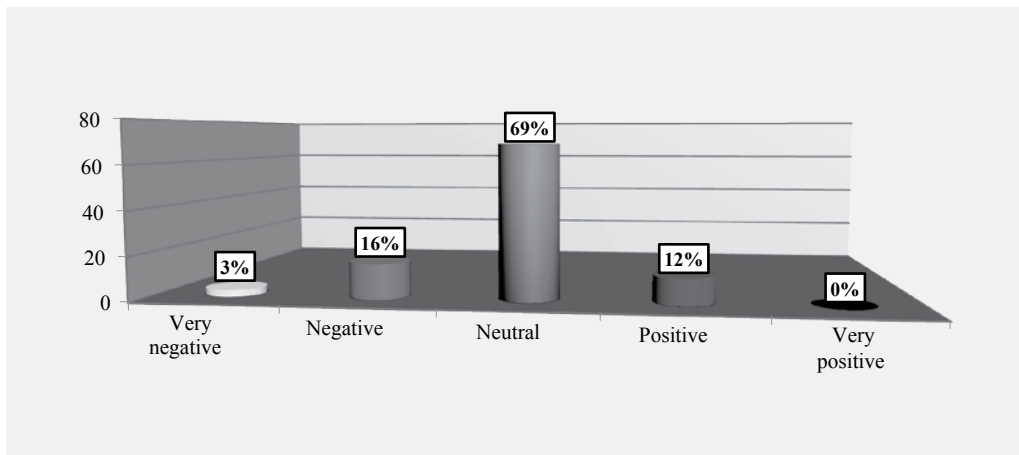
Figure 8.14: Attitude towards university change

8.15. Satisfaction after Change

Figure 8.15 indicated that 44% of the respondents are neutral on the satisfaction of work after change. According to the interview most of them feel that their working places are small, facilities

and technology are not sophisticated enough, there are no personal room for dean and faculty to work or consult with students, not enough stationary for work operations, no petty cash for solving routine work problem, no staff support for each faculty, etc. There are 34% of the respondents, however, satisfied with work place after change, they feel proud with the new environment of campus and 22% of the respondents are not satisfied with the change.
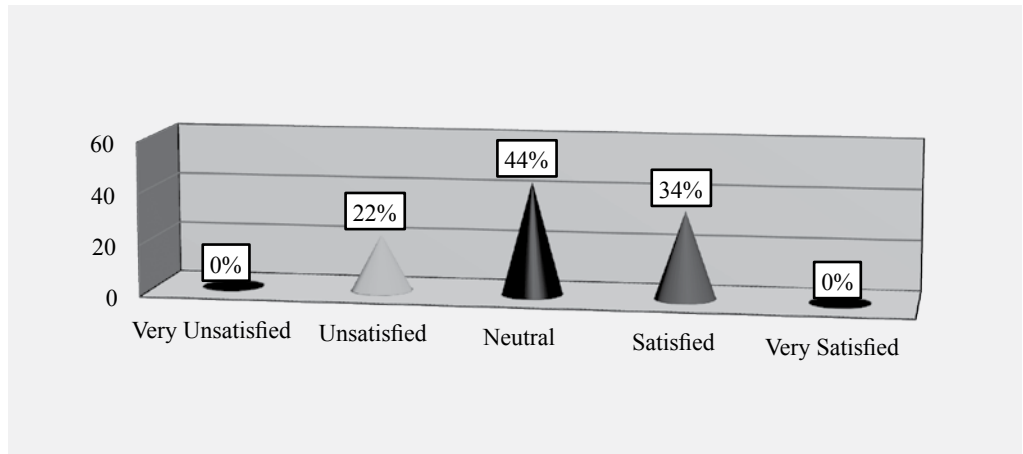
Figure 8.15: Satisfy with work after change

9 Conclusion

The National University of Management has many change experiences from period to period and more people satisfied with the university after changes. The change of University was responding to the change in environment such as national and regional competitions, government policy, market demands, etc. The University, however, achieved its mission by serving the nation by providing several thousands of capable and socially responsible managers and entrepreneurs for Cambodian society. The Universityinitiated many successes of changes such as improving physical infrastructure, upgrading technology system, develop curriculum, building capacity of human resources, improving work conditions, redefining internal regulations and policy. The University achieved many things of change, however, current management of the changes are criticized by faculty staff and students such as do not clear vision and strategy for the change, insufficient communication, lack of commitment for the faculty and staff, lack of empowerment and delegation for implementation, do not clear roles and responsibilities and lack of control mechanism for the implementation of change.

10 Recommendations

To overcome the change challenges of the university, the proposed recommendations should be considered for the effective implementation of change:

(1) The University should verify and persuasively communicate the needs for change. This is the University has to convince all faculty and staff to understand the need and desirability for change, to craft a compelling vision of change, to employ written and oral communication and forms of active participation to communicate and disseminate the need for change.

(2) The University should develop a clear course of action or strategy for implementing change. Devise a strategy for reaching the desired end state, with milestones and a plan for achieving each one of them. The strategy should be clear and specific; avoid ambiguity and inconsistencies in the planned change.

(3) The University should build strong internal support and reduce resistances to change. This should be encouraged participation and open discussion among faculty and staff, however, avoid criticism, threats, and coercion. The activity is also committed sufficient time, effort, and resources to manage participation effectively. The University should also build the supporting for and commitment to change among interest groups such as students, parents, public and private sectors with a stake in the University.

(4) The University should consider an "idea champion" or change agent for leading the University transformation. Individuals championing the change should have the skill and acumen to maintain momentum, and to overcome obstacles of the change.

(5) Successful change usually requires adequate resources to support the change process. The University should provide adequate amounts of financial, human, and technological resources to implement change otherwise change could not reach the objectives.

(6) All management, faculty, staff and students must effectively institutionalize changes. The University should have control mechanism to refreeze new way of works become a new culture. In this activity, the University should employ a variety of measures to displace old patterns of behavior and institutionalize new ones.

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THE IMPACT OF HUMAN RESOURCE MANAGEMENT PRACTICE ON JOB PERFOMANCE IMPROVEMENT IN CAMBODIA

Dr. TAN Saroeun [2]

Abstract

The present study finds out the relationship between human resource management practice and job performance improvement. The research problem is specified in job description, staff recruitment, training, appraisal performance and compensation. The sample size is defined only 405 for stratified sampling, including top managers, middle managers, low managers and non-managerial employees from some organizations, including banks and services, manufacturing and trades, own business, NGOs, and Public organization. The statistical tools are used Pearson correlation, to find out the strengths of the relationship between each element of the independent variables and dependent variable. And another tool is the multiple regressions for measuring the relationship between the independent variables and a dependent variable. The result of data analysis is positively correlated between the independent variables (job description, staff recruitment, appraisal performance, and compensation) and dependent variable (Job performance improvement). The result of research is successful for the human resource management practices impact on job performance improvement

Key words: *Human Resource Management and Job Performance Improvement.*

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1   A Statement of the Problem

Human resource management is the key strategy that makes the organization achieve its organizational goal. With this key, the organizations always coverts the human resource management into vital resources, skills, technology, and capital to increase greater job performance to challenge their competitor competencies. The competitors also think the same, they tries to copy and equip the human resource management with, especially a new skills, new technology for a stable maintenance and step up in leading their competitors. This is the free market economics context.

The topic will aim to the organizations that have operated or practiced the human resource management policies in Cambodia. Moreover, these practices impact on the extend of the employee performance improvement. As F.K. Foulkes have addressed that "for many years, it has been said that capital is the bottleneck for a developing industry. I don't think this any longer holds true. I think it's the work force and a company's inability to recruit and maintain a good work force that does constitute the bottleneck….". Story (1987) found out that human resource as a factor of production, and their treatment is like that of the variable cost of doing business.

Sett (2004) stated that the globalization of the South Asian economy has been gone with by an increasing use of the human resource management practices.

1.2.   Background of the Problem

For the last few decades, the problem of human resource in Cambodia has been complaining in the both training and abilities in skills at the work places. Some serious problems that cause the some challenges with the poor job performance, including lacking proper job analysis, recruitment without standard policies, unfair work evaluation, and unfair and low compensation, and not clear standard policies for promotion. Thus the organizations always conduct the human resource theory to practice all components, including job analysis, recruitment, training, performance assessment, and compensation in order to choose the skilled candidates perfectly. Nevertheless, the common observation for the human resource management in Cambodia still challenges two factors: First, the traditional centralization in management behavior and second, fundamental needs providing implementations for the employees.

Besides these, MoEYS (2012) on Policy of Human Resource in Education Sector noted that Cambodia has challenged some issues, including low qualified professional capabilities, low standard of living, unsuitable working condition, recruitment events, low standardized performance of teacher supported.

Another thought of Robert R. Taliercio highlighted that for strengthening civil service management of the reform plan, the important problem has to look at the potential measurement for introducing in practice people are promoted or rewarded on the basis of power and accomplishment rather than because of seniority, quotas, patronage, or the like, this one hand. And on the other hand, for sustaining and attracting skills staff to appeal and retain skilled staff, particularly for high level management and priority sector staff, including improving civil service pay, and use the resource to deploy in high priority sectors.

Mays, 2012 set the vision "To transform the Human Resource (at MoEYS) to be more competent, effective, efficient and reliable in the provision of and support educational services leading to the capacity development of people and institutions".

Grounded on the above reason, the study does presently into finding the impact of human resource management practices along the extend of job performance improvement.

1.2. Research Questions

- Is there a significant relationship between human resource management practice and job performance improvement?

2 The objectives of the study

The objectives of study are the purpose of the present study that declares what the researcher wants to research as well as reflecting the chapters of the main thesis.

- To study the determinants of human resource management practice,

- To assess the relationship between human resource and management practices employee performance improvement,

- To provide a conclusion and recommendation.

3 Hypothesis

- Null hypothesis: There is no positive relationship between human resource management practices and employee performance improvement. ($\beta = 0$), p-value > 0.05)
- Alternative Hypothesis: There is a positive relationship between human resources management and employee performance improvement. ($\beta \neq 0$), p-value < 0.05)

4 Literature Review

This chapter is applied for the secondary data to look for the more evidences in the empirical and conceptual review to support the independent variables and dependent variable in the speculation. Thus the chapter is organized into three portions, including theoretical framework, effectiveness of human resource management practices and human resource management practices and the organizational performance improvement.

4.1. Theoretical Framework
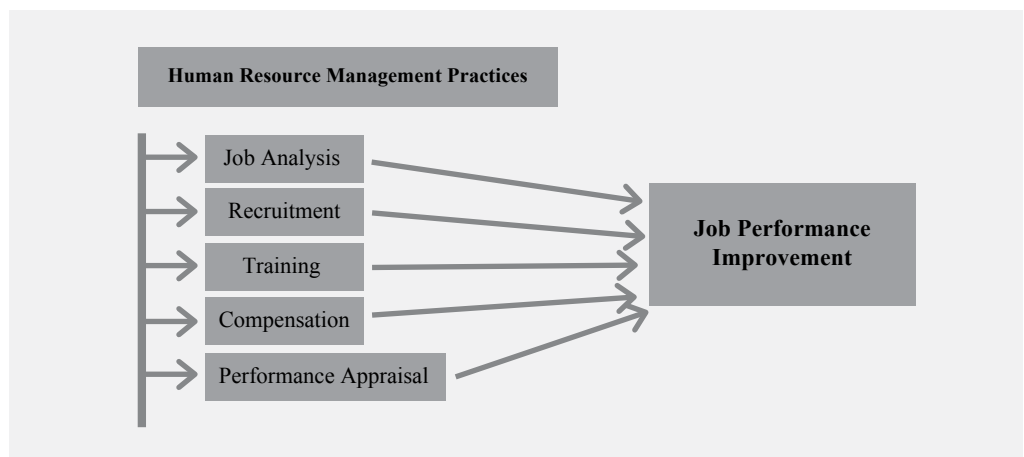
(Gary Desser, 2012)

4.2. Human Resource Management Practices

Daniels (2006) describes that people look for jobs in an organization that match with their personality, and provide motivators that meet their needs. In this respect, key HRM practices like, work life balance and satisfaction etc., have become of great importance for both employees and organizations.

Wan et al. (2002) examined the relationship between human resource management practices and firm performance. Human resource management practices were creating a positive effect on organizational outcome. The results calculated through regression suggested that effective implementation of key human resource management practices increased organizational performance.

Sett (2004) argued that the globalization of the South Asian economy has been accompanied by an increasing use of HRM practices.

4.2.1. Job Task Analysis

Job analysis is really important for reporting in particular about the duties and responsibilities of the specific office; therefore, it is useful for using to select the applicants for the post.

Hack man and Oldham (1975) acquired a job design theory with 5 core job characteristics: skill variety, task identity, task significance autonomy and feedback. Rue (2006) defined performance as the degree to which an employee accomplished the tasks that did his or her job.

Schuman and AhJburg (1994) comparable tasks performed on the business with knowledge, sciences and abilities of the jobholders. The information provides job descriptions that become a summary report of each occupation in the system.

4.2.2. Recruitment

Recruitment is the hunting the right candidates for the right jobs or position. Hence, the promotion and selection are carried for the qualified nominees. Some writers and researchers commented as the following: Taylor & Collins (2000) studied recruitment as one of the most critical Human Resource activities which was critical for the organizational success. Boudreau & Rynes (1985) studied that it was not so easy for organizations to attract potential employee as the organizational attraction influenced the effectiveness of successive selection Taylor & Collins (2000) studied recruitment as one of the most critical Human Resource activities which was vital for the organizational success. Boudreau & Rynes (1985) studied that it was

not so easy for organizations to attract potential employee as the organizational attraction influenced the effectiveness of successive selection.

The series of steps involved in the selection process is the preliminary reception of applicant, employment tests, selection interview, references and background checks, medical evaluation, supervisory interview, realistic job preview and hiring decision (Werther and Davis, 1996).

According to Huselid (1995) noted that an effective human resource practices for recruitment and selection were linked to job performance.

H₁: There is a positive relationship between job description and recruitment with job performance improvement.

4.2.3. Training

After choosing the right staff, the entry one(s) is prepared to train or coach for orientating the right work or position, including organizationalculture, employability skills and other regulation.

Russell et al. (1985) studied on the retail stores and explored that the measurement of the volume Per employee and store image is set up from the strong positive relationship between the percentage of trained human resource, and organizational performance. The Training develops employees' capable approaches and positive attitude and behavior to increase science, attitudes that contribute substantially towards revenues. (Pfeffer, 1998).

Another researcher, Bartel (1994) remarked that Masses in many organizations remained under-valued, untrained and underutilized, which causes stress, low operation and weak profitability.

H₂ : There is a positive relationship between training and development with business performance improvement.

4.2.4. Performance Appraisal

The performance appraisal is the methods to use assessment personnel achievement by using some specific criteria for seeking, the staff who have the best achievement.

Gary Dessler (2012) highlighted that an evaluating the current and /or past job performance achievement of an employee relates to the job and performance criteria, performance standards, and it requires that the employee receives the training, feedback, and incentives for eliminating performance deficiencies. (Gary Dessler, 2012)

Wan et al. (2002) and Sels et al. (2003) found that significant relationship between performance appraisal and organizational performance requires a performance appraisal system operated in principles of managerial accountability and standards.

According to Robbins and Coulter (2012) addressed that to know whether the employees are operating their job efficiently and effectively , the managers set an appraisal standards that are used to assess employees performance.

H$_3$: There is a positive relationship between appraisal performance and job performance improvement.

4.2.5. Compensation

Compensation is the payback for the staff that makes an effort in their job description. Compensation is representative the both, fundamental needs and personal needs which encourage everyone in everywhere to improve work. Some researchers, Wan et al. (2002) and Sels et al. (2003) found that a significant relationship between performance appraisal and organizational performance requires a performance appraisal system operated on principles of managerial accountability and standards.

Daniels (2006) remarked that the people look for jobs in an organization where satisfies him or her with both needs, fundamental and personal needs. Thus, work life balance and satisfaction, etc., have become of great importance for both employees and organizations.

Guest (2002) defined that complicated the human resource management was only concerned with the effective utilization of employees. Therefore, the investments in human resource management practices benefit employees and increasing the level of commitment of employees. Other researchers, Gelade & Ivery (2003) studied that encouragement of an employee have a crucial effect on job performance through the components involved.

H$_4$: There is a positive relationship between compensation and benefit with job performance improvement.

4.3. Human Resource Management Practices and the Job Performance Improvement

Huslied et al. (1997) found a significant relationship between human resource management practices and firm performance. They further elaborated that human resource management practices had a positive impact on professional and business related performance of employees.

Edgar & Geare (2005) found that work related attitude of employees was the function of a number of human resource management practices. Guest (2002) found that investments in human resource management practices benefit employees and proper use of human resource management practice resulted in increasing the level of commitment of employees. He further elaborated that HRM was only concerned with the effective utilization of employees.

A thorough understanding of the relationships between human resource management practices and employee outcomes is critical to our ability to draw logical inferences concerning the human resource performance causal chain as a whole. (Kehoe & Wright, 2010).

5 Significances of Study

The present study will review all levels of management to sense the degree of relationship between human resource management practices and job performance improvement that benefits at the following:

- To set clear, specific the elements of human resource management policies for implementation,
- To implement each element of human resource management equals,
- To utilize skilled people more properly,
- To understand better investment in human resource increased more better commitment achievement.
- To determine policies and strategies of the human resource management putting in an action.

6 Research Designs

The research methodology is a process of gathering information for arriving at a determination. And then the process can be achieved for reliable, some stairs, including sample size definitions, sources of information, statistical tools.

6.1. Selecting the sample size and sample procedure

The Sample size of the present study performed 405 respondents. Established along the subject made by Green (1991) found out that N > 50 + 8 m (m: numbers of the independent variables) is appropriate for participation. For Cochran (1963) 385 respondents are enough for error value of.05 and the population is unrestricted. Thus, 405 of sample size is adopted by using for purposive sampling, top management, center management, low management, and pure employees as the respondents to survey as the following: The Management level of the respondent's percentage rate is 4.20% top management, 18.80% middle management, 11.90% low management, and 65.20% employees.

6.2. Sources of Data

Primary data that are used by most researchers in social sciences is the questionnaire was administered for data collection. In the present work, the data which are gathered from the study of 385 questionnaires, are defined on seven points linked scale (7 = strongly agree, 6 = agree, 5 = somewhat agree, 4 = indifferent, 3 = somewhat disagree, 2 = disagree and 1 = strongly disagree).

Secondary data is the both conceptual and empirical theories are too studied, such as: books, journals, dissertation, and dissertation related to the present problems.

6.3. Statistical Tools

The interrelationship among the data forms from linkert scale by rating 7 points. Statistical tools are used by SPSS, IBM 21 for data inserted to use the file for AMOS. Further, AMOS, IBM 20 is used for multivariate outlier data screening, Confirmatory Factor Analysis, and calculating Multiple Regression wherever required. The interrelationship among the data forms from linkert scale by rating 7 points. Statistical tools are used by SPSS, IBM 21 for data inserted to use the file for AMOS. Further, AMOS, IBM 20 is used for multivariate outlier data screening, Confirmatory Factor Analysis, and calculating Multiple Regression wherever required.

8 Reliability

Due to data analysis used by Multiple Regression, so the linkert scales at 7 levels were Arranged for data collecting. Cronbach's Alpha (α) which is a measure of internal consistency is used in the field to test for being reliable items on the questionnaire

$$\propto = \frac{K}{K-1}\left[1 - \frac{\sum SD_i^2}{SD_t^2}\right]$$

The result of Cronbach's alpha equals 0.939 > 0.70 that is very high reliability.			
Variables	**Items**	**α**	**Interpretation (1)**
Job analysis and Recruitment	6	0.774	High Reliable
Training &Development	6	0.811	Very high Reliable
Performance Appraisal	6	0.865	Very high Reliable
Compensation	7	0.845	Very high Reliable
HRMP. and Job Performance	12	0.883	Very high Reliable
Total Cronbatch Alpha	37	0.883	Very high Reliable

(1) George, D., & Mallery, P. (2003)

9 The Goodness of Measurement

To make clear that all the respective hypothesis models are loaded on multidimensional scales, the Confirmatory Factor Analytic (CFA) models by using the software of IBM, AMOS 20.0.

Three measures were used to assess the fit of Measurement modes: the goodness -of-fit index (GFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). All indices were expected to be acceptable to the appropriate levels (i.e., .90 for CFI, .90 for GFI, and <.08 for RMSEA) (Hair, Black, Babin, and Mayers at al, 2005). Referring to the results of the present CFA showed that x2 = 1365.630, df = 619; GFI: 0.817, CFI = 0.851; and RMSEA: 0.064. However, indices that were approximately 3% off of appropriate levels were accepted as it can be assumed that the appropriate fittings would have been reached had a bigger sample been obtained (Hair et al, 2006).

9.1.   Items dropping out for Model Fit

Because of the result of model fit was not met the standard of CFA, ten items are dropped out. The procedure of the item reduction is selected the ones from the both the independent variables and dependent variable that got lowest value. After the ten items dropped out, the result of CFA was better to meet its standard: TLI: 0.898, GFI: 0.875, CFI: 0.908, RMSEA: 0.061. (3% off of .90 for CFI, .90 for GFI, and <.08 for RMSEA, Hair at al. (2005))

10 Data Analysis

Data analysis is divided into two sections, one is the frequency distribution (personal data), others are correlated and the multiple regression.

10.1   Frequency Distribution

The present surveys covering on 405 sample size for frequency distribution which has contained six variables, including age, gender, organization, position, education and work experience. The result of the frequency variable shown about the respondent's percentage rate on the gender, age, organization, management level, education, and work experience.

The gender of the respondents' percentage is 57.30% male and 42.70 female. The organization where the respondents working for in percentage are 60.20% from bank and service, 16.80% from manufacturing and trading, 4% from own business, 12.30% from NGOs, and 6.70% from civil servant. The Management level of the respondent's percentage rate is 4.20% top management, 18.80% middle management, 11.90% low management, and 65.20% employees. The respondents' education in percentage is 11.90% undergraduate, 73.10% bachelor, 13.80% master, and 1.20% Ph.D. The work experience when the respondents work their job is 63.70 under 5 years, 12.80% at 5 years, and 23.50% over 5 years.

10 Interpretation

The results of the study were analyzed by SPSS, IBM 21 software for:

1. Pearson's Correlation: examining their strength of relationship among the variables.

2. Multiple Regressions: The variation between the independent and the dependent variables. T-value is the test hypothesis: accepting or rejecting the region of their hypothesis. Beta shows how much effected the dependent variable when increase one unit of independent variables and its significant level of the result, and p-value is the interpreting the reason of the hypothesis rejected or accepted.

10.1. The Outcomes of Correlation

Variables (X)	Variable (Y)	r_{xy}	p-value
Recruitment	Training	.710	<0.01
Recruitment	Appraisal	.689	<0.01
Recruitment	Compensation	.627	<0.01
Recruitment	Performance	.669	<0.01
Training	Appraisal	.754	<0.01
Training	Compensation	.789	<0.01
Training	performance	.720	<0.01
Appraisal	Compensation	.824	<0.01
Appraisal	Performance	.755	<0.01
Compensation	Performance	.795	<0.01

Table 10.1 shows about the strength relationship between the predictor variables and the criterion variable. There is a significant relationship between Job analysis and recruitment with job performance (r= 0.538, p<0.01). Another the independent variable, Training and development is also a positive relationship with job performance (r= 0.618, p <0.01). The third independent variable, Performance appraisal is also a significant positive relationship with job performance (r = 0.658, p <0.01). The last one, Compensation variable is also a significant positive relationship with job performance (r=0.707, p< 0.01).

10.2   Multiple Regressions

Multiple R = 0.760 for measuring the strength relationship between the set of job analysis and recruitment, training, appraisal, and compensation with job performance is very high.

R square = 0.578 for measuring the correlation of job performance explained by the assemblage of job analysis and recruitment, training, appraisal, and compensation are higher.

Adjust R= 0.573 for measuring arrangement a number of variables in the regression model is high.

F =136.76 at p = 0.000 < 0.001. As F value is large, it determines that the outcome of the predictors is related to score in the population.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.775	.184		9.623	.000
	IJR	.125	.039	.134	3.210	.001
	ITD	.134	.041	.154	3.251	.001
	IPF	.152	.037	.206	4.070	.000
	ICP	.295	.038	.389	7.729	.000

a. Dependent Variable: DPF

10.3   Hypothesis Testing

Hypothesis testing is to find out the different gap between the null hypothesis and alternative hypothesis. The present studies, the results of the multiple regressions are all significant, i.e. they are significant difference from the null hypothesis. Moreover, some theories of the previous researchers are collected to support the primary data results.

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[3] Cohen, J. (1992) the Multiple Regression Evaluation

[4] Ibid.

[5] Ibid.

Hypothesis Testing
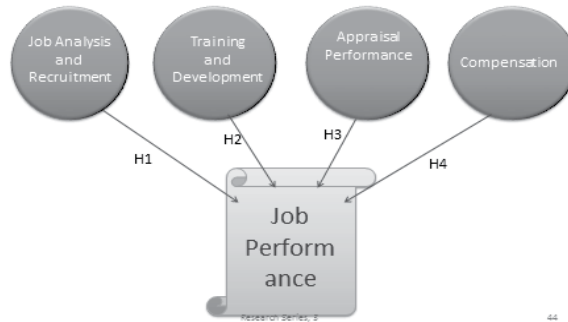
H1: The Staff Recruitment and Job Performance Improvement

The result of the regression analysis is $\beta = 0.134$, $t = 3.210 > 2$ and $p = 0.001 < 0.05$. So the null hypothesis is rejected. It was consistent with DeCenzo and Robbins (2005) remarked that the job analysis is produced as a job description result which makes the foundations of recruitment, training, appraisal performance, and compensation system designs for identifying the characteristics in job performance. Another author, Terpstra & Rozell, (1993) addressed that the process of recruitment & selection are based by job analysis. These roots help selectors to find out the candidates in required skills, attitude, physical and mental characteristics that has been found positively related with organizational performance.

H2. Training and Development, and Job Performance Improvement

The result of analysis shows a significant relationship between training and job performance ($\beta = 0.154$, $t = 3.251 > 2$ and $p = 0.001 < 0.05$). Thus, null hypothesis are not accepted. It proved some authors, including Noe, (1986) and Elangovan & Karakowsky, (1999) highlighted that the training given the both partners, employees and organization, advantages (employees' attitude, knowledge and skills) contributes to high effective performance. Improving employees' performance is a highly demanding and continuous practice that enables organizations to compete within the competitive marketplace.

H3. Appraisal Performance and Job Performance Improvement

The Regression outcomes result a significantly positive relationship between appraisal performance and job performance ($\beta = 0.206$, $t = 4.070 > 2$, $p < 0.001$). Therefore, Null hypothesis is rejected and also confirmed by Spence & Keeping (2011) research, we obtain a conclusion that appraisal, research has shifted from measurement issue to rater cognition in which rater establish, encode, and retrieve judgments about

performance to increase appraisal accuracy; at the same time,evaluators focus on thriving good subordinate relationship, solid reputation and adjusted to company objective. Gruman and Saks, (2011) found that the inspecting and evaluating an employee's overall contribution performance of his duties really help to enhance their capability to pursue a higher position in the organization.

H4. Compensation and Benefits, and Job Performance Improvement

The result of the regression (β=0. 389, t = 7.729, p<0.001) showed that compensation is a positively significantly correlated to Job performance, so the null hypothesis is not accepted and prove by some previous researchers, such as Williams et al. (2007) reported that the staff is pleased with an organization's reward system can affect the performance of the employee and their desire to remain employed. Another author, Armstrong (2001) declared that the incentives should be equipped to the achievements which are designed to motivate employees to be increased productivities to attain a high level of the job performance.

11 The Implication of Study

The outcomes of the present study found provide many benefits for all levels of management in the organization to understand the needs, fundamental needs and personal needs. In Cambodia, most employees need a good salary or wages in their desire first before the other needs wish to meet. According to the results of data analysis shown that the job performance improvement was really correlated its predicted variables; job analysis, recruitment and selection, training and development, appraisal performance, and compensation. These aspects are useful of the human resource tools which are used in every organization widely.

Grand on the data analysis found, all levels of employment are relevant all these aspects of the human resource tools as the results show close correlation between the predicted variables and the job performance improvement. Therefore, all managers must understand sensitively what the subordinates' needs for learning a new skill, fair and equal work assessment, desire for competitive benefit package and recognition on the existing performance appraisal.

Moreover, the present study generated also relating the organizations where use the four human resource tools take an opportunity to attract potential talents because its reputation of the organization which implement correctly in motivating the employees that the reasons increased productivities or work performance.

12 Limitation of the Study

In the present study used as a research series by the National University of Management; due to the time limitation the research was conducted by using the only four predicted variables, job analysis and selection, training and development, Performance appraisal, and compensation. Besides these, for other variables, such as career planning system, employee participation will keep for the future research.

Moreover, the sampling was administered only employee students who are learning the bachelor and the master program at the National University of Management because they mostly come from business organization or arrange their own business. Besides, snow ball survey was conducted by each student responds to the questionnaire survey, and send directly to their coworkers between ten to twenty questionnaires surveyed.

13 Conclusion

After the result of the reliability and the model were suitable for analyzing, the Pearson's **Correlation** results in their strength of relationship among the variables Job analysis & Recruitment and Job Performance (r = 0.538, p <0.01), Training and Job Performance (r= 0.618, p <0.01), Performance Appraisal and Job Performance (r= 0.658, p< 0.01), Compensation and Job Performance (r=0.707, p<0.01). For the empirical study; all the four independents (Job analysis and recruitment, Training, Appraisal performance, and compensation) were a significant relationship with the job performance. However, based on the result of data analysis, all the above independent variables were a significantly correlated with Job performance that acts as the dependent variable through the multiple regression tool. Therefore, the research outcomes are indicated successfully that job analysis and recruitment, training and development, appraisal performance, and compensation play vital roles for the top managers or leaders to drive the organizational mechanism in achieving the productivities as well as the organizational goal attainment.

14 The Future Research

This paper was used as a model for other researchers; particularly the students and employers who are desired to develop and manage the human resource perfectly or earn their degree of study. The future research will concentrate on a type of organizational line, such as Banks in Cambodia, Garment Industries in Phnom Penh, Government offices, private or Public Universities, hotels, restaurants to find clearly about the model of the human resource management practices by including other two variables, employee participation, and career planning systems as predictor variables, that remains significant or insignificant relationship with job performance improvement.

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MEASURING THE TOTAL QUALITY MANAGEMENT IN THE NATIONAL UNIVERSITY OF MANAGEMENT: AN INITIATIVE AND EMPIRICAL STUDY

HENG Sopheap [6] and CHHAY Phang [7]

Abstract

The purpose of this paper is to empirically test the causal relationships in the TQM practices and organization performances. Design/methodology/approach by using a sample of more than 300 respondents from management, faculty members and student of the National University of Management (NUM), results of SEM analysis and confirmatory structural equation modeling show that all of the hypothesized causal relationships in the model are statistically significant.

A comprehensive "measurement model" grounded in the TQM practices and organization performances in education criteria for the 62 items of measurement is developed, tested, and found to be valid and reliable. Leadership is identified as a driver for all components in the TQM practices including process management, customer focus, internal/external cooperation, learning , continuous improvement, employee (faculty members and staffs) fulfillment on institution's performance dimensions i.e. operational efficiency, product/service quality, customer (student) satisfaction, public responsibility, employee satisfaction and financial effectiveness in the NUM.

A greater understanding of the linkages between the elements making-up the TQM practices and educational organization performances criteria model, facilitating the guiding role that the award models play in the implementation of quality management in higher education.

Keywords: *TQM practices, Higher education, Performance measures, National University of Management*

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1 Introduction

Total quality management (TQM) can be best defined as one of the key approaches towards realizing the goal of meeting customer satisfaction. According to Besterfield, Besterfield, Besterfield, and Besterfield (2010), "TQM defined as both a philosophy and a set of guiding principles that represents the foundation a continuously improving organization." Moreover, they added that "management has to outline the quality goals, quality policies and quality plans so that employees are constantly reminded that the customers, not the product, is the top priority." As pointed by Holness (2001) TQM is a philosophy of quality management, the earliest conceptions of which were derived from Deming's doctrine to the Japanese in the 1950s and 1960s.

TQM has been adopted as management paradigm by many organizations (Zakuan, Yusof, & Shamsudin, 2007). As everyone clearly aware of the whole process of TQM whereby formerly it was only applied in manufacturing sectors most likely into supply chain, automobile, machinery, factory, and transportation (Das, Paul, & Swierczek, 2008). Many people only accept and realize that TQM can be just effective in services from manufacturing and industrial sectors (Franks, 2009). However, nowadays the process of TQM that being practiced by the business worlds for many years has also been adapted and applied in education sector (Ahmed & Ali, 2012). This is due to the existence of TQM in the education sectors to help education institutions change from traditional to modern management and be more effective (Maodong & Yan, Undated). Mentioned by Moh, Quleh, Almahyra, and Hindawi (2013) education institutions such as schools and universities should apply TQM as a management process to ensure more productive and achieve the current requirements.

Thus, this research supports educators in institutions to be aware of rapidly evolves and changes on schools' tasks that day to day became difficult than before; so that it requires new development and methods for schools' management system. So if that the case, this research is to pull in modern management approach for schools to adopt it. The concept of TQM is considered as one of modern management approach. Since before until now, there are still many schools carry out administrative traditional patterns on educational system.

2 Background of Study

The potential benefits of TQM in schools are very clear whereby TQM can help schools to provide better service to its primary customers; they are students and employers (school principal, teachers and staff). The benefit is also as the continuous improvement focus of TQM is a fundamental way of fulfilling the accountability requirements common to educational reform. Despite of that, operating a no-fear TQM system with a focus on continuous growth and improvement offers more excitement and challenge to students and teachers than an only good-enough learning environment can provide.

According to past research by B.G., V., Garg, and P (2013), he highlighted that in a TQM school, improvement teams and individuals (school principal, teachers and staff) are constantly working on improving service to customers (students). The concept of a service being "good enough" is considered inadequate. He came out with several areas that should take into reflection in order to implement TQM in schools. There are 13 important areas; awareness and commitment for everyone, a clear mission, a systems planning approach, teaming replacing hierarchy, enabling and empowerment replacing fear, focus on mastery learning, management by measurement, etc. (Babbar, 1995). Generally, this research aims to highlight general principles and requirements of TQM and particularly point out how the approach can be used to improve the quality of the National University of Management. It is also to analyze each of these requirements and how those fit in the school that leads to upgrade performance of the National University of Management.

How imperative this study intends to create awareness for schools' principals, teachers and admin staff to understand the importance of TQM. In fact, an effective TQM applies in school will help schools to achieve goal and vision successfully.

3 Statement of Problems

Based on past research Talib, Rahman, and Qureshi (2010), it found that the concept of TQM was developed by an American, W. Edwards Deming, after World War II for improving the production quality of goods and services. The concept was not taken seriously by Americans until the Japanese, who adopted it in 1950 to revive their post-war business and industry, used it to dominate world markets by 1980. By then

most U.S. manufacturers had finally accepted that the nineteenth century assembly line factory model was out dated for the modern global economic markets.

Most of education institutions including schools are facing many challenges in terms of renewable and diverse community demands versus human and physical resources scarcity. The concept of TQM is applicable to academics. Many educators believe that the Deming's concept of TQM provides guiding principles for needed educational reform. There are many challenges facing by schools, including various demands for shortage of material and human resources. Schools system should be changed in terms of content, methods, techniques and approach suitable models that ensemble the management of schools. Their vision and skills in leadership, management, interpersonal communication, problem solving and creative cooperation are important qualities for successful implementation of TQM. So TQM of any organization should be continually measured properly.

4 Research Purpose and Objectives

4.1 Purpose of research

Generally, the purpose of this research is to identify the requirements for the implementation of TQM in the National University of Management, and to analysis each of these requirements and how those fit reality in the school.

4.2 Objectives of research

There are three objectives of the study as follows:

1. To identify the leadership's responsibilities of TQM in the following aspects:
   a. school performance
   b. educational quality

2. To identify the strategic planning undertaken by the school in implementing TQM

3. To examine relationship between the beneficiary satisfaction and quality service provided by school

4.3 Research Questions

The studies fall short of investigating which TQM practices have direct and/or indirect effects on various levels of university performance. In short, comprehensive studies trying to identify the direct and indirect effects of TQM practices on performance at multiple levels are rather limited and fail to respond conclusively to the following research questions:

- What are the relationships among TQM practices?

- Which TQM practices are directly and indirectly related to operating, market and financial performance?

The questions, which drove this research, may be succinctly stated as follow:

1. What is a plausible model of the quality management process? i.e., which constructs should be included in a model of quality management? and (ii) what is an appropriate set of relationships among the constructs?

2. Which of the proposed relationships are supported by the data in the following aspects:

   a. school performance
   b. educational quality

3. Is there any significant relationship between the beneficiary satisfaction and quality service provided by school?

4.4 Significance of Study

This research will evaluate the implementation of TQM that being executed or no implementation at all by the National University of Management. In order to achieve the research objectives, this research also will focus on variables that cover on other requirements of TQM implementation. So therefore, this research will provide empirical data for other researches by other researchers with the same field and aspects in future.

Findings of the research will also give school's principal, teachers and staff in the National University of Management ideas and understanding of methods or techniques and suitable models and philosophy of TQM. Expectantly, this research can help school's principal, teachers and staff in the National University of Management to recognize the best TQM implementation headed for school excellence. Besides that, school's principal, teachers and staff in the National University of Management can be able to improve the TQM implementation in order to deliver entirely benefits and satisfaction to their main client, students.

5 Literature Review

A quick review of the history of prevalent quality management indicates that goods, products and services were directly delivered to the customers in Middle Ages. This direct relationship caused the permanent quality improvement so as to achieve the customers' satisfaction (Bhuiyan, Rahman, & Shahnewaz, 2014). Fredrick Taylor was one of the pioneer researchers who worked to improve the output of production line. However, people known Total Quality Management (TQM) started with Shewhart in 1925. Since then, many researchers contributed to it by adding to its definition, importance and application in all fields. Some viewed TQM as a fundamental part of any organization if it to succeed and improve customer satisfaction (see Juran, 1974; Crosby, 1979; Deming, 1982).

The educational field is also filled with research supporting the role of Total Quality Management systems to improve student education and university performance. Developed countries, such as the United States, the UK, and Japan have successfully implemented TQM principles. Some researchers believe TQM principles should be implemented in all colleges and universities, regardless of their accreditation status (Chen, Chen, & Wu, 2014). Chih and Lin (Undated) considers education system as a transformation process comprising of inputs of students, teachers, administrative staff, physical facilities and process. The processes include teaching, learning, and administration. Output includes examination results, employment, earnings, and satisfaction.

The word quality itself stems from the Latin *qualitas,* which means "of what kind". The concept is also often used in this sense: the quality of a particular fabric could be a statement about what kind of material it consists of. Another way of using the concept is to consider quality as 'good' as opposed to 'bad'. It connotes a variety of meanings and implies different things to different people, Deming (1982) defines quality as "a predictable degree of uniformity and dependability at low cost and suited to market". In general quality of customers as per specified standards desire one, which satisfies customer needs and continuously keeps on performing its functions.

There is a general agreement that a systematic method or framework is needed to put TQM into practice. However, there is no universally accepted TQM frameworks (Doulatabadi & Yusof, 2014), and different approaches coexist in the literature to implement TQM including consultants-based frameworks such as (Ishikawa 1985; Deming 1986), standardized-based frameworks such as the ISO 9000 series (ISO9000 2000), and other frameworks based on empirical studies such as (Saraph et al. 1989; Flynn et al. 1994; Powell 1995; Ahire et al. 1996).

Finally, using a survey instrument originally administered in a study by Grandzol and Gershon (1998), citing suggestions made by Anderson et al. (1994) and Brown et al. (1994), Grandzol and Gershon (1998) created a survey instrument using the following items; the attribute independent variables are (a) leadership, (b) continuous improvement, (c) internal/external cooperation, (d) customer focus, (e) learning, (f) employee fulfillment, and (g) process management. The dependent variables are (a) product/service quality, (b) operational efficiency, (c) financial effectiveness, (d) public responsibility, (e) employee satisfaction, and (f) customer satisfaction. These 13 variables are derived from a survey instrument by Grandzol and Gershon (1998), an instrument created based partially upon the research of Anderson, Rungtusanatham, and Schroeder, (1994).

5.2.   TQM Practices

The theory of quality management has recognized many TQM practices. Ismail Sila and Maling Ebrahimpour (2002) in their investigation of the total quality management survey based research published between 1989 and 2000, have compiled such TQM practices have been documented and empirically analyzed in measurement studies and in studies that have investigated the relationship between TQM practices and performance. They have proposed the theory of quality management has been developed from three different areas: *First, contributions from quality leaders* (Crosby, 1979, 1995; Deming, 1982, 1986; Feigenbaum, 1951, 1961, 1991; Ishikawa, 1985; Juran, 1951, 1962, 1974, 1988, 1989, 1992), *Second, formal quality award models* (Malcolm Baldrige National Quality Award-MBNQA-; European Quality Award-EQA-; The Deming Prize; Kanji Business Excellence Model) and *third, measurement studies* (Saraph et al., 1989; Flynn et al., 1994; Ahire et al., 1996; Rahman, 2001; Brah et al., 2002; Prajogo and Sohal, 2003; Talavera, 2004; Sila, 2005; Prajogo, 2005;Tari et al.,2006; Brah and Lim, 2006; Karuppusami & Gandhinathan, 2006; Demirbag, 2006; Sila, 2007; Ou et al., 2007; Fryer et al., 2007; acinati, 2008; Ya'acob, 2008; Al-khalifa et al., 2008; Salaheldin, 2009; Satish & Srinivasan, 2010; Malik & Khan, 2011; Arumugam & Mojtahedzadeh, 2011; Zehir et al., 2012).

Ismail Sila and Maling Ebrahimpour (2002) also stated the TQM practices identified in measurement studies carried out around the world in recent years have been summarized. For the sake of conciseness, we have selected only to include a selection of the most relevant studies from the past 12 years. They reviewed Saraph et al. (1989) proposed seventy eight items that were grouped in to eight critical TQM practices: 1) role of divisional top management and quality policy, 2) process management, 3) product and service design, 4) training, 5) quality data and reporting, 6) supplier quality management, 7) role of the quality department and 8) employee relations. To measure

quality management, Lu & Sohal (1993) used nine TQM practices:1) Top management commitment, 2) Strategic quality management, 3) Process quality management, 4) Design quality management, 5) Education and Training, 6) Information and Analysis, 7) Benchmarking, 8) Resources and 9) Statistical process control.

In the same way, Flyyn et al. (1994) proposed seven quality practices of TQM:1) top management support, 2) product design, 3) process management, 4) quality information, 5) supplier involvement, 6) workforce management and 7) customer involvement. This instrument is closely resembled to the preceding instrument developed by Saraph et al. (1989). Powell (1995) comprehended the dimensions of quality management and identified 12 factors from a thorough review of literature (Deming, 1986; Juran, 1986; Crosby, 1979; Flynn et al; 1995 and Saraph et al., 1989). These factors are (1) Committed leadership or executive commitment, (2) Employees empowerment, (3) Adoption and communication of TQM or adopting the philosophy, (4) Closer supplier relationships, (5) Training, (6) Open organization, (7) Closer customer relationships, (8) Benchmarking (9) Process improvement, (10) Zero-defects mentality, (11) Measurements and (12) Flexible manufacturing.

5.3 Performance Measurement

Performance measurement is very essential for the valuable management of an organization. Scholars have used different performance types such as financial, business, innovative, operational and quality performance while examining the association between TQM practices and performance (Islam & Haque, 2012a). Literature on TQM practices incorporates diversified measures of performance such as Corporate Performance (Sabihaini, Liestyana, & Astuti, 2010), Business Performance (Agus & Hassan, Undated), Organizational Performance (Ahmed & Ali, 2012), Therefore, to measure the impact of TQM practices on various levels of improvement, this study incorporates different dimensions of performance such as quality, business and organizational performance.

5.4 Development of hypotheses

Deming Management Method Model has identified eight constructs. To develop hypotheses, these seven constructs are examined separately to explore various dimensions underlying these constructs. Review of literature in services and telecommunication industries has been done to find support for these constructs. Citing suggestions made by Hassan, Hassan, Shaukat, and Nawaz (2013) and Holness (2001), Israr and Gangele (2014) created a survey instrument using the following items:

5.4.1   Leadership

Visionary Leadership encompasses the role of top management in defining a vision, mission, strategic objectives, and shared values for the organization's growth and development(Agus & Hassan, Undated). In quality management context, the visionary leaders need to emphasize the importance of transformation through open communication to achieve a shared approach to the change (Ahmed & Ali, 2012).

Quality Gurus stressed that leadership is vital for effective implementation of total quality management initiatives. Sajjad (2011) argued that in TQM environment, leaders focus on employee autonomy, recognition, coaching, and development.

5.4.2   Employees Collaboration (Internal Cooperation)

Internal cooperation manifest itself into teamwork, unity of purpose, mutual trust and respect for all, participation at all levels and shared approach throughout the organization (AKHTAR, 2014). This cooperation creates synergy and facilitates superior individual and team performance that affects the success of quality initiatives in the organizations. Deming (1993) focused on teamwork and collaboration and argued against competitive behavior.

5.4.3   Suppliers Relationship (External Cooperation)

In TQM environment, suppliers become strategic partners. The suppliers' interaction with customers provides opportunities for improvement of products, services, and processes. Arshida and Agil (2013) noted that "quality-oriented companies pursue a proactive strategy in developing long term relationship with suppliers and provide support to enhance the quality of their suppliers."

5.4.4   Learning

Organization learning entails organization's willingness and ability to learn from its environment, experiences, failures and successes through a continuous process of organization wide examination and analysis (Babbar, 1995). Learning practices promote creativity, acknowledge open arguments, reward experimentation and enhance personal and team efficiency and effectiveness.

5.4.5   Process Management

Process management entails use of information, competencies, means, procedures and systems to define, visualize, measure, control, report, and improve the processes. The ultimate goal is to meet customer requirements and improve customer satisfaction (Bahri, Hamzah, & Yusuf, 2012). In TQM context, process improvement is achieved through use of statistical techniques, change of process and eliminating those steps that do not add value to internal or external customers.

5.4.6   Continuous Improvement

The concept of continuous improvement implies constant improvement in the processes, products and services. Deming (1986) stressed the organizations to improve continuously the products and services. Bhuiyan et al. (2014) identified that continuous improvement is based on process management practices that yield incremental improvement and innovations in products, services, and processes. Chen et al. (2014) have viewed continuous improvement as an initiative that enhances success and decreases failures.

5.4.7   Employee Fulfillment

TQM transformation needs employees' involvement as management philosophy and must manifest in all organizational activities (Ijaz, Dr. Kee, & Irfan, 2012). This is exemplified in involving employees in quality of work life initiatives, participatory management, and other employee related programmes. Islam and Haque (2012b) recognized that employees' involvement with emphasis on independence, creativity and self-control is vital in developing service oriented approach in the workforce.

5.4.8   Customer Satisfaction

Customer satisfaction is at the heart of TQM philosophy. A proactive approach to responding to changing customer' needs are vital to attract and retain customers (Karia & Asaari, 2003). By close interaction with customers, organizations can determine customers' changing requirements, trends and use them as yardstick with their competitors. LAKSHMAN (2006) clearly stated that "in TQM environment the job is not done until the customer is satisfied." Zubair (2013) has noted that customer satisfaction is exemplified by customer driven focus. Literature review highlights that internal quality practices of organizations affect customer satisfaction. The research found that worker awareness and mindset is positively related to customer satisfaction.

Based on the study of literature, following hypotheses emerge:

H1. Leadership has a positive influence on Process Management.

H2. Leadership has a positive influence on Customer Focus.

H3. Leadership has a positive influence on Internal/External Cooperation.

H4. Leadership has a positive influence on Learning.

H5. Leadership has a positive influence on Continuous Improvement.

H6. Leadership has a positive influence on Employee's Fulfillment.

H7. Leadership has a positive influence on Public Responsibility.

H8. Customer Focus has a positive influence on Continuous Improvement.

H9. Continuous Improvement has a positive influence on Product/Service Quality.

H10. Continuous Improvement has a positive influence on Employee's Fulfillment.

H11. Learning has a positive influence on Employee's Fulfillment.

H12. Public Responsibility has a positive influence on Product/Service Quality.

H13. Internal/External Cooperation has a positive influence on Process Management.

H14. Public Responsibility has a positive influence on Process Management.

H15. Customer Focus has a positive influence on Process Management.

H16. Product/Service Quality has a positive influence on Customer Satisfaction.

H17. Employee's Fulfillment has a positive influence on Customer Satisfaction.

H18. Process Management has a positive influence on Operational Efficiency (OPQ).

H19. Learning has a positive influence on Employee Satisfaction.

H20. Employee's Fulfillment has a positive influence on Employee Satisfaction.

H21. Customer Satisfaction has a positive influence on Employee Satisfaction.

H22. Operational Efficiency (OPQ) has a positive influence on Financial Effectiveness (FQ).

H23. Product/Service Quality has a positive influence on Financial Effectiveness (FQ).

H24. Customer Satisfaction has a positive influence on Financial Effectiveness (FQ).

H25. Employee Satisfaction has a positive influence on Financial Effectiveness (FQ).

6 Research Methodology

6.1 Measurement Instrument

We decided on Leadership, Senior Administrators Commitment, Quality Culture, Process Planning and Strategic Quality Management, Process Management, Customer Focus, Internal/External Cooperation, Learning (Education, Training and involvement of faculty members and employees), Continuous Improvement, Faculty and Employee's Fulfillment and Empowerment, as the factors of TQM practices based on the literature review. We also included multiple performance factors, namely, Operational Efficiency, Product/Service Quality, Customer Satisfaction, Public Responsibility, Employee's Satisfaction and Financial Effectiveness The initial questionnaire included 45 TQM practice items and 23 performance items, respectively. The items included a 7-point Likert-type scale anchored from extremely disagree to for extremely agree, which indicates respondents' disagreement or agreement with each item, respectively.

6.2 Population and Sample

We used a cross-sectional survey methodology in this study, and the unit of the sample was at the National University of Management level. The sample was selected from the rector, faculty member, staff and students.

6.3 Data Collection Process

We refined the questionnaire based on the comments taken from the faculty members as the academicians. We also revised the questionnaire after conducting a pilot study and taking feedback from the respondents to make it simple, clear, understandable, and easy-to-follow. We asked the rector, faculty member, staff and students about NUM's performance.

6.4 Statistical Analysis

We conducted *confirmatory factor analysis* (CFA) and *Structural equation modeling* (SEM) to establish factorial validity and to confirm whether or not the theorized dimensions emerge. SEM analysis showed that the factors were logic and reflected accurately what was intended to be measured.

6.4.1 Test for reliability and validity

We begin our analysis by checking whether the measuring instruments of our model variables have been adequately measured through the proposed items in the survey. We have followed Anderson and Gerbing (1988) methodological recommendations, to validate measurement scales, by assessing their psychometric properties: reliability, unidimensionality and validity.

We have developed this process in two phases: one with an exploratory nature, by using an exploratory factorial analysis and another one in which we carry out a Confirmatory Factorial Analysis of first order for each of the scales, trying to edit more the observable variables and maintain those items that best represent the latent concept.

6.4.2 Estimation of the measurement model (reliability, unidimensionality and validity)

In order to test the scale reliability, the following analysis (internal consistency method or method of Kunder Richardson) was carried out; we check that all the scale items have an acceptable item-total correlation (above 0.3), and analyze Cronbach's alpha (reliability) together with the Standardized Cronbach's alpha, proving that they exceed the minimum allowable limit of 0.8. This process enables us to define the number of items measuring each concept (Table 1).

Table 1: The Reliability of Descriptive Statistics of Variables			
Variable Name	**Items**	**Mean (Std.Dev.)**	**Reliability**
LSP	11	4.79 (0.95)	89%
PM	6	4.70 (0.97)	84%
CF	4	4.72 (1.10)	84%
IEC	8	4.75 (0.98)	85%
LN	5	4.83 (1.01)	84%
CI	4	4.76 (0.95)	82%
EF	7	4.84 (.95)	81%
PSQ	4	4.60 (1.08)	75%
OPQ	4	4.59 (0.92)	69%
CS	4	4.73 (1.11)	86%
PR	2	4.79 (1.02)	78%
ES	6	4.80 (1.00)	84%
FQ	3	4.85 (1.04)	85%

Measurement scales reliability analysis in the case of critical factors has enabled us to verify that there is an item in the leadership scale, which shows an item-total correlation below the recommended minimum (Nurosis, 1993) 0.3, which was removed to improve Cronbach's alpha and in the case of the financial quality impact result scale. After editing the scales, Cronbach's alpha coefficient takes values above 0.8 recommended by Grande and Abascal (1999), which indicates the internal consistency of all scales analyzed.

To confirm unidimensionality, we conducted an Exploratory Factorial Analysis of principal components, in order to identify the underlying dimensions in each of the constructs when dividing the variance between the different factors (Table 2). The application of the factorial analysis did not imply removing any items, in all cases the factorial loadings are above 0.5, and factor loadings lower than 0.3 were not considered significant (Hair, Anderson, Tathaman & Black, 1999).

H	Relationships between Exog. and Endog.			Estimate	S.E.	C.R.	P	Label	P	Reliability
H1	CS	<---	CF	0.238	0.065	3.719	***	Sig.
H2	OPQ	<---	CI	0.922	0.066	11.217	***	Sig.
H3	ES	<---	CI	0.297	0.078	3.776	***	Sig.
H4	FQ	<---	CI	-0.331	0.591	-0.682	0.495	InSig.
H5	PR	<---	CS	0.762	0.081	7.986	***	Sig.
H6	CI	<---	EF	0.834	0.121	7.805	***	Sig.
H7	PM	<---	EF	0.114	0.11	1.105	0.269	InSig.
H8	FQ	<---	EF	0.485	0.656	1.019	0.308	InSig.
H9	FQ	<---	ES	0.803	0.145	6.787	***	Sig.
H10	PM	<---	IEC	0.137	0.112	1.097	0.273	InSig.
H11	CF	<---	IEC	0.221	0.148	1.84	0.066	InSig.
H12	EF	<---	LN	0.824	0.113	6.502	***	Sig.
H13	IEC	<---	LN	0.753	0.12	6.644	***	Sig.
H14	LN	<---	LSP	0.814	0.085	10.092	***	Sig.
H15	EF	<---	LSP	0.105	0.105	0.938	0.348	InSig.
H16	CI	<---	LSP	0.196	0.093	2.231	0.026	Sig.
H17	IEC	<---	LSP	0.212	0.114	2.073	0.038	Sig.
H18	PM	<---	LSP	0.733	0.121	6.054	***	Sig.
H19	CF	<---	LSP	0.567	0.173	4.48	***	Sig.
H20	PR	<---	LSP	0.119	0.098	1.423	0.155	InSig.
H21	PSQ	<---	OPQ	0.929	0.145	5.451	***	Sig.
H22	PSQ	<---	PM	-0.011	0.086	-0.091	0.927	InSig.
H23	ES	<---	PR	0.703	0.082	7.692	***	Sig.
H24	CS	<---	PSQ	0.766	0.219	6.69	***	Sig.
H25	FQ	<---	PSQ	-0.015	0.246	-0.11	0.912	InSig.

TABLE 2: The Direct Impact of Revised Model: Standardized Regression Weights

Continuing the measurement model assessment, we have finally conducted the scales reliability study, for which Composite Reliability Coefficient and Variance Extracted were considered. In the case of reliability, it should take a minimum value of 0.7, although it is not an absolute standard and there are researchers who argue that values above 0.6 are sufficient (Bagozzi & Yi, 1988). In turn, the variance extracted (AVE), reflects the total amount of indicators variance, shown by the TQM construct, and the higher the values, the more represented are the critical dimension on their loading indicators, which must be greater than 0.5 (Hair et al., 1999). In our case, both tests of reliability, as shown in Table 3, exceed in all scales, the optimum values accepted.

Table 3: Variance Extracted of Variables and Construct Reliables					
Observe Variables	Std. Regression Weight	SMC	Error	AVE	CR
LPS5	0.725	0.526	0.474	**0.502**	**0.835**
LPS6	0.706	0.498	0.502		
LPS7	0.722	0.521	0.479		
LPS8	0.679	0.461	0.539		
LPS11	0.711	0.506	0.494		
	3.543	**2.512**	**2.488**		
IEC1	0.619	0.383	0.617	**0.439**	**0.796**
IEC5	0.693	0.480	0.520		
IEC6	0.698	0.487	0.513		
IEC7	0.614	0.377	0.623		
IEC8	0.684	0.468	0.532		
	3.308	**2.195**	**2.805**		
CF1	0.800	0.640	0.360	**0.569**	**0.839**
CF2	0.820	0.672	0.328		
CF3	0.745	0.555	0.445		
CF4	0.638	0.407	0.593		
	3.003	**2.274**	**1.726**		
CI1	0.792	0.627	0.373	**0.537**	**0.823**
CI2	0.707	0.500	0.500		
CI3	0.710	0.504	0.496		
CI4	0.720	0.518	0.482		
	2.929	**2.150**	**1.850**		
CS1	0.711	0.506	0.494	**0.636**	**0.874**
CS2	0.801	0.642	0.358		
CS3	0.857	0.734	0.266		
CS4	0.814	0.663	0.337		
	3.183	**2.544**	**1.456**		
EF1	0.624	0.389	0.611	**0.450**	**0.765**
EF2	0.670	0.449	0.551		
EF4	0.636	0.404	0.596		
EF5	0.747	0.558	0.442		
	2.677	**1.801**	**2.199**		

Table 3: Variance Extracted of Variables and Construct Reliables					
Observe Variables	**Std. Regression Weight**	**SMC**	**Error**	**AVE**	**CR**
ES1	0.679	0.461	0.539	**0.452**	**0.804**
ES3	0.625	0.391	0.609		
ES4	0.667	0.445	0.555		
ES5	0.631	0.398	0.602		
ES6	0.752	0.566	0.434		
	8.708	**5.862**	**7.138**		
FQ1	0.795	0.632	0.368	**0.675**	**0.862**
FQ2	0.799	0.638	0.362		
FQ3	0.869	0.755	0.245		
	2.463	**2.026**	**0.974**		
LN1	0.734	0.539	0.461	**0.513**	**0.840**
LN2	0.648	0.420	0.580		
LN3	0.727	0.529	0.471		
LN4	0.798	0.637	0.363		
LN5	0.665	0.442	0.558		
	3.572	**2.566**	**2.434**		
OPQ1	0.662	0.438	0.562	**0.443**	**0.614**
OPQ4	0.669	0.448	0.552		
	1.331	**0.886**	**1.114**		
PM1	0.696	0.484	0.516	**0.490**	**0.793**
PM2	0.719	0.517	0.483		
PM3	0.670	0.449	0.551		
PM5	0.714	0.510	0.490		
	2.799	**1.960**	**2.040**		
PR1	0.787	0.619	0.381	**0.648**	**0.872**
PR2	0.823	0.677	0.323		
	1.610	**1.297**	**0.703**		
PSQ2	0.722	0.521	0.479	**0.571**	**0.799**
PSQ3	0.779	0.607	0.393		
PSQ4	0.764	0.584	0.416		
	2.265	**1.712**	**1.288**		

Finally, to assess the validity, the content validity is studied (supported by the literature review); the validity of concept measured through convergent validity (for which we examine whether the standardized loadings are > 0.5 and factorial loadings > 1.96), occurring in all cases.

In this last phase of the analysis, the aim is to estimate the model in order to contrast the different hypotheses, based on the theory. We contrasted the relationship between the TQM practice's variables to see how the TQM performance's factors affect the

results in financial quality, that is, to see if in fact, continuous improvement and process management can be considered antecedents of social responsibility. We also want to test whether leadership has an influence through operational efficiency, product/service quality, customer (student) satisfaction, public responsibility, employee satisfaction and financial effectiveness (financial quality), and therefore affect the results.

To estimate the model, we have used the structural equation model, and more specifically the Confirmatory Factorial Analysis, considering the models previously obtained as a result of the editing scale. We propose an initial model based on the theory and which we aim to support empirically. With this strategy of analysis, if the proposed model is not well adjusted to the data, it is successively modified until it reaches a good adjustment (Figure 1).
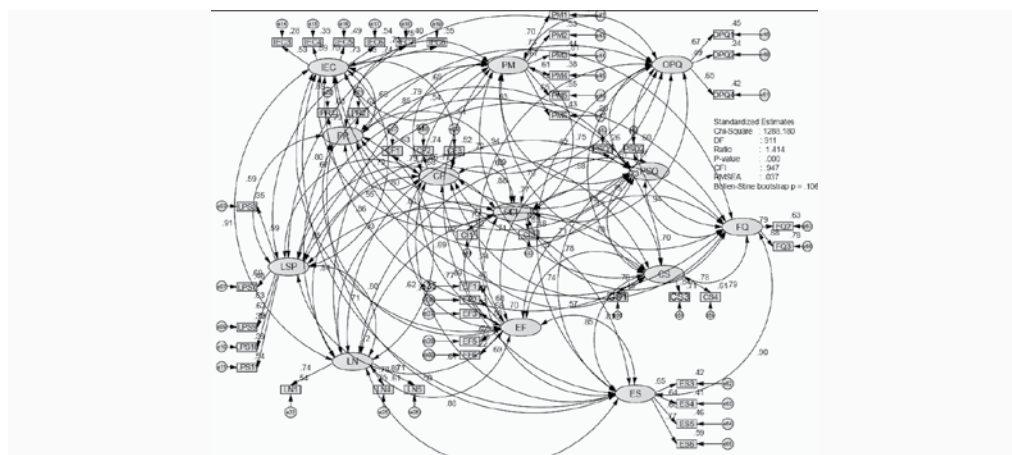
Figure 1: CFA fit

The results of the final structural model confirm the proposed relationships, being the critical coefficients of the standardized loadings in all cases significant. The R square measure, that indicates the amount of variance of the construct, which is explained by the model, ie, provides useful information to evaluate, to what degree, the TQM model practice variables are explained by their corresponding predictors, in the case of the structural model, shown in Figure 2, and can be regarded as acceptable (Table 4 and 5).

Thus, the model has the ability to explain financial efficiency (financial Quality) impact results by using the direct effect of leadership plus the indirect effect of other critical factors specified in the model. In order to examine more in-depth the effects of the variables included in the model, we have taken into account the direct, indirect and total effects of critical factors on the variable results.
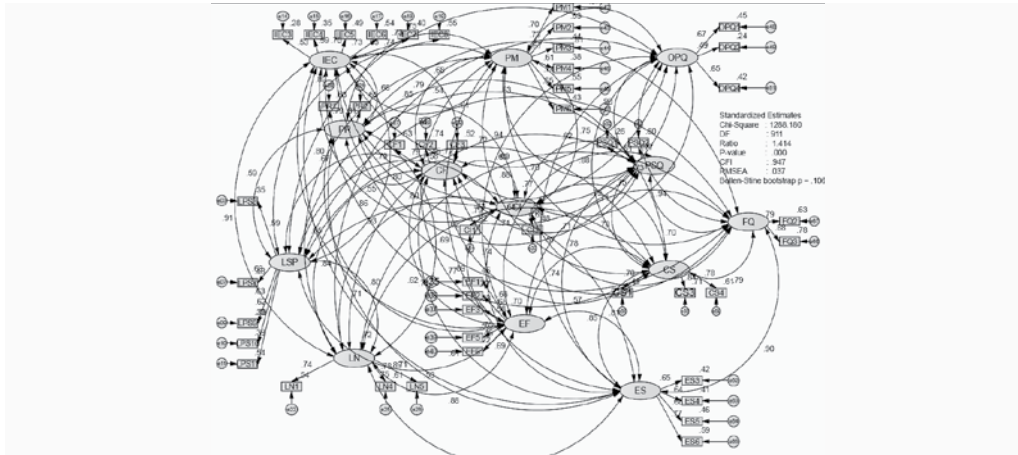
Figure 2. Final structural diagram model

Table 4: The Goodness of Fit Analysis -CFA of Measurement Models and structural Models

Final Models	CFA	CFA Fit	Hypothesized Model	Revised Model Fit
Item Remain	68	46	68	46
CMIN	3603.302	1288.18	3620.5555	1428.082
df	2132	911	2054	964
CMIN/df	1.6901041	1.414029	1.762685248	1.481412863
p-value	0	0	0	0
GFI	0.72	0.851	0.74	0.836
CFI	0.853	0.947	0.863	0.935
TLI	0.843	0.94	0.857	0.93
RMSEA	0.051	0.037	0.05	0.039
Bollen-Stine bootstrap p-value		0.06		0.06

Table 5. Square Multiple Correlation Results

Endogenous Variable	Square Multiple Correlation(SMC)= R2
LN	66%
EF	83%
IEC	87%
CI	99%
OPQ	85%
PM	89%
PSQ	85%
CF	58%
CS	85%
PR	73%
ES	88%
FQ	83%

7 Discussion and Conclusion

The analysis of data from the survey instrument and the testing of the hypotheses indicate that relationships do exist between perceptions of performance measures associated with TQM Practice. The hypotheses that indicate overall significance; however, some of the predictors were not significant.

Product/Service Quality: This is show in line with the customer focus was a performance measure which considered themselves practitioners of TQM. The research showed that faculty members and administrators ranked customer focus sixth of eight possible constructs of TQM practice and was identified with vision, involvement, continuous improvement, training and education, ownership, recognition and rewards, yearning for success, customer focus.

The strength of the relationship between customer focus and product/service quality suggests that TQM practitioners should place more importance on customer focus if they wish to see a subsequent increase in product/service quality.

Financial Effectiveness: This supports the philosophy of Deming in many of his publications. The performance measures for financial effectiveness include an evaluation of the colleges' return on investment, resistance to losses to other colleges providing the same service, and reinvestment in the processes used to provide services. It is reasonable to conclude that if an organization is successful in this area then their market share will increase. Reaching this conclusion, we can then see that Deming's theory supports the current model under study.

Improvements in quality (product/service quality) will resultin improvements in greater market share (financial effectiveness) as well as improvements in fewer customer complaints (customer satisfaction). Improvement in this area could manifest as more qualified students ready to enter the workforce. There is not a direct linkage between the public responsibility variable and the methods discussed by Deming in the previous paragraph.

Customer satisfaction was a significant predictor of financial effectiveness while customer focus was not. Though customer satisfaction and customer focus may sound like similar variables, when looking at the performance measures of each one, they are clearly different. It is easy to see how an increase in the investment a college puts into its product results in an increase in the level of customer satisfaction. A college that invests in methods that keeps them on the cutting edge of education

(resistance to losses to other colleges providing similar services) is more likely to have satisfied customers who feel they have obtained a quality product from their investment. As Deming's model showed, an increase in product quality is related to an increase in customer satisfaction. Additionally, one of Deming's definitions of quality includes focusing on customer satisfaction.

Operational Efficiency: In this study of TQM, continuous improvement was positively related to customer satisfaction as well as a reduction in the amount of employee time and company resources wasted. The current model defined operational efficiency as a measure of how efficient the college is in its use of energy and materials. Continuous improvement was defined as the tendency of the college to pursue incremental and innovative improvement of its processes, products, and services. The analysis of this study, continuous improvement increased when waste was reduced. A challenge in university is a constant meaning of the term waste. It is possible that one university defines waste as the amount of student drop outs.

Public Responsibility: Public responsibility is the level to which the college is considered a steward of the environment and a good neighbor by local parties and the surrounding community. It found that public responsibility influenced customer satisfaction.

Customer Satisfaction: It is important to note that in the employee satisfaction has the strongest relationship with customer satisfaction. This should come as no surprise if we are following Deming's model. Satisfied customers are more likely to remain customers and could recommend the service to friends. What is surprising is that product/service quality was not a significant predictor of customer satisfaction. This is in direct contrast to Deming's model and could be due to difficulty involved in quantifiably defining product/service quality within the university.

Employee Satisfaction: The results of the analysis are in line with literature,specifically addressing the relationship between employee satisfaction and employee fulfillment. Research has shown that if an employee expects the work he or she is doing to be boring or unchallenging, then they will not be motivated to perform their job with high quality regardless of the rewards system that might be in place. Conversely, a fulfilled employee is a satisfied employee, and continuous evaluation of employee expectations and from that analysis create training focused on expectations.

The findings of this study suggest that university rector perceive relationships among variables identified as performance measures of TQM. It was possible that TQM had become so accepted and integrated into organizations that its presence is almost transparent, making measurement even more difficult. Could TQM be so ingrained into a university rector's leadership and training that they are practicing

TQM concepts while not seeing/identifying themselves as TQM practitioners or their institution as a TQM institution?

In this study evaluated National University of Management rector's views on leadership, organizational pressures, and the change process, it has been discovered that rector rated leadership as the central theme of his change process. The literature is clear in stating that TQM and other CQI processes stress the importance of leadership. While several leadership styles were discussed, the rector agreed that they relied on the collaborative approach, using keywords such as visibility, praising, empowering, and coaching.

Through an examination of the literature, I have come to believe that TQM has evolved into a system with performance measures that many, though not all, believe are essential elements of a TQM program. The survey instrument used for this research explored many of these performance measures. Having analyzed the findings of the survey and conversed with several of the respondents, I think a more acceptable term for these performance measures is continuous improvement concepts.

The concept of continuous improvement governs how an organization improves quality and can take the best concepts from programs such as TQM, strategic planning, or the balanced scorecard. It suggests a program that is less rigid and structured than existing or prescribed TQM programs. I believe this holistic approach would be more accepted by quality improvement leaders and would have a positive impact upon their improvement programs.

Another possibility exists regarding the implementation of TQM within university. This study evaluated rector' perceptions of TQM as the literature clearly states that the success of any TQM program is driven by the leader. However, by limiting the sample to one specific individual within the organization, the findings represent an individual's view.

Potentially conflicting views are best illustrated in this study found that university administrators' views differed from faculty views regarding TQM. Although most of faculty and administrators agreed that continuous improvement was important when evaluating the university strategic plan.

The findings from this study can be used by TQM leaders to develop an improvement program built upon perceived relationships between TQM constructs. If a leader was looking to improve employee satisfaction within a university, this research would direct him or her toward improving customer satisfaction and employee fulfillment, which could result in a corresponding positive increase in employee satisfaction.

Continuing this process, the leader could sample their customer base to determine their needs and requirements and see if these are being met. Once this was accomplished, the practitioner could return to this study, which suggests that customer satisfaction increases with a corresponding increase in process management, customer focus, financial effectiveness, and employee satisfaction increases.

8 Future Research Implications

Continuous improvement and employee involvement are the major tenets of TQM practices. These factors can be included in future studies. Insignificant relationship between leadership and performance can indicate existence of indirect relationship or any other relationship that is nonlinear. Insignificant relationship between some TQM variables and performance may imply mediational relationship among TQM practices. There may also be some mediational relationships among various performance measures. Mediational or indirect relationships among TQM practices and multiple performance measures can be investigated. The relationship between TQM practices and the various performance measures can be investigated in other countries and industries. The reasons of and the barriers to TQM practices and the reasons of having ISO certification may be different in other countries and industries so that a comparative study can be conducted to investigate these parameters.

9 Research Limitations

The study used subjective measures of performance which may not give accurate information to test the hypotheses. However, we only studied one university by using subjective measurements. Furthermore, the study asked for perceived data about actual TQM practices and performance measures, but the respondents might have given desired data, which made their firms look good.

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MOTIVATION TO BECOME ENTREP RENEURS:THE CASE OF CAMBODIAN WOMEN ENTREPRENEURS

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Abstract

Nowadays, women are more and more starting their own businesses (Brush et al., 2008). This paper seeks to identify factors that motivate Cambodian women to become entrepreneurs. The specific motivating factors of interest are economic, social and personal factors. Purposive sampling method was chosen for data collection. Descriptive Statistics was used to interpret data. A questionnaire survey was used to approach 359 women entrepreneurs in SMEs in Phnom Penh. The study discovered that Cambodian women were motivated to become entrepreneurs by four economic factors, three social factors, and three personal factors. With the findings, this study provides some insight into understanding the motivation to become entrepreneurs among Cambodian women in the sampled area and also has some recommendations for women, policy makers, and the government.

Keywords: *motivation, woman entrepreneur*

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1 Introduction

Women everywhere are becoming entrepreneurs. In greater numbers than ever before, women are stepping away from traditional economic roles and venturing out to start to their own businesses. In every field imaginable, even the most "masculine," they don't have to look hard to find female entrepreneurs who have overcome seemingly impossible odds to achieve success. Across the globe, women are starting businesses in record numbers. In Southeast Asia, for example, female-owned businesses have been at the forefront of that region's economic turnaround since the "Asian flu" arrived in 1997 (Coughlin, 2002).

Clearly, the growth of female enterprises is good for economies. What may be less evident, though, is that the rise of female entrepreneurs also benefits societies and women themselves. The benefits derived when women start and operate their own businesses are truly remarkable: increased self-esteem, quality of life, and life expectancy as well as reduced infant mortality, incidences of AIDS and other diseases, and domestic violence (Coughlin, 2002).

Cambodia is a developing economy in South-east Asia, where women are engaged in diverse productive ventures mostly concentrated in Small and Medium Enterprises (SMEs). The economic impact of female entrepreneurial activities on economy is substantial. The total number of Cambodian enterprises is 513,759 of which Cambodian women own 313,391 enterprises, or 61 percent (NIS, 2014).

Over the past two decades, women entrepreneurs have been recognized for their significant contributions to the socio-economic development of their countries. However, most of the literature on women entrepreneurs has focused on developed countries; limited knowledge exists on women entrepreneurs in developing countries (Saffu & Takyiwaa Manu, 2004). Cambodia lacks documented research on women entrepreneurship, especially the motivations of women entrepreneurs. Therefore, the intent of this working paper was to identify factors that motivate Cambodian women to become entrepreneurs.

2 Literature Review

2.1 Women Entrepreneurs Defined

There has been little consensus in the literature on the differences between individual and corporate entrepreneurship, small business owners, and self-employment (Cunningham & Lischeron, 1991). Throughout the literature, the terms "women entrepreneurs," "self-employed women," "women-led firms," and "women business owners" have been used to describe different types of business ownership. Among them are women who established and operate their own businesses, those who purchased businesses, those who inherited family businesses, or operate businesses with spouses.

According to Moore and Butner's (1997: 13), they defined a female or a woman entrepreneur as "a woman, who has initiated a business, is actively involved in managing it, owns at least 50 percent of the firm, and has been in operation one year or longer." The OECD (2004) endorsed this definition, and earlier on this definition of women entrepreneurs was successfully used in the study of women's entrepreneurship in Ireland (Butler, 2003).

Therefore the criteria developed from the attributes of women entrepreneurs according to the above definition, in addition to the general features of an entrepreneurial venture, were applied to the determination of the sample of the study. The attributes were:

- The woman entrepreneur either owned all of her business, or was the majority shareholder (50%).
- The woman entrepreneur, who had initiated the business, was actively involved in managing it.
- The business had been in operation for at least one year.
- The business venture had to exhibit entrepreneurial features.

2.2 Motivation Defined

According to the Online Business Dictionary, motivation is described as internal and external factors that stimulate desire and energy in people to be continually interested and committed to a job, role or subject, or to make an effort to attain a goal. Motivation results from the interaction of both conscious and unconscious factors such as the (1) intensity of desire or need, (2) incentive or reward value of the goal, and (3)

expectations of the <u>individual</u> and of his or her peers. These factors are the reasons one has for behaving a certain way (Online Business Dictionary, accessed on 12 September, 2014).

2.3   Push and Pull Theory

In research on entrepreneurial motivation, a distinction is made between "pull" and "push" factors or positive and negative motivation (Scase & Goffee, 1989; Storey, 1994). Gilad and Levine (1986) proposed the "push" theory and the "pull" theory. Pull factors suggest positive motivations like a desire to be independent, have control over one's future and increased social status, as well as the possibility of leveraging personal skills and abilities (Morrison, 2001; Cassar, 2007). Push factors suggest negative experiences like the inability to find a job in the mainstream sector, underemployment, facing discrimination in the labour market, underpayment and the possibility of redundancy (Basu & Goswami, 1999; Morrison, 2001).

2.3.1   Pull Factors

Research shows that individuals become entrepreneurs essentially due to pull factors rather than push factors (Shinnar & Young, 2008). Segal, Borgia and Schoenfeld (2005) argue that it is hard to find a direct relationship between external forces and entrepreneurial activities. They state that theories of motivation have progressed from fixed content-oriented theories to constantly changing process-oriented theories. Process-oriented theories explain "how the behaviour is initiated, directed, sustained and stopped" (p.43). Job displacement may be an event that initiates entrepreneurship but the displaced worker will not pursue this career unless there is a process-oriented connection. The external forces may provide a contributing factor to the environment for entrepreneurship, but the displaced worker is quite likely to choose another career option.

The studies on entrepreneurship motivation in recent years have been process-oriented models focusing on attitudes and beliefs and the predictions of intentions and behaviours (Segal, Borgia & Schoenfeld, 2005). Human effort, especially the effort involved in becoming self-employed, is the result of a cognitive process. Humans think about possible future outcomes, decide on the most desirable one, and are likely to pursue these outcomes and it is not reasonable to expect people to pursue outcomes that they perceive to be undesirable or unviable (Segal, Borgia & Schoenfeld, 2005). According to the cognitive process, people will have thought of the positive outcome of entrepreneurship before pursuing it. This contradicts the push motivational factor to pursue entrepreneurship where individuals have no choice and are forced

into entrepreneurship. This is consistent with the observation that individuals have more of a pull factor than a push factor in pursuing entrepreneurship (Shinnar & Young, 2008). Shane, Kolvereid and Westhead (1991) did a study on motivations to become self-employed in New Zealand. The major reason to become an entrepreneur was related to pull factors ("To control my own time"; "To have greater flexibility for my personal and family life"; "To have considerable freedom to adapt my own approach to work"). A similar study was done by Baker (1995) on reasons to become entrepreneurs. This study divided the motivation into push and pull factors. The pull factors were similar to the above studies, and business opportunity was added to the list. Of note is the fact that out of 2.4 million adult New Zealanders, 11.5% are classified as opportunity entrepreneurs (Frederick, 2004).

2.3.2   Push Factors

Many studies on entrepreneurship motivation have found push factors to be an important motivating factor. Kirkwood (2009) did a study and found that push factors were more prevalent than pull factors. Four important push factors in the study were found to be the following: not being satisfied with the job; the changing world of work; motivations regarding family; and help from the employer. Job dissatisfaction ranged from specific bad experiences, dissatisfaction with the organizational culture and office politics. Many times employers assisted in starting the business. One example of this was seen in the situation of an individual's work being "outsourced", which was a driving force to start a business. This push factor from the employer is not necessarily a negative implication. This factor is a new significant finding, which has not appeared in studies of entrepreneurship.

With regard to the motivational factors regarding family, these were mostly related to children and being able to spend more time and earn more money to provide for the children. Benzing and Chu (2009) have classified this as a negative push factor, unlike the above studies where monetary gain is classified as a positive pull factor. The study argues that because of low income and a weak job market in developing countries, individuals are pushed into entrepreneurship to increase income and create job stability.

Willsdon (2005) suggests that entrepreneurs are more likely to emerge from those groups in society that are most marginalised, discriminated against, and looked down upon. This corresponds with what is called the social marginality theory put forward by Stanworth and Curran (1976), which suggests that "the perceived incongruity between an individual's prodigious personal attributes and the position they hold in society might propel them to be entrepreneurial" (p.3). Hagen (1962) mentions that when the behaviour of a group is not accepted or the group faces discrimination,

then a "psychological disequilibrium" takes place. This could compel a person into enterprising behaviour to make up for this imbalance. He proposed that a disadvantaged person is more likely to start a new project than other individuals. Of course, these theories do not account for all entrepreneurs, but it is an interesting hypothesis to think that disadvantaged persons would be more likely to start a new venture than other people (Frederick & Foley, 2006).

2.4 Motivations for Women Business Ownership Perspectives

Many previous studies (Bennet and Dann, 2000; Brush, 1992; Fielden and Davidson, 2005; Lerner et al., 1997; Moore, 2000; Moore and Butler, 1997) have investigated reasons why entrepreneurs choose the path of entrepreneurship. These studies concluded that a combination or range of factors, rather than any single factor alone, provides the impetus for entrepreneurs to create their own business ventures. For instance, psychological motivations such as achievement, independence, and locus of control have been widely investigated with regard to their influence on business start-up (Lerner et al., 1997).

Economic motivators include economic necessity, a path to material independence and greater control over the products of labour (Bennet and Dann, 2000; Carter, 2000; Hisrich & Brush, 1983). In addition, dissatisfaction with circumstances can describe a combination of factors including disillusionment with career, perceived lack of career opportunities, the glass ceiling, flexible work patterns and the challenge of business ownership (Bennet & Dann, 2000; Carter et al., 1997; Hisrich & Brush, 1983).

Generally, women's entrepreneurship studies explain women's motivations for business ownership in two thematic dimensions: extrinsic motives including dissatisfaction over employment, and intrinsic motives involving desire for independence and ability to balance work commitments with family responsibilities. Extant research found that women primarily tend to choose to become self-employed primarily for intrinsic reasons (Brush et al., 2006; Kjeldsen and Nielsen, 2000).

In theorizing why women venture into enterprise formation, a number of modern researchers have found it useful to explain motivations under the categories of 'push' and 'pull' factors (Brush, 1990; Buame, 2000; Moore and Buttner, 1997; OECD, 2001; Soutar and Still, 2000). These findings rest on the premise that personal and external circumstances, both positive and negative, may impact on a woman's decision to create her own enterprise. According to the researchers, negative factors push women to consider entrepreneurship while positive factors pull or attract them. Push factors include economic necessity, lack of childcare facilities, unacceptable working conditions, rigid hours, the wage gap between women and men, occupational segregation, job

frustration such as the 'glass ceiling' blocking advancement, and hostile corporate environments or disillusionment with traditional employer/employee relationships. Positive factors pulling women into entrepreneurship include market opportunity, ambition, experience, an interest in a particular area of activity, social objectives, contacts, a need for flexible hours, greater income and financial independence, a desire for autonomy, personal growth and increased job satisfaction. However, the determinants of the triggers that push and pull are not always clear. For instance, push factors are classified as those positions where a woman has little choice: she is 'pushed' into a decision or situation of owning and operating a business, whether by herself or with family or others. Pull factors on the other hand are considered attractive options for women: they are drawn to brighter prospects and generally have control over their decisions to establish a business. The women normally view start-up as fulfilling an ambition to be one's own boss or as pursuing a potential business opportunity. These push and pull factors have been found to be the major motivations for women entrepreneurs all over the world, particularly in developing countries. Scholars in women's entrepreneurship literature categorized the motivators embedded in the push and pull factors into economic, social and personal motivations (Coughlin, 2002; Fielden and Davidson, 2005; Moore, 2000).

2.4.1   Economic Motivations

According to the push and pull factor theorists, one of the universal motivations which push women into starting their own business ventures is the need to generate income. Coughlin (2002) observed that in all countries women are at an economic disadvantage compared with men. Societal norms still discount women as the primary breadwinners in the family. But, with the increase in divorce and women heading single-parent households, in many cases they are the primary breadwinners. Coughlin's observation is particularly valid in the developing world context, where it is common for one man to father numerous children without providing economic support to any of the offspring. Coughlin (2002) further identified in the developing countries context that decreasing opportunities for men to earn a family wage have made many women less able to depend on customary forms of male support. In many cases male expectations that women will contribute to the family income pool have increased.

Also, women in developed countries, as in the rest of the world, are pushed by economic motivation to start business ventures. Many women are pushed into whatever market economic activity they can take up. The changing nature of government programmes coupled with the lack of opportunity for entry-level work in developed countries have led many women to view entrepreneurship as the best way out of the permanent cycle of poverty. As a result, many women look at their own business as the best way to achieve those things the system has failed to provide. After realizing

dependence on government programmes is doing nothing to improve their self-esteem, many women have tried to enter the workplace. Although the economies of the United States and Western Europe have created millions of new jobs in recent years, women have found that entry-level positions often do not pay enough to provide the basic necessities. As a result, many women have rejected government assistance, started a new job, and at the same time, launched a new business. The combination of the salary and benefits received from their job and the extra income from their own business provide many with enough resources to sustain themselves and their families for the long term (Coughlin 2002; OECD 1997, 2000).

In some countries that are undergoing transition, the theorists found that unemployment and the lack of other economic options is the major factor that 'pushed' women into business ownership. Statistical data broken down by gender are scarce in the transition economies, but evidence there suggests that women, who are particularly affected by the privatization of state-owned industries and the structural unemployment resulting from the transition to market economies, are increasingly turning to entrepreneurship.

Pauykert (1995) revealed that before the fall of the Berlin Wall, 94 percent of women in the former German Democratic Republic worked. Today, the 20 percent unemployment rate in Eastern Germany has touched off a surge in female entrepreneurship: 150,000 new female run companies have been launched since 1990. The beauty of these stories of women motivated into self-employment is that women are taking their economic future into their own hands by starting their own enterprises. By running their own businesses, they have a direct relationship between how hard they work and how much money they earn. While they may in some cases make less money initially by choosing to own a business, they know in the long run they have more security and potential for earnings when they own the business. One can conclude from the push and pull theoretical perspective that the economic motivation for women to start businesses has grown out of financial conditions that have forced women to find alternative methods for generating income. The increase in the number of women entrepreneurs out of economic motivation has therefore demonstrated the resiliency and steadfastness of women. Women entrepreneurs worldwide have demonstrated their ability to take control of their economic future, by choosing the risky and often difficult option of entrepreneurship.

2.4.2 Social Motivations

The motivators embedded in the push and pull factor theory such as the need for flexible hours, unacceptable working conditions, lack of childcare facilities, wage gap between men and women and job frustration have been categorized and analyzed as social motivations for women to start business ventures (Coughlin, 2002; Moore, 2000; Moore & Buttner, 1997).

Coughlin believed that socio-cultural factors played a great role in a woman's decision to become an entrepreneur. She pointed out that before the Industrial Revolution, families generally lived and worked in the same place. Men and women worked together in the family farm and they operated as a unit. Families were physically close, and so they had a built-in support mechanism in the case of sick children, an ageing parent, or family crises.

A family who owned a retail store would often employ the mother and her children, who would help around the store. However, in today's modern society, the family and taking care of the family have become separated from the role of breadwinner. Earning a living usually requires leaving the home and often the community to work for long hours in an environment completed separated from home and family. Men and particularly women always crave a blending of their family and work life rather than complete separation (Coughlin, 2002; Fielden and Davidson, 2005). The schedule that is imposed on working mothers makes it nearly impossible to respond to the personal needs of a family. By starting their own businesses, women are creating an environment where they are in control of where they work, how they work, and when they work. Although they often work as many hours or more than they did when employed, they are more in control of their time and they can work their businesses around the needs of their families instead of the other way around.

Coughlin's interview of some women entrepreneurs in the United States reflects the sentiment of millions of entrepreneurs who are starting businesses because of their desire to find balance between work and home. Clearly, changes in societies, which have put more pressure on many women to 'have it all,' have actually been a driving force behind the growth of female entrepreneurs, especially in developed countries. Frustrated by their need to work, but unwilling to accept the terms of employment, many women have struck out on their own. The women who find themselves in this position, many of whom have fought their way into executive positions, find a keen desire for the flexibility and control that entrepreneurship provides (Moore, 2000).

Researchers in Australia as well as in the US, Canada and the UK also confirmed from their studies that women balance family responsibilities with productive employment by starting their own businesses or engaging in family businesses which allow them a degree of flexibility for their other responsibilities (Burgess-Limerick, 1993; Coughlin, 2002; Evans, 1984; Fielden & Davidson, 2005). However, family responsibilities invariably refer to children and unpaid domestic work, and for many African women the lines between business and home duties are blurred. Earlier on, Evans (1984) found that married women are more likely to be entrepreneurs and those with children are more likely to start their own businesses because self-employment gives them time flexibility. In addition to time flexibility, another study indicated

that many Asian women started up business ventures because of time flexibility as they wished to balance productive work with family responsibilities (Ip and Lever-Tracy, 1992).

2.4.3   Personal Motivations

Another category of motivators embedded in the push and pull factor theory, such as the desire for autonomy, to control one's destiny and the need to be personally fulfilled, have been labeled personal motivations. These motivators have been identified and described by Coughlin as the most interesting of all the motivators for women entrepreneurs. She emphatically pointed out that even in the developing world where the primary motivation is economic; the motivation for self-fulfillment is very strong. Entrepreneurship has provided an opportunity for women to discover a new-found sense of accomplishment in supporting themselves instead of relying on men and government welfare systems.

Many women entrepreneurs start their businesses because of a social or spiritual need they identify in their lives. Others have a vision of a better way to build a mousetrap (Coughlin, 2002). These women share the common motivation of self-fulfillment and the desire to be in control of their destiny. Often self-fulfilment will keep women entrepreneurs in business even when they would gain more economic benefit working for someone else. The desire for self-fulfillment is particularly strong for women; since many societies give women little respect for their accomplishments and abilities, women crave an opportunity to create their own self-respect (Brush et al., 2006; Buame, 2000; Coughlin, 2002).

Extensive research into the characteristics of women entrepreneurs has established that the need for achievement is innate in many women. Those high in need for achievement are thought to have a general orientation toward certain types of goals, entrepreneurial activity being one. Also, personal growth and self-determination- not attaining great wealth and building large operations- always rank high as motivating factors among women who have started their own businesses. For example, Coughlin (2002) cited the research findings of Holly Buttner, a business faculty member at the University of North Carolina at Greensboro, who spent four years in a study of female entrepreneurs in the US. Her findings revealed that getting rich and owning a large company were not the major reasons for these women entrepreneurs. Her findings further indicated that profits were important, but not as much as income, as a means to ensure that the businesses they started would survive. Thus, the biggest motivation for many women entrepreneurs is the empowerment that comes with gaining control over their destiny.

In conclusion, it is evident in the women and entrepreneurship literature that no single factor motivates a woman to become an entrepreneur. Her reasons depend upon several personal and external circumstances. Reasons also vary from country to country, which emphasizes that female entrepreneurship is cultural or context bound, though some of the reasons overlap among countries and other reasons too are common to all women entrepreneurs worldwide.

Similarly, motivators that have been found to be push factors for women entrepreneurs in developing countries appear to be pull factors for women entrepreneurs from developed countries. For instance, in developed countries such as USA and Australia, independence, self-fulfillment, achievement and desire for recognition by others ranked higher or was prioritized as the primary motivation for going into entrepreneurship, whereas in transitional and developing countries economic reasons ranked higher. However, it is apparent from the extensive review of literature that women entrepreneurs worldwide have a common motivation, which is self-fulfillment and economic empowerment that comes with gaining control over their lives, being in charge of their own fate and having freedom and flexibility. These reasons are a hallmark of business ownership.

3 Methodology

3.1 Survey Construction

A set of demographic questions were posed, as well as well-established measures of economic, social, and personal motivations. A series of questions was asked to explore the personal, social, economic motivations for the women creating their own ventures. The questions were formulated to allow the respondents to rate a range of variables as unimportant, of little importance, moderately important, important or very important (Dzisi, 2008).

3.2 Data Collection

The data for this study were gathered using a survey questionnaire. The target population of this research is women entrepreneurs in Phnom Penh, where they own 71,594 enterprises (NIS, 2014). Data collection was conducted from October to December 2014. The researcher trained his 194 students to interview women business owners whom they knew clearly. One student was assigned to interview two

entreprenuers, so 388 surveys were used for collecting data. All surveys were returned due to score stimulus. After checking data in the surveys, 29 cases were not usable due to incomplete data. As a result, a sample of 359 female business owners was used for data analysis in this study. The response rate (92.5%) represents high (Hart 1987).

3.3 Data Analysis

The researcher trained two students to help enter data into SPSS software Version 16. For data analysis, the researcher used Descriptive Statistics: Frequencies and Percentage for descriptive findings, and Mean for the results.

4 Results and Discussion

4.1 Descriptive Findings

Age of Owners

Table 1 reports the number and percentage of age of business owners in the sample. The greatest number of respondents (48.7%) fell within the 25-34 age category, followed by the 35-44 age category with 33.7% of the sample. The lowest number of respondents (1.1%) fell within the 55-64 age.

Age				
	Frequency	Percent	Valid Percent	Cumulative Percent
Under 25 years	17	4.7	4.7	4.7
25-34 years	175	48.7	48.7	53.5
35-44 years	121	33.7	33.7	87.2
45-54 years	42	11.7	11.7	98.9
55-64 years	4	1.1	1.1	100.0
Total	359	100.0	100.0	

Table 1: Age of Owners in the Sample

Marital Status

Table 2 provides the number and percentage of marital status of students in the sample. Those surveyed were predominantly married (83.3% of the sample), whereas single accounted for only 5.8% of respondents.

Marital Status				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Single	21	5.8	5.8	5.8
Separated or divorced	13	3.6	3.6	9.5
Married or cohabiting	299	83.3	83.3	92.8
Widowed	26	7.2	7.2	100.0
Total	359	100.0	100.0	

Table 2: Marital Status in the Sample

Education Level

Table 3 provides the number and percentage of education of business owners in the sample. There were diverse distributions for respondents such as less than Grade 12 (46.5%), completed high school (23.1%), some college (13.9%), completed diploma (4.7%), completed undergraduate degree (11.4), and some post graduate work or degree (0.3%)

Educational Level				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than Grade 12	167	46.5	46.5	46.5
Completed high school	83	23.1	23.1	69.6
Some college	50	13.9	13.9	83.6
Completed diploma	17	4.7	4.7	88.3
Completed undergraduate degree	41	11.4	11.4	99.7
Some post graduate work or degree	1	.3	.3	100.0
Total	359	100.0	100.0	

Table 3: Education Level in the Sample.

Business Sectors

Table 4 reports the distribution of the sample of responding firms in terms of type of industry. The sectors of the businesses sampled were also quite diverse. 56.5% of businesses in the study sample were operating retail businesses, followed by service-related business (15%), wholesale (13.4%), restaurant (10.6%), and other (4.6%) of respondents.

Business Sectors				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Retail	203	56.5	56.5	56.5
Wholesale	48	13.4	13.4	69.9
Service	54	15.0	15.0	85.0
Restaurant	38	10.6	10.6	95.5
Other	16	4.5	4.5	100.0
Total	359	100.0	100.0	

Table 4: Business Sectors in the Sample

Legal Forms of Business

Table 5 demonstrates the number and percentage of legal forms of business in the sample. The greatest number of respondents (86.9%) fell within the sole proprietorship category, followed by the partnership category with 13.1% of the sample.

Forms of Business				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Sole proprietorship	312	86.9	86.9	86.9
Partnership	47	13.1	13.1	100.0
Total	359	100.0	100.0	

Table 5: Legal Forms of Business in the Sample

Years in Business

Table 6 demonstrates the number and percentage of number of years in business of business owners in the sample. The greatest number of respondents (35.4%) fell within the 6-10 years category, followed by the 3-5 years category with 25.1% of the sample. The lowest number of respondents (1.7%) fell within the less than 1 year category.

Years in Business				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 1 year	6	1.7	1.7	1.7
1-2 years	51	14.2	14.2	15.9
3-5 years	90	25.1	25.1	40.9
6-10 years	127	35.4	35.4	76.3
11-20 years	52	14.5	14.5	90.8
Over 20 years	33	9.2	9.2	100.0
Total	359	100.0	100.0	

Table 6: Years in Business in the Sample

Hours Spent at Work

Table 7 provides the number and percentage of hours worked of business owners in the sample. The greatest number of respondents (63.5%) fell within the 41-60 hours category, and followed by the over 60-hour category with 25.9% of the sample. The lowest number of respondents (3.3%) fell within the under 25-hour category.

Hours Spent at Work				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 25 hours per week	12	3.3	3.3	3.3
26-40 hours per week	26	7.2	7.2	10.6
41-60 hours per week	228	63.5	63.5	74.1
More than 60 hours per week	93	25.9	25.9	100.0
Total	359	100.0	100.0	

Table 7: Hours Spent at Work in the Sample

Hours Spent at Family

Table 8 provides the number and percentage of hours spent at family of business owners in the sample. The greatest number of respondents (76.3%) fell within the 2-3 hours category, and followed by the 4-5 hours category with 14.2% of the sample. The lowest number of respondents (1.4%) fell within the over 5-hour category.

Hours Spent at Family				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 1 hour per day	29	8.1	8.1	8.1
2-3 hours per day	274	76.3	76.3	84.4
4-5 hours per day	51	14.2	14.2	98.6
More than 5 hours per day	5	1.4	1.4	100.0
Total	359	100.0	100.0	

Table 8: Hours Spent at Family in the Sample

4.2   Results

Personal Motivations for Business Ownership

Table 9 provides Mean of personal factors in the sample. Five key personal factors were rated most highly by the respondents and seen as very important. The highest Mean is "To suit family life" at 4.36; followed by "To be independent" at 4.21; "To be the boss" at 4.17; and "To control one's destiny" at 4.11. "To fulfill family expectation or tradition" has the lowest Mean at 3.10.

Descriptive Statistics				
	N	**Mean**		**Std. Deviation**
	Statistic	Statistic	Std. Error	Statistic
To suit family life	359	4.3649	.06003	1.13747
To be independent	359	4.2117	.06274	1.18876
To be the boss	359	4.1727	.06195	1.17384
To control my own destiny	359	4.1114	.06443	1.22080
For job satisfaction	359	4.0446	.06405	1.21362
To build something of my own	359	3.9916	.06595	1.24955
To be the best business	359	3.9833	.06529	1.23711
For recognition	359	3.9526	.06350	1.20311
To take advantage of opportunity	359	3.7382	.06550	1.24104
To achieve	359	3.6546	.06918	1.31086
To achieve status and prestige	359	3.6295	.07283	1.37995
To fulfill family expectation or tradition	359	3.1086	.07844	1.48622
Valid N (listwise)	359			

Table 9: Mean of Personal Factors

Personal Decisions for Business Ownership

Table 10 provides Mean of personal decisions in the sample. Two key factors were rated most highly by the respondents and seen as very important. The highest Mean is "To use my talent and skills" at 4.05 and followed by "To do the kind of work I prefer" at 4.03.

Descriptive Statistics				
	N	**Mean**		**Std. Deviation**
	Statistic	Statistic	Std. Error	Statistic
To use my talent and skills	359	4.0501	.05977	1.13243
To do the kind of work I prefer	359	4.0362	.06340	1.20117
To be able to express my skills	359	3.8691	.06329	1.19922
Had an interest in the area	359	3.8635	.06062	1.14861
To be recognized for my skills	359	3.8607	.06440	1.22022
To provide a unique product or service	359	3.7939	.06353	1.20375
Had an idea for a product or service	359	3.4095	.06463	1.22453
Valid N (listwise)	359			

Table 10: Mean of Personal Decisions

Social Motivations for Business Ownership

Table 11 provides Mean of social factors in the sample. Three key factors were rated most highly by the respondents and seen as very important. The highest Mean is "Lack of childcare facilities" at 4.34, followed by "The need for flexible hours" at 4.28 and "Job frustration" at 4.25.

Descriptive Statistics				
	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Lack of childcare facilities	359	4.3454	.05374	1.01823
The need for flexible hours	359	4.2897	.05550	1.05156
Job frustration	359	4.2535	.05277	.99991
Unacceptable working conditions	359	3.9276	.06238	1.18194
Wage gap between men and women	359	3.8329	.06458	1.22357
Valid N (listwise)	359			

Table 11: Mean of Social Factors

Economic Motivations for Business Ownership

Table 12 provides Mean of economic factors in the sample. Four key factors were rated most highly by the respondents and seen as very important. The highest Mean is "To make more money than otherwise likely" at 4.45; followed by "Desire for financial independence" at 4.37;"To become wealthy" at 4.34; and "Economic necessity" at 4.32.

Descriptive Statistics				
	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
To make more money than otherwise likely	359	4.4568	.05241	.99311
Desire for financial independence	359	4.3760	.05510	1.04405
To become wealthy	359	4.3426	.05195	.98432
Economic necessity	359	4.3231	.05652	1.07084
To achieve income, revenue and growth targets	359	4.0446	.06220	1.17859
To be seen as monetarily successful	359	3.8440	.06806	1.28948
Valid N (listwise)	359			

Table 12: Mean of Financial Factors

4.3   Discussion

The above results show that many various factors related to personal, social, and financial motivations were given by 359 Cambodian women business owners for engaging in entrepreneurial ventures. The following table lists the top ten factors that motivate them to go into business.

Descriptive Statistics				
	N	**Mean**		**Std. Deviation**
	Statistic	Statistic	Std. Error	Statistic
To make more money than otherwise likely	359	4.4568	.05241	.99311
Desire for financial independence	359	4.3760	.05510	1.04405
To suit family life	359	4.3649	.06003	1.13747
Lack of childcare facilities	359	4.3454	.05374	1.01823
To become wealthy	359	4.3426	.05195	.98432
Economic necessity	359	4.3231	.05652	1.07084
The need for flexible hours	359	4.2897	.05550	1.05156
Job frustration	359	4.2535	.05277	.99991
To be independent	359	4.2117	.06274	1.18876
To be the boss	359	4.1727	.06195	1.17384
Valid N (listwise)	359			

Table 13: Factors ranking based on Mean

The findings showed that four economic factors - to make more money than otherwise likely, desire for financial independence, to become wealthy, and economic necessity - motivate Cambodian women in the sample to become entrepreneurs. These economic factors were prioritized as the primary motivation for going into business and were consistent with previous research findings by Coughlin (2002) and Pauykert (1995). In Cambodia, there is lack of government welfare systems, so many women depend on men for survival. By running their own businesses, they can create jobs for themselves and for other family members so that they can support themselves and their families instead of relying on men and others. In the long run, they have more security and potential for earnings.

Three social factors - lack of childcare facilities, the need for flexible hours, and job frustration - motivate Cambodian women in the sample to become entrepreneurs. These findings are consistent with the results of previous research (Coughlin, 2002; More, 2000; Fielden & Davidson, 2005; More & Buttner, 1997). By starting their own businesses, women can control what they work, where they work, how they work, and when they work to meet their family responsibilities so that they can balance productive

work with family responsibilities. The lack of qualification made Cambodian women difficult to get good jobs, and placed them in lower positions with lower income. Therefore, entrepreneurship allowed them to gain more economic benefits than working for someone else.

Three personal factors - to suit family life, to be independent, and to be the boss motivate Cambodian women in the sample to be entrepreneurs. These findings are consistent with the results of previous research (Brush et al., 2006; Buame, 2000; Coughlin, 2002). By starting their own businesses, Cambodian women can fulfill their ambition to be boss and gain control over their lives. Moreover, they can meet their self-fulfillment and family lives.

5 Conclusion and Recommendations

5.1 Conclusion

Having studied the factors motivating Cambodian women to become entrepreneurs, the results of this study found top ten factors. These results are consistent with other previous research findings. The following table lists the ten motivating factors that pulled and pushed Cambodian women into entrepreneurship.

N.	Cambodian Women's Motivating Factors to Become Entrepreneurs
1	To make more money than otherwise likely
2	Desire for financial independence
3	To suit family life
4	Lack of childcare facilities
5	To become wealthy
6	Economic necessity
7	The need for flexible hours
8	Job frustration
9	To be independent
10	To be the boss

Table 14: List of Cambodian women's motivating factors to become entrepreneurs

5.2   Recommendations

Based on the findings of this study, the following recommendations are made:

- If women find themselves underemployed in the labour force or they feel that they can increase their income through self-employment, then entrepreneurship should be encouraged. It will be a more viable option for them. Self-employ ment brings flexibility and self-fulfillment in their career lives; moreover, they can sustain themselves and their families for the long term.

- Businesses tend to be created where the business owner is pushed into entrepreneurship rather than pulled. Entrepreneurship should be encouraged in the women community where the women can have more potential to increase their income and utilize their skills. This will have a positive impact on the Cambodian economy in the long run because entrepreneurship increases the opportunities for innovation and the optimum use of skills.

- The government should formulate policies that will help to encourage more women to go into business in a mechanized form. This will help to boost their morale and their desire for self–actualization. Cambodia's future prosperity depends on how it uses its women labour force.

- Microfinance banks should open and increase their credit facilities allocation to women so as to improve their accessibility for financial assistance when they want to start their businesses.

- Feminist theorists and advocates should conduct more training and workshop programmes for women particularly in the areas of empowerment and capacity building to go into business.

- These findings should be translated into efficient distribution of funding and grants in the government policy. Policymakers can try to ensure more women entrepreneurs are 'visible' as role models and are shown in advertisements and the like, so that other potential women entrepreneurs can view them as their role models.

- The government should encourage women through promoting entrepreneurship as a positive alternative for them. If they start their own businesses, they gain higher social status, respect, and recognition from men, especially they can display their achievements and managerial qualities.

5.3   Limitations and Future Research

There are a number of limitations related to this study. The sampling techniques reflect this interest and findings should be applied with caution outside of this context. It is difficult to gain reliable facts from a literature review regarding the current status of Cambodian women, for there is little research undertaken related to this field. The sample could be broadened from the specific geographic region across Cambodia. A final suggestion for future research is to take a qualitative approach using in-depth interviews to probe more deeply into specific motivating factors of Cambodian women entrepreneurs.

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QUESTIONNAIRE

I am Dr. Sok Seang, Lecturer at the National University of Management, and I am conducting research about Cambodian women entrepreneurs. It would be grateful if you could answer the questions in this survey. The purpose is to identify factors that motivate them to become entrepreneurs. Your answers will be kept confidential. Thanks for spending your valuable time.

Name: _____

Phone: _____

Name of Business: _____

Address: _____

Part A: Demographics

[1] In which business sector do you primarily operate? (Please check only one)

1. Retail	☐	6. Service	☐
2. Wholesale	☐	5. Manufacturing	☐
3. Agriculture	☐	7.Restaurant	☐
4. Construction	☐	8. Other	☐

[2] What is the legal form of your business?

1. Sole Proprietorship	☐	3. Corporation	☐
2. Partnership	☐		

[3] On average, how many hours do you work in the business each week?

1. Under 25 hours	☐	2. 26-40 hours	☐
3. 41-60 hours	☐	4. Over 60hours	☐

[4] How many years have you been in business?

1. Less than 1 year	☐	3. 3-5 years	☐
2. 1-2 years	☐	4. 6- 10 years	☐
5. 11-20 years	☐	6. Over 20 years	☐

[5] How many hours, on average, do you spend each business day attending to household tasks and the needs of your children?

1. Less than 1 hour per day	☐	3. 4-5 hours per day	☐
2. 2-3 hours per day	☐	4. More than 5 hours per day.	☐

[6] In what age category do you fall?

1. Under 25 years	☐	4. 45-54 years	☐
2. 25-34 years	☐	5. 55-64 years	☐
3. 35-44 years	☐	6. Over 65 years	☐

[7] What is your marital status?

1. Single	☐	3. Married or cohabiting	☐
2. Separated or divorced	☐	4. Widowed	☐

[8] What is the highest educational level you have achieved?"

1. Less than Grade 12	☐	4. Completed diploma	☐
2. Completed high school	☐	5. Completed undergraduate degree	☐
3. Some college	☐	6. Some post graduate work or degree	☐

Part B: Below are reasons with which you may agree or disagree. Using the 1-5 scale below, please rate the importance of the following reasons for you being in business by circling the appropriate number.

1 = Unimportant   4 = Important

3 = Moderately Important   5 = Very Important

2 = Of Little Importance

[9] Please indicate the importance of the following personal reasons for you being in Business (Dzisi, 2008).

	Statement	Circle the box you decide
1	To build something of my own	□1 □2 □3 □4 □5
2	To control my own destiny	□1 □2 □3 □4 □5
3	To be the boss	□1 □2 □3 □4 □5
4	To be independent	□1 □2 □3 □4 □5
5	To achieve	□1 □2 □3 □4 □5
6	For job satisfaction	□1 □2 □3 □4 □5
7	To be the best business	□1 □2 □3 □4 □5
8	To suit family life	□1 □2 □3 □4 □5
9	To take advantage of opportunity	□1 □2 □3 □4 □5
10	To fulfill family expectation or tradition	□1 □2 □3 □4 □5
11	To achieve status and prestige	□1 □2 □3 □4 □5
12	For recognition	□1 □2 □3 □4 □5

[10] Please indicate the significance of the following statements in relation to your decision to start your own business (Dzisi, 2008).

	Statement	Circle the box you decide
1	Had an idea for a product or service	□1 □2 □3 □4 □5
2	To provide a unique product or service	□1 □2 □3 □4 □5
3	Had an interest in the area	□1 □2 □3 □4 □5
4	To do the kind of work I prefer	□1 □2 □3 □4 □5
5	To be able to express my skills	□1 □2 □3 □4 □5
6	To be recognized for my skills	□1 □2 □3 □4 □5
7	To use my talent and skills	□1 □2 □3 □4 □5

[11] Please indicate the importance of the following statements in relation to the financial reasons for you being in business (Dzisi, 2008).

	Statement	Circle the box you decide
1	Desire for financial independence	□1 □2 □3 □4 □5
2	Economic necessity	□1 □2 □3 □4 □5
3	To make more money than otherwise likely	□1 □2 □3 □4 □5
4	To be seen as monetarily successful	□1 □2 □3 □4 □5
5	To become wealthy	□1 □2 □3 □4 □5
6	To achieve income, revenue and growth targets	□1 □2 □3 □4 □5

[12] Please indicate the importance of the following statements in relation to the social reasons for you being in business (Dzisi, 2008).

	Statement	Circle the box you decide
1	The need for flexible hours	□1 □2 □3 □4 □5
2	Unacceptable working conditions	□1 □2 □3 □4 □5
3	Lack of childcare facilities	□1 □2 □3 □4 □5
4	Wage gap between men and women	□1 □2 □3 □4 □5
5	Job frustration	□1 □2 □3 □4 □5

SHOPPER BEHAVIOUR ON FRESH MEATS BETWEEN TRADITIONAL MARKET AND SUPERMARKET IN PHNOM PENH, CAMBODIA

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Abstract

Consumers go shopping for their products at different markets: traditional market and supermarket, but no one knows why they behave differently. In this study, researchers found that 91.7% of respondents purchased from traditional market; however, 49.8% of respondents bought from supermarket. It is noted that some respondents shopped from both types of markets. Female consumers were involved in shopping at both markets than male consumers; moreover, they went to traditional market Daily, but supermarket Weekly. Consumers who went to both markets are from the age Below 30, from the education level of Graduate and Post-graduate, and from Employee; however, they bought at supermarket more than traditional market. On the other hand, consumers with the income 100-500 went to traditional market more than supermarket. What is more, consumers bought more Fish, Pork, Beef, Chicken and Duck at traditional market, but beef was purchased more than the other meats at supermarket. The factors that most attracted consumers to shop at traditional market are Competitive Price, Freshness and Good Relationship with Retailers; whereas, Good Environment, Convinience, Good Quality and Varieties are the most attractive factors for consumers to purchase at supermarket. In order to generalize this study, future researchers should extend the sample size to other cities and provinces, study and compare specific fresh meat, and use other statistical tools to improve the data analysis.

Keywords: *Fresh Meat, Traditional Market and Supermarket*

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1 Introduction

Traditional market has been defined as a market with little central control or organisation, that lacks refrigeration, and does not process fresh foods into branded goods for sale (Trappey and Lai, 1997). These markets include Psah Thmey, Psah Toul Tompoung (Russian Market), Psah Orussey, Beung Keng Kang, Psah Kandal, Psah Olympic, Psah Dahm Ko, Psah Depo, Psah Khap Ko, Psah Beung Tumpon, Psah Chhba Ampoeu, Psah Samaki, Psah Beung Trobaek, Psah Khbal Thnal, Psah Dey Huy, Psah Heng Ly and others.

However, supermarkets are defined as self service stores, which offer one stop shopping, value for money and hold a large product selection in pleasant surroundings (Cheeseman and Wilkinson, 1995). Trappey and Lai (1997) add that most supermarkets have facilities to process fresh foods and use a wide range of refrigerated facilities to hold chilled and frozen product. The best super markets in Phnom Penh are Lucky Super Market, Aeon Super Market, Bayon Market, Thai Huot Market, Veggy's, Super Duper, Natural Garden and Angkor Market (Lina, 2015).

As cited by Stuart Alan Becker (2012), markets like Olympic and O'Russey in Phnom Penh and the traditional fresh food markets in cities and towns across Cambodia are where the overwhelming majority of Cambodians get not only the food they eat, but also the basic household products they use (Laurent Notin, 2012). Furthermore, Notin said "Despite the development of modern shopping channels, people in the main urban and sub-urban areas of Cambodia still predominantly use traditional markets for their shopping needs".

CBRE (2014) found that Phnom Penh's retail landscape is undergoing a continued transition from traditional markets to international quality purpose built shopping centers and department stores. Consumer confidence and spending has continued to grow in Phnom Penh, benefiting the retail sector. Moreover, as incomes rise in Cambodia, the country's retail sector is blossoming. Investment is pouring into shopping centres, supermarkets and other chains, with both home-grown and foreign brands gaining popularity (The Economist Intelligence Unit, 2013).

In addition, predictions that Cambodians will move away from traditional markets into supermarkets have so far proven overstated. Even those who could afford to shop exclusively at supermarkets tend to prefer giving their custom to market stallholders, not least because locally grown produce has a limited presence in supermarkets owing to problems with non-standardised, unreliable supplies and poor transport infrastructure.

In addition, prices in supermarkets remain significantly higher for comparable goods (The Economist Intelligence Unit, 2013).

On the other hand, the survey found that in Phnom Penh, 30 per cent of respondents, all of whom also regularly shopped at traditional markets, said they purchased food at supermarkets (Laurent Notin, 2012) . Moreover, he says supermarkets will continue to grow, but strategies for selling new products should bear in mind the dominating importance of the traditional market. Furthermore, "We believe modern shopping channels will play an increasingly important role but traditional markets will remain an essential shopping place for Cambodian people," Notin said. "By building knowledge of Cambodian people's shopping behaviours and monitoring them over time, businesses can quickly respond to changes and increase the efficiency of their retail strategy." "People who go to the supermarket in general are people with the highest income, which tells me that supermarkets are more expensive than other places," Notin said. "Understanding shopping behaviours is very important to companies selling to consumers. If you know where people buy products then you can be there and sell your product.

1.1. Research Problem

Traditionally, shoppers go to purchase fresh meats at traditional markets. With the establishment of supermarket, it has been seen that fresh meats are also alvailable at this market. No one knows that what factors attract shoppers to continuely purchase at traditional market and to change to buying from supermarket. It is suspected that there are some factors attracting shoppers to purchase from these two types of markets.

1.2. Research Questions

The research questions for this research are as follows:

- How often do shoppers go to traditional market and supermarket?

- What meats do they purchase from these markets?

- What factors attract them to purchase at these markets?

1.3. Research Objectives

The objectives of this research are to:

- Find out how often shoppers go to traditional market and supermarket

- Identify the meats that they purchase from these markets

- Explore the factors that attract them to purchase from these markets.

1.4. Significance of Research

This study provides many benefits. First, traditional market can use the findings to improve its market in order to attract more consumers. Second, supermarket has to make it more better for luring more shoppers based on the results of this study. Third, researchers have more information for their future research.

1.5. Limitations

This research is carried out in Phnom Penh only. The study focuses on local consumers, not on expatriates. Moreover, it is centered on factors attracting consumers to buy certain fresh meats, but other fresh meats, vegetables and fruites are not included in this study.

2 Literature Review

As cited by Sandra Sunanto (2012), there are several reasons for customer switching behavior: convenient location, changes in pricing, range of assortment, comfort services, quality, store environment, competition, ethical problems, and involuntary switching (Seiders and Tigert, 2000; Arnold, et al., 1983; Louviere and Garth, 1987; Eagle, 1984). On the other hand, Chamhuri and Batt (2013) identified many factors, such as freshness, halal guarranted, good relationship with retailers, good quality, competitive price, convenience, varieties and good envireoment, that attract consumers to shop at traditional market and supermarket. For this study, researchers adopted Chamhuri and Batt's study and applied it in Phnom Penh, Cambodia. However, they did not used halal guarranted as this factor was not attractive at all based on the pilot interview.

Freshness

As cited by Chamhuri and Batt (2013), freshness was often cited as one of the most influential variables impacting on the consumers' decision to purchase fresh meat from both outlets (Verbeke and Viaene, 2000). Freshness was perceived differently according to the place of purchase (Hsu and Chang, 2002). According to Kennedy et al. (2004), freshness is judged by product appearance, such as color and the physical form of the meat. Goldman and Hino (2005) described the freshness of the meat available from the traditional markets as "warm" (just recently being killed) and not chilled or frozen.

Fresh food like beef, fish and poultry are purchased at traditional markets, for this is where the requirements for freshness can best be met (Zinkhan et al., 1999). Modern

retail outlets have the advantage of offering fresh meat in refrigerated display units. Fresh meat in modern retail outlets is pre-cut and pre-packaged in sanitised conditions, then chilled and displayed on temperature controlled shelves (Hsu and Chang, 2002). Umberger et al. (2003) said that the freshness of the meat purchased from supermarkets was determined by the label attached to the product. According to Bonne and Verbeke (2006), the label can provide information such as the slaughter date, the date the meat was processed and the origin of the meat. In addition, supermarkets and hypermarkets have the advantage of good retail procurement logistics, technology and inventory management (Reardon et al., 2003). On the other hand, the food safety issue in traditional markets is questionable as the majority of retailers do not have the proper storage space, refrigeration or the knowledge to prevent fresh meat from becoming contaminated.

In Malaysia, consumers prefer shopping at traditional markets for fresh meat. They emphasized the freshness of meat in traditional markets, given that fresh meat products were slaughtered early in the morning at slaughterhouses and delivered directly to retailers in various locations. The situation at traditional markets in Malaysia is similar to Taiwan where fresh meat is displayed on counters or hung on hooks (Hsu and Chang, 2002). Consumers are allowed to touch the meat before deciding which cuts to buy.

Good Relationship with Retailers

Relationships are built not only between vendors and customers, but also between buyers. For example, buyers exchange information about the quality of products or which stalls offer the best bargains. Traditional markets are perceived as a place to foster social relationships (Zinkhan et al., 1999). Personal relationships built between retailers and consumers developed trust for both groups.

Zinkhan et al. (1999) stated that the respondents who often visit the street market in Sao Paulo know each other by name and often engage in social conversation. Goldman and Hino (2005) reported a similar result as Arab Israelis prefer to buy fresh meat from a known and trusted source. This ensures customer loyalty as consumers continue to purchase from the same retailer.

Abu (2004) agrees with the importance of personal interaction between vendors and customers which eventually develops customer loyalty. Factors such as the ability the truthfully answer customers' questions, giving regular customers individual attention and vendors' knowledge of their product attracts customers to shop from a particular retail outlet (Dabholkar et al., 1996). Suryadarma et al. (2010) revealed that 40% of traditional retailers cited politeness as the main attribute of their business success. In addition, more consumer-friendly services such as giving priority to frequent customers, giving discounts, being honest, providing home delivery services and the availability to pay in installments were employed as strategies by traditional retailers in Indonesia

to become more competitive in the retail food market. According to Verbeke and Vackier (2004), meat is considered to be a high involvement product in the food product category, which requires consumers to access enough information about the product to evaluate the product attributes carefully before purchase. To reduce the perceived risk in purchasing fresh meat from a retail outlet, a long-term personal relationship with the butcher is a common approach. Yeung and Yee (2003) demonstrated how personal information from experts (butchers) reduced the perceived risk associated with the purchase of meat. Irish consumers were found to be more confident when they purchased fresh beef from their preferred butcher as the meat was fresher, of higher quality and the service provided by butchers was better than supermarkets, which led to a reduction in the level of perceived risk (McCarthy and Henson, 2005). Vendors were perceived as experts, where consumers relied on them to provide safe and high quality products (Figuie et al., 2006).

Competitive Price

In order to compete with modern retail stores, traditional market vendors must not only maintain the quality of their fresh food, but ensure their prices are competitive (Faiguenbaum et al., 2002). According to Trappey and Lai (1997), offering lower prices is an important reason for consumers to shop at supermarkets. The fact that the price in traditional markets is higher motivates consumers to buy goods from hypermarkets or supermarkets (Farhangmehr et al., 2000). Modern retail outlets are capable of offering more competitive prices for the products they stock as they have the economies of scale in procurement. Furthermore, competition between the major chains is forcing prices down (Arshad et al., 2006).

However, prices of fresh meat in the traditional market are not always cheaper than modern retail outlets (Farhangmehr et al., 2000; Hsu and Chang, 2002). Hsu and Chang (2002) recorded the unit prices of various meat cuts from both retail outlets in Taiwan. Based on the data collected, several fresh meat products in traditional markets were sold at a higher price compared to supermarkets. In contrast, Block and Kouba (2006) found that fresh meat was at least 10% cheaper at corner stores in Chicago than supermarkets.

Zinkhan et al. (1999) explained how bargaining is a cultural value which occurs in most markets in Brazil. Maruyama and Trung (2007) described bargaining as the 'art of shopping' and found that in Vietnam, consumers who wanted to bargain were more likely to shop in traditional outlets (traditional bazaars and mom and pop stores). Lui (2008) found that consumers who prefer to shop at wet markets in Hong Kong mentioned that through bargaining, they managed to: (1) pay less than the actual price of the product (paying only $10 if the goods cost $11), and (2) received additional products at no cost upon purchasing. However, Maruyama and Trung (2007) suggest that shoppers who do most of their shopping from supermarkets do not consider

bargaining to be useful. For them, obtaining products at a much cheaper price is less important in their decision to purchase. When shopping at a modern retail store, they search for superior products which are safer and better quality.

Good Environment

Store environment and layout may influence the consumer's choice of retail store (Baker, 1990). The concept of store image is the way consumers 'see' the store in their minds (Farhangmehr et al., 2000). According to Yalch and Spangenberg (1990), the right use of color, lighting, sound and furnishing may stimulate perceptual and emotional responses within consumers, which eventually affects their behaviour. Devlin et al. (2003) found that a store environment which caters for children, makes food shopping an uncomplicated task with clear signage and product labels, and was clean and tidy, was preferred by shoppers. Espinoza et al. (2004) further state that a good store atmosphere and pleasant surroundings may increase the consumers' willingness to buy.

Modern retail outlets do offer a good environment for shoppers. These modern retail outlets are described as clean and comfortable; the store is air-conditioned; it's easier to buy goods with the trolley provided; and modern retail formats are a suitable place to shop and to bring the children. Although the prices of some items may be relatively higher than traditional markets, consumers still shop at modern retail outlets due to comfort and good parking facilities (Abu, 2004). The good environment provided by most modern retail outlets is also used as a marketing tool to attract more customers.

Respondents from the main survey considered the cleanliness of the store to be indicative of the quality of meat. Jabbar and Admassu (2009) revealed how cleanliness was measured by the hygiene of staff/butchers and premises. Their study demonstrated that consumers believed better quality meat was sold from shops that were cleaner, where staff wore clean clothes and used clean equipment to process the meat. Cleanliness of the equipment, washing the meat using clean water and the adoption of hygienic practices by butchers was perceived to improve the microbiological quality of meat (Rao and Ramesh, 1988). Consumers in Ethiopia preferred to purchase their fresh meat in supermarkets compared to traditional butchers because of the different level of cleanliness between the retail outlets (Jabbar and Admassu, 2009).

Most participants from the focus group discussions described traditional markets as crowded, hot and stuffy. This was not dissimilar to how consumers in Hong Kong described traditional markets: dirty, slippery, crowded, smelly, unorganized, poorly ventilated and noisy (Goldman et al., 1999). According to Hsu and Chang (2002), the floor in most traditional markets in Taiwan is wet and dirty. Furthermore, fresh meat products may be easily contaminated as the butchers do not wash their hands between handling fresh meat and doing other tasks. In Indonesia, many consumers

complain about the dirty condition of wet markets and are often robbed by pickpockets (Muharam, 2001). Cleanliness was seen as presenting a significant barrier for the traditional retail outlets to compete with modern retailers.

However, Suryadarma et al. (2010) revealed how cleanliness was seen to be one of the least important variables for traditional retailers to attract more shoppers. This is because, despite portraying traditional markets as having a poor environment, the traditional markets continue to offer goods and services which attract loyal customers. Similarly, Trappey and Lai (1997) indicate that a poor environment had little impact on shoppers. The traditional markets offered a more convenient location, a greater variety of products and superior product quality which far outweighed the inferior shopping atmosphere. The strong bond between vendors and their customers also explains why consumers continue to shop at traditional markets.

Good quality

Meat quality is normally defined by the compositional quality (lean to fat ratio) and the palatability factors such as visual appearance, smell, firmness, juiciness, tenderness, and flavour. The nutritional quality of meat is objective yet "eating" quality, as perceived by the consumer, is highly subjective (Food and Agriculture Organization of the United Nations, 2014).

As cited by Tilman Becker (2000), Steenkamp (1989) categorised quality attribute cues into three:

- Search quality (quality in the shop), such as colour, leanness, marbling as in trinsic cues and brand/label, place of purchase, price, and country of origin as extrinsic cues.

- Experience quality (eating quality), such as colour, leanness, texture, free of gristle, tenderness, smell, flavor, and juiciness.

- Credence quality: quality attributes, such as hormones, antibiotics, fat/ cholesterol, salmonella and other bacteria, what the animal was fed on, brand/ label, name of producer/farmer, organically produced, country of origin, freshness, free rang (for chicken). The credence quality attributes include safety, health or other concerns.

Quality means many different things to different people. For Arab Israelis, meat is of high quality when it is freshly killed, still 'warm' and not chilled or frozen (Goldman and Hino, 2004). According to Zinkhan et al. (1999), Brazilian consumers determine the quality of fresh meat by touching or smelling the product. These characteristic of quality are better fulfilled in traditional markets, which leads consumers to buy their fresh meat there.

According to Sloan et al. (1984) and Steenkamp and Van Trijp (1989), consumers are willing to pay more to purchase the quality food they demand. With more consumers having higher education and being more practical, Farhangmehr et al. (2000) highlighted the importance of quality, followed by price when purchasing food. Previously, consumers were more concerned about low prices. Currently, consumers have shifted their focus towards quality and gaining better value for money. Mceachern and Schroder (2002) confirm that quality and taste were cited as the most important criteria in selecting fresh meat in Scotland.

Zinkhan et al. (1999) reported that 88% of survey respondents cited that the quality and freshness of fresh produce was the most important reason why they shopped at traditional markets. Several consumers purchased meat solely from their preferred butcher, as they perceived it to be better quality than the meat sold at supermarkets (Mceachern and Schroder, 2002).

Convenience

Convenience was seen from the shoppers' perspective as selecting their preferred shopping outlet based on hours of operation and travel time (Kaufman, 1996). According to Pride et al. (2005), convenience not only saves time, but also reduces stress, cost and other expenditures. Basically, convenience eases consumer discomfort.

The concept of convenience and location is very much related. Retail location theory states that consumers prefer to shop as close to home as possible (Kaufman, 1996). According to Bell, Ho and Tang (1998), location of retail outlets indicates where consumers purchase their food. Their argument is that consumers are more likely to visit the retail store which brings the lowest total shopping cost. Mui et al. (2003) reported a significant correlation between the place of residence with the shopping premises that shoppers patronise.

According to Trappey and Lai (1997), traditional markets have an older population of consumers who live nearby and are familiar with and loyal to local vendors. Goldman and Hino (2004) suggest that if the travel distance to supermarkets is greater, then the probability of shopping at traditional markets is higher.

According to Trappey and Lai (1997), younger consumers who are more occupied with work and family prefer to shop in modern retail outlets which better satisfy the needs of a faster-paced lifestyle. Convenience for them meant that the store provided facilities such as car parking, trolleys and baskets, proximity to other shops, extended trading hours, a low level of in-store crowding, good presentation of products, signage, and the desired width and depth of the product range (Geuens et al., 2003). Shoppers

who purchase from modern retail outlets do not always live near the supermarkets. Convenience for them meant one-stop shopping.

According to Farhangmehr et al. (2000), convenience makes consumers more practical. Since most goods are available from modern retail outlets, it is more practical to buy everything at the same time from the same place. Besides buying daily necessities, Malaysian consumers were reported to accomplish other activities such as relaxing and dining with family and friends, watching movies, bowling, visiting the hair salon and banking at modern retail premises (Mui et al., 2003). Similar findings were reported in Goldman and Hino (2004). Convenience motivates Arab Israelis to shop at large supermarkets as it is perceived as a family event where all family members participate.

Variety

Traditional markets were viewed as 'fresh food supermarkets', providing onestop shopping for a large variety of fresh foods (Goldman et al., 1999). Zinkhan et al. (1999) reported that the majority of respondents in Sao Paulo shopped for fresh products at traditional markets because of the variety of products available. Vendors in traditional markets are regarded as product specialists, for they provide a deep selection of products from a narrow range of items. If a stall is charging too much, consumers will often visit another stall as there are plenty of alternatives to choose from.

Most respondents in Malaysia prefer to purchase fresh produce from supermarkets (41%) and hypermarkets (28%) (Shamsudin and Selamat, 2005). The reason given were modern retail outlets have various kinds of fresh food which is always available. Conversely, the limited range of products offered by the traditional market is one reason why some consumers prefer to shop at modern retail outlets.

Farhangmehr et al. (2000) confirmed that Portuguese consumers preferred to shop at modern retail outlets because of the possibility of buying everything under one roof. When asked why they shop at shopping malls, the majority of respondents in Malaysia cited the variety of shops and products as the main criteria to shop at modern retailoutlets (Mui et al., 2003). Supermarkets and hypermarkets are the preferred place for shopping in general.

3 Methodology

3.1. Methods

In this research, researchers did a pilot interview on 10 consumers to identify the factors that attract them to shop at traditional market and supermarket by using many factors, such as freshness, halal guarranted, good relationship with retailers, good quality, competitive price, convenience, varieties and good envireonment identified by Chamhuri and Batt (2013). However, they did not use halal guarranted as this factor was not attractive at all based on the pilot interview.

Upond completing the pilot interview, the researchers have developed questionnaires and produced 400 copies for students to interview shoppers and complete these question- naaires. It took them one week, the first week of January 2015, to do this work. Upon collecting back all the distributed questionnaires, researchers found that only 57.25% of the questionnaires was useable because some students did not return the questionnaires and some were not completed properly. Then the data was entered into SPSS software Version 16. For data analysis, researchers used Descriptive Statistics: Crosstabulation, Frequencies and Percentage for the 1st, 2nd and 3rd research objectives.

3.2. Data Analysis

According to Table 1, there were 229 (100%) respondents, 53 (23%) males and 176 (76.9%) females.

Table 1: Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	53	23.1	23.1	23.1
Female	176	76.9	76.9	100.0
Total	229	100.0	100.0	

Among all the respondents in Table 2, the highest frequency of Age Group is Below 30 (41.5%), followed by 30-39 (33.6%), 40-49 (15.3%), 50-59 (9.2%) and Above 60 (0.4%).

Table 2: Age Group				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Below 30	95	41.5	41.5	41.5
30-39	77	33.6	33.6	75.1
40-49	35	15.3	15.3	90.4
50-59	21	9.2	9.2	99.6
Above 60	1	.4	.4	100.0
Total	229	100.0	100.0	

Based on Table 3, the highest frequency of respondents is consumers with Undergraduate, and Graduate and Post-Graduate (26.2%). Then, it is followed by respondents with Senior high school (20.1%), Junior high school (12.2%), Primary school (7%), Technical/Vocational school (4.4%) and No formal education (3.9%).

Table 3: Education				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No formal education	9	3.9	3.9	3.9
Primary School	16	7.0	7.0	10.9
Junior high school	28	12.2	12.2	23.1
Senior high school	46	20.1	20.1	43.2
Technical/vocational school	10	4.4	4.4	47.6
Undergraduate	60	26.2	26.2	73.8
Graduate and Post-graduate	60	26.2	26.2	100.0
Total	229	100.0	100.0	

As shown in Table 4, the highest frequency of respondents is Employee (37.6%), then House wife (32.8%), Businessman (9.6%), Government official (9.2%), Manager (6.6%) and Others (4.4%).

Table 4: Occupation				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid House wife	75	32.8	32.8	32.8
Employee	86	37.6	37.6	70.3
Manager	15	6.6	6.6	76.9
Businessman	22	9.6	9.6	86.5
Government official	21	9.2	9.2	95.6
Others	10	4.4	4.4	100.0
Total	229	100.0	100.0	

According to Table 5, the highest frequency of respondents is consumers who have the Income Group of 100-500 (65.9%). Next, it is followed the respondents who have the Income Group of 501-1000 (18.8%), Below 100 (7%), 1001-1500 (5.2%), Above 3001 (1.7%) and 2501-3000 (1.3%).

Table 5: Income Group

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Below 100	16	7.0	7.0	7.0
100-500	151	65.9	65.9	72.9
501-1000	43	18.8	18.8	91.7
1001-1500	12	5.2	5.2	96.9
2501-3000	3	1.3	1.3	98.3
Above 3001	4	1.7	1.7	100.0
Total	229	100.0	100.0	

Based on Table 6, 91.7% of respondents purchased from traditional market; however, 49.8% of respondents bought from supermarket. It is noted that some respondents shopped from both types of markets.

Table 6: Purchase at Markets

Market Purchase	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Purchase at traditional market	210	91.7%	19	8.3%	229	100.0%
Purchase at supermarket	114	49.8%	115	50.2%	229	100.0%

As shown in Table 7, the respondents who purchased at traditional market are 210 (100%): male (21.90%) and female (78.10%). On the other hand, the repondents who bought at supermarket are 114 (100%): male (20.18%) and female (79.82%). It is seen that the percentage of male and female repsondents purchasing at these two types of markets is not much different.

Table 7: Gender and Purchase at Markets

Gender	Purchase at Traditional Market	Purchase at Supermarket
Male	46 (21.90%)	23 (20.18%)
Female	164 (78.10%)	91 (79.82%)
Total	210 (100%)	114 (100%)

Based on Table 8, the highest frequency of consumers shopping at traditional market Daily, Weekly, Monthly and Quarterly is Female (78.10%), but Daily has the highest

percentage (53.81%). However, the highest frequency of consumers who went shopping at supermarket for every period is Female (79.82%), but Monthly has the highest percentage (35.96%). Hence, it is noticed that female consumers were involved in shopping at both markets than male consumers; moreover, the frequency of consumers who went to traditional market is Daily, but supermarket is Weekly.

Table 8: Gender and Frequency of Purchase at Markets

Traditional						
Gender	Daily	Weekly	Montly	Quarterly	Semester	Total
Male	15 (7.14%)	26 (12.38%)	3 (1.43%)	1 (0.48%)	1 (0.48%)	46 (21.90%)
Female	113 (53.81%)	35 (16.67%)	14 (6.67%)	2 (0.95%)	0 (0%)	164 (78.10%)
Total	128 (60.95%)	61 (29.05%)	17 (8.10%)	3 (1.43%)	1 (0.48%)	210 (100%)
Super						
Male	1 (0.88%)	9 (7.90%)	10 (8.77%)	3 (2.63%)	0 (0%)	23 (20.18%)
Female	1 (0.88%)	29 (25.43%)	41 (35.96%)	11 (9.65%)	9 (7.89%)	91 (79.82%)
Total	2 (1.76%)	38 (33.33%)	51 (44.73%)	14 (12.28%)	9 (7.89%)	114 (100%)

According to Table 9, the highest frequency of Age Group who shopped at traditional market Daily, Weekly, Montly, Quarterly and Semester is Below 30 (41.90%), and the lowest is Above 60 (0.48%). On the contrary, the highnest frequency of Age Group shopping at supermarket for every period is Below 30 (44.74%), but except Monthly shopping, 30-39 is the highest (17.54%). And the lowest is 50-59 (8.77%) since Above 60 did not go to supermarket. Thus, the highest frequency of Age Group for consumers who went to both markets is Below 30; whereas, this Age Group went to supermarket more than tranditional market.

Table 9: Age Group and Frequency of Purchase at Markets

Traditional						
Age Group	Daily	Weekly	Montly	Quarterly	Semester	Total
Below 30	42 (20%)	32 (15.24%)	11 (5.24%)	2 (0.95%)	1 (0.48%)	88 (41.90%)
30-39	38 (18.10%)	25 (11.90%)	5 (2.38%)	1 (0.48%)	0 (0%)	69 (32.86%)
40-49	29 (13.81%)	2 (0.95%)	1 (0.48%)	0 (0%)	0 (0%)	32 (15.24%)
50-59	19 (9.04%)	1 (0.48%)	0 (0%)	0 (0%)	0 (0%)	20 (9.52%)
Above 60	0 (0%)	1 (0.48%)	0 (0%)	0 (0%)	0 (0%)	1 (0.48%)
Total	128 (60.95%)	61 (29.05%)	17 (8.10%)	3 (1.43%)	1 (0.48%)	210 (100%)
Super						
Below 30	0 (0%)	19 (16.67%)	19 (16.67%)	8 (7.02%)	5 (4.39%)	51 (44.74%)
30-39	1 (0.88%)	12 (10.53%)	20 (17.54%)	4 (3.51%)	4 (3.50%)	41 (35.96%)
40-49	1 (0.88%)	4 (3.51%)	6 (5.26%)	1 (0.88%)	0 (0%)	12 (10.53%)
50-59	0 (0%)	3 (2.63%)	6 (5.26%)	1 (0.88%)	0 (0%)	10 (8.77%)
Total	2 (1.76%)	38 (33.33%)	51 (44.74%)	14 (12.28%)	9 (7.89%)	114 (100%)

In Table 10, the highest frequency of Education for consumers who shopped at traditional market Daily, Weekly, Monthly, Quarterly and Semester is Graduate and Post-graduate (27.62%), but except Monthly and Quarterly which have the highest percentage for Undergraduate (3.33%) and (0.95%). And the lowest is Technical/ Vocational school (3.33%). By contrast, the highest frequency of Education for consumers who shopped at supermarket for every period is Graduate and Post-graduate (31.58%), but Weekly has the highest percentage for Undergraduate (12.28%). And the lowest is No formal education (0.88%). Therefore, the highest frequency of Education level for consumers who went to both markets is Graduate and Post-graduate, but the percentage of consumers at supermarket is higher than traditional market.

Table 10: Education and Frequency of Purchase at Markets						
Traditional						
Education	Daily	Weekly	Montly	Quarterly	Semester	Total
No formal education	8 (3.81%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	8 (3.81%)
Primary School	14 (6.67%)	1 (0.48%)	1 (0.48%)	0 (0%)	0 (0%)	16 (7.62%)
Junior high school	21 (10%)	3 (1.43%)	2 (0.95%)	0 (0%)	0 (0%)	26 (12.38%)
Senior high school	38 (18.10%)	4 (1.90%)	0 (0%)	0 (0%)	0 (0%)	42 (20%)
Technical/ vocational school	5 (2.38%)	1 (0.48%)	1 (0.48%)	0 (0%)	0 (0%)	7 (3.33%)
Undergraduate	19 (9.05%)	25 (11.90%)	7 (3.33%)	2 (0.95%)	0 (0%)	53 (25.24%)
Graduate and Post-graduate	23 (10.95%)	27 (12.86%)	6 (2.86%)	1 (0.48%)	1 (0.48%)	58 (27.62)
Total	128 (60.95%)	61 (29.05%)	17 (8.09%)	3 (1.43%)	1 (0.48%)	210 (100%)
Super						
No formal education	0 (0%)	1 (0.88%)	0 (0%)	0 (0%)	0 (0%)	1 (0.88%)
Primary School	0 (0%)	2 (1.75%)	1 (0.88%)	0 (0%)	1 (0.88%)	4 (3.51%)
Junior high school	1 (0.88%)	5 (4.39%)	5 (4.39%)	0 (0%)	0 (0%)	11 (9.65%)
Senior high school	0 (0%)	8 (7.02%)	10 (8.77%)	2 (1.75%)	0 (0%)	20 (17.54%)
Technical/ vocational school	1 (0.88%)	2 (1.75%)	6 (5.26%)	0 (0%)	0 (0%)	9 (7.89%)

Table 10: Education and Frequency of Purchase at Markets						
Traditional						
Undergraduate	0 (0%)	14 (12.28%)	14 (12.28%)	5 (4.39%)	0 (0%)	33 (28.95%)
Graduate and Post-graduate	0 (0%)	6 (5.26%)	15 (13.16%)	7 (6.14%)	8 (7.02%)	36 (31.58%)
Total	2 (1.75%)	38 (33.33%)	51 (44.74%)	14 (12.28%)	9 (7.90%)	114 (100%)

Based on Table 11, the highest frequency of Occupation for consumers who shopped at traditional market Daily, Weekly, Monthly, Quarterly and Semester is Employee (38.10%), but House wife (30.48%) has the highest frequency for Daily shopping. And the lowest is Others (4.76%). However, the highest frequency of Occupation for consumers who shopped at supermarket for every period is Employee (42.98%), and the lowest is Others (1.75%). Hence, consumers who shopped at these two markets are Employee, but the percentage of Employee consumers who went to supermarket is higher than traditional market.

Table 11: Occupation and Frequency of Purchase at Markets						
Traditional						
Occupation	Daily	Weekly	Montly	Quarterly	Semester	Total
House wife	64 (30.48%)	3 (1.43%)	4 (1.90%)	0 (0%)	0 (0%)	71 (33.81%)
Employee	31 (14.76%)	37 (17.62%)	9 (4.29%)	3 (1.43%)	0 (0%)	80 (38.10%)
Manager	3 (1.43%)	9 (4.29%)	1 (0.48%)	0 (0%)	0 (0%)	13 (6.19%)
Businessman	12 (5.71%)	5 (2.38%)	1 (0.48%)	0 (0%)	0 (0%)	18 (8.57%)
Government official	9 (4.29%)	6 (2.86%)	2 (0.95%)	0 (0%)	1 (0.48%)	18 (8.57%)
Others	9 (4.29%)	1 (0.48%)	0 (0%)	0 (0%)	0 (0%)	10 (4.76%)
Total	128 (60.95%)	61 (29.05%)	17 (8.10%)	3 (1.43%)	1 (0.48%)	210 (100%)
Super						
House wife	0 (0%)	14 (12.28%)	15 (13.16%)	2 (1.76%)	1 (0.88%)	32 (28.07%)
Employee	1 (0.88%)	15 (13.16%)	18 (15.79%)	8 (7.02%)	7 (6.14%)	49 (42.98%)
Manager	0 (0%)	3 (2.63%)	4 (3.51%)	2 (1.76%)	1 (0.88%)	10 (8.77%)
Businessman	1 (0.88%)	2 (1.75%)	7 (6.14%)	0 (0%)	0 (0%)	10 (8.77%)
Government official	0 (0%)	3 (2.63%)	6 (5.26%)	2 (1.76%)	0 (0%)	11 (9.65%)
Others	0 (0%)	1 (0.88%)	1 (0.88%)	0 (0%)	0 (0%)	2 (1.75%)
Total	2 (1.76%)	38 (33.33%)	51 (44.74%)	14 (12.28%)	9 (7.89%)	114 (100%)

As shown in Table 12, the highest Frequency of Income Group for consumers who shopped at the traditional market Daily, Weekly, Monthly, Quarterly and Semester

is 100-500 (68.10%), and the lowest is 2501-300 (0.95%) for shopping Daily. On the other hand, the highest Frequency of Income Group for consumers who shopped at the supermarket for every period is 100-500 (61.40%), except Daily (0%). Moreover, the lowest is 2501-3000 and Above 3001 (0.88%) for shopping Daily and Weekly. So, the Income Group for consumers who shopped at traditional market and supermarket is 100-500, but more consumers went to traditional market than supermarket.

Table 12: Income Group and Frequency of Purchase at Markets						
Traditional						
Income Group	Daily	Weekly	Montly	Quarterly	Semester	Total
Below 100	13 (6.19%)	0 (0%)	1 (0.48%)	1 (0.48%)	0 (0%)	15 (7.14%)
100-500	88 (41.90%)	41 (19.52%)	12 (5.71%)	1 (0.48%)	1 (0.48%)	143 (68.10%)
501-1000	18 (8.57%)	14 (6.67%)	3 (1.43%)	1 (0.48%)	0 (0%)	36 (17.14%)
1001-1500	5 (2.38%)	5 (2.38%)	1 (0.48%)	0 (0%)	0 (0%)	11 (5.24%)
2501-3000	2 (0.95%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (0.95%)
Above 3001	2 (0.95%)	1 (0.48%)	0 (0%)	0 (0%)	0 (0%)	3 (1.43%)
Total	128 (60.95%)	61 (29.05%)	17 (8.10%)	3 (1.43%)	1 (0.48%)	210 (100%)
Super						
Below 100	0 (0%)	2 (1.76%)	1 (0.88%)	0 (0%)	1 (0.88%)	4 (3.51%)
100-500	0 (0%)	27 (23.68%)	30 (26.32%)	9 (7.89%)	4 (3.51%)	70 (61.40%)
501-1000	1 (0.88%)	7 (6.14%)	16 (14.04%)	3 (2.63%)	1 (0.88%)	28 (24.56%)
1001-1500	0 (0%)	1 (0.88%)	4 (3.51%)	2 (1.76%)	3 (2.63%)	10 (8.77%)
2501-3000	1 (0.88%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.88%)
Above 3001	0 (0%)	1 (0.88%)	0 (0%)	0 (0%)	0 (0%)	1 (0.88%)
Total	2 (1.76%)	38 (33.33%)	51 (44.74%)	14 (12.28%)	9 (7.89%)	114 (100%)

According to Table 13, consumers went to traditional market to purchase Fish (91.90%), Pork (90.48%), Beef (89.05%), Chicken (84.76%), Duck (53.81%) and Others (4.76%). On the contrary, they shopped at supermarket for Beef (60.53%), Chicken (49.12%), Fish (39.47%), Pork (36.84%), Duck (15.79%) and Others (6.14%). So, consumers bought more Fish, Pork, Beef, Chicken and Duck at traditional market, but Beef was purchased more than the other meats at supermarket.

Table 13: Market and Meat Purchase							
Market	Beef	Pork	Chicken	Duck	Fish	Others	Total
Traditional	187 (89.05%)	190 (90.48%)	178 (84.76%)	113 (53.81%)	193 (91.90%)	10 (4.76%)	210 (100%)
Super	69 (60.53%)	42 (36.84%)	56 (49.12%)	18 (15.79%)	45 (39.47)	7 (6.14%)	114 (100%)

In Table 14, the most attractive factors for consumers to shop at traditional market are Competitive Price (97.14%), followed by Freshness (84.29%), Varieties (67.62%), Good Relationship with Retailers (64.29%) and Convinience (59.09%), but the percentage of Good Quality and Good Environment is less than 50%. However, the most attractive factors for consumers to shop at supermarket are Good Environment (97.37%), then Convinience (75.44%), Good Quality (72.81%) and Varieties (71.93%), but Freshness, Good Relationship with Retailers and Competitive Price are less attractive as they have less than 50%. Hence, Competitive Price, Freshness and Good Relationship with Retailers are the most attractive factors for consumers to shop at traditional market; whereas, Good Environment, Convinience, Good Quality and Varieties are the most attractive factors for consumers to purchase at supermarket.

Table 14: Atravtive Factors at Markets								
Market	Freshness	Good Relationship with Retailers	Competitive Price	Good Environment	Good Quality	Convinience	Varieties	Total
Traditiional	177 (84.29%)	135 (64.29%)	204 (97.14%)	19 (9.05%)	98 (46.67%)	124 (59.05%)	142 (67.62%)	210 (100%)
Super	40 (35.09%)	36 (31.58%)	17 (14.91%)	111 (97.37%)	83 (72.81%)	86 (75.44%)	82 (71.93%)	114 (100%)

4 Findings and Discussion

In this study, it was found that there were 229 (100%) respondents, 53 (23%) males and 176 (76.9%) females. The highest frequency of respondents was from the Age blow 30 (41.5%), from Undergraduate, and Graduate and Post-Graduate (26.2%), from Employee (37.6%), and from the Income Group 100-500 (65.9%).

In addition, 91.7% of respondents purchased from traditional market; however, 49.8% of respondents bought from supermarket. It is noted that some respondents shopped from both types of markets. Female consumers were involved in shopping at both markets than male consumers; moreover, they went to traditional market Daily, but supermarket Weekly. Consumers who went to both markets are from the age Below 30, from the education level of Graduate and Post-graduate, and from Employee; however, they bought at supermarket more than traditional market. On the other hand, consumers with the income 100-500 went to traditional market more than supermarket.

What is more, consumers bought more Fish, Pork, Beef, Chicken and Duck at traditional market, but Beef was purchased more than the other meats at supermarket. The study found that most consumers went to purchase fresh meats at traditional

market because of Competitive Price. The study is similar to Faiguenbaum et al. (2002) who said that in order to compete with modern retail stores, traditional market vendors must not only maintain the quality of their fresh food, but ensure their prices are competitive. In addition, it supports the study of Block and Kouba (2006) who found that fresh meat was at least 10% cheaper at corner stores in Chicago than supermarkets. Moreover, it is the same as Lui (2008) who found that consumers who prefer to shop at wet markets in Hong Kong mentioned that through bargaining, they managed to: (1) pay less than the actual price of the product (paying only $10 if the goods cost $11), and (2) received additional products at no cost upon purchasing. However, this study is contrary to Trappey and Lai (1997) who found that offering lower prices is an important reason for consumers to shop at supermarkets. Further more, it is not the same as Farhangmehr et al. (2000) who found that the price in traditional markets is higher which motivates consumers to buy goods from hypermarkets or supermarkets Modern retail outlets are capable of offering more competitive prices for the products they stock as they have the economies of scale in procurement. Also, it does not support Arshad et al. (2006) who found that competition between the major chains is forcing prices down. In addition, it is not similar to Hsu and Chang (2002) who found that several fresh meat products in traditional markets were sold at a higher price compared to supermarkets in Taiwan.

In addition, Freshness attracted majority of consumers to shop at traditional market. This finding is partially the same as the study of Verbeke and Viaene (2000) who said that freshness was often cited as one of the most influential variables impacting on the consumers' decision to purchase fresh meat from both outlets. However, it is similar to the study of Zinkhan et al. (1999) who found that food like beef, fish and poultry are purchased at traditional markets, for this is where the requirements for freshness can best be met. Moreover, it also goes along with the study of Chamhuri and Batt (2013) who found that consumers prefer shopping at traditional markets for fresh meat in Malaysia. They emphasized the freshness of meat in traditional markets, given that fresh meat products were slaughtered early in the morning at slaughterhouses and delivered directly to retailers in various locations.

Furthermore, more consumer shopped for fresh meats at traditional market because of Good Relationship with Retailers. This finding supports the study of Zinkhan et al. (1999) who found that traditional markets are perceived as a place to foster social relationships. Personal relationships built between retailers and consumers developed trust for both groups. Moreover, it is the same as the study of Zinkhan et al. (1999) who stated that the respondents who often visit the street market in Sao Paulo know each other by name and often engage in social conversation. Also, it is similar to the study of Goldman and Hino (2005) who reported that Arab Israelis prefer to buy fresh meat from a known and trusted source. This ensures customer loyalty as consumers continue to purchase from the same retailer. In addition, Abu (2004) agrees with the importance of personal interaction between vendors and customers which eventually develops

customer loyalty. What is more, Suryadarma et al. (2010) revealed that 40% of traditional retailers cited politeness as the main attribute of their business success. In addition, more consumer-friendly services such as giving priority to frequent customers, giving discounts, being honest, providing home delivery services and the availability to pay in installments were employed as strategies by traditional retailers in Indonesia to become more competitive in the retail food market.

On the other hand, Good Environment attracted consumers to buy from supermarket. This finding supports the study of Yalch and Spangenberg (1990) who found that the right use of color, lighting, sound and furnishing may stimulate perceptual and emotional responses within consumers, which eventually affects their behaviour. Moreover, it is similar to Devlin et al. (2003) who found that a store environment which caters for children, makes food shopping an uncomplicated task with clear signage and product labels, and was clean and tidy, was preferred by shoppers. In addition, Espinoza et al. (2004) stated that a good store atmosphere and pleasant surroundings may increase the consumers' willingness to buy. Furthermore, it is the same as the study of Abu (2004) who found that modern retail outlets do offer a good environment for shoppers. These modern retail outlets are described as clean and comfortable; the store is air-conditioned; it's easier to buy goods with the trolley provided; and modern retail formats are a suitable place to shop and to bring the children.

Moreover, consumers buys fresh meat from supermarket because of Convinience. This finding supports the study of Trappey and Lai (1997) who found that younger consumers who are more occupied with work and family prefer to shop in modern retail outlets which better satisfy the needs of a faster-paced lifestyle. Also, it is similar to Farhangmehr et al. (2000) who found that convenience makes consumers more practical. Since most goods are available from modern retail outlets, it is more practical to buy everything at the same time from the same place. In addition, it is the same as Goldman and Hino (2004) who said that convenience motivates Arab Israelis to shop at large supermarkets as it is perceived as a family event where all family members participate. On the contrary, this finding is contrary to the study of Trappey and Lai (1997) who found that traditional markets have an older population of consumers who live nearby and are familiar with and loyal to local vendors. What is more, it is not the same as Goldman and Hino (2004) who suggested that if the travel distance to super-markets is greater, then the probability of shopping at traditional markets is higher.

Furthermore, consumers bought fresh meat from supermarket because of Good Quality. This finding is contrary to the study of Zinkhan et al. (1999) who found that Brazilian consumers determine the quality of fresh meat by touching or smelling the product. These characteristic of quality are better fulfilled in traditional markets, which leads consumers to buy their fresh meat there. In addition, it is not the same as the study of Zinkhan et al. (1999) who reported that 88% of survey respondents cited that the

quality and freshness of fresh produce was the most important reason why they shopped at traditional markets. Moreover, it is not similar to Mceachern and Schroder (2002) who found that several consumers purchased meat solely from their preferred butcher, as they perceived it to be better quality than the meat sold at supermarkets.

What is more, Varieties attracted consumers to purchase at supermarket. This finding supports the study of Shamsudin and Selamat (2005) who found that most respondents in Malaysia prefer to purchase fresh produce from supermarkets (41%) and hypermarkets (28%). The reason given were modern retail outlets have various kinds of fresh food which is always available. Conversely, the limited range of products offered by the traditional market is one reason why some consumers prefer to shop at modern retail outlets. Moreover, it is the same as the study of Farhangmehr et al. (2000) who confirmed that Portuguese consumers preferred to shop at modern retail outlets because of the possibility of buying everything under one roof. In addition, it confirm the study of Mui et al. (2003) who found that the majority of respondents in Malaysia cited the variety of shops and products as the main criteria to shop at modern retailoutlets. Supermarkets and hypermarkets are the preferred place for shopping in general. In contrast, this finding is not the same as the study of Goldman et al. (1999) who found that traditional markets were viewed as 'fresh food supermarkets', providing onestop shopping for a large variety of fresh foods. Also, it does not support the study of Zinkhan et al. (1999) who reported that the majority of respondents in Sao Paulo shopped for fresh products at traditional markets because of the variety of products available.

5 Conclusions and Recommendations

5.1 Conclusions

In this study, it was found that there were 229 (100%) respondents, 53 (23%) males and 176 (76.9%) females. The highest frequency of respondents was from the Age below 30 (41.5%), from Undergraduate, and Graduate and Post-Graduate (26.2%), from Employee (37.6%), and from the Income Group 100-500 (65.9%).

In addition, 91.7% of respondents purchased from traditional market; however, 49.8% of respondents bought from supermarket. It is noted that some respondents shopped from both types of markets. Female consumers were involved in shopping at both markets than male consumers; moreover, they went to traditional market Daily, but super market Weekly. Consumers who went to both markets are from the age Below 30,

from the education level of Graduate and Post-graduate, and from Employee; however, they bought at supermarket more than traditional market. On the other hand, consumers with the income 100-500 went to traditional market more than supermarket.

What is more, consumers bought more Fish, Pork, Beef, Chicken and Duck at traditional market, but beef was purchased more than the other meats at supermarket. The factors that most attracted consumers to shop at traditional market are Competitive Price, Freshness and Good Relationship with Retailers; whereas, Good Environment, Convinience, Good Quality and Varieties are the most attractive factors for consumers to purchase at supermarket.

5.2 Recommendations

Based on the findings and discussion, it is recommended as follows:

- In order to be more competitive, Traditional Market should

- improve the environment by educating sellers to pour dirty water into the drainage and to put rubbish in the bin properly, tiling the floor which is not sliding, installing more lights and fans, and equipping air vacuum to ensure enough oxygen in the market and pump bad smell out

- make it more convenient by improving the walk-side around the market and the parking areas

- improve the quality by buying the meats from liscensed butchers who ensure the meats are safty and tasty to eat, and

- have varieties of products by encouraging sellers to sell different products.

- Supermarket should do as following in order to be competitive:

- set competitive price by choosing good suppliers, ordering large quantity to get low price, and reducing unneccessery cost

- improve the freshness of the meats by having the suppliers to deliver everyday if it is locally, but by having the proper label and expiry date if it is imported, and

- improve the relationship with customers by training the sales staff on how to build relationship with customers.

5.3 Future Research

In order to generalize this study, future researchers should extend the sample size to other cities and provinces, study and compare specific fresh meat, and use other statistical tools to improve the data analysis.

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THE CHANGE OF CAMBODIA'S TRADE UNDER ASEAN FREE TRADE AGREEMENT: A COMPARATIVE ANALYSIS

HAY Chamroeun [12]

Abstract

This paper is broadly research the change of Cambodia trade under ASEAN Free Trade Agreement (FTA). The first part of the paper outlines the various definitions of trade integration and summarizes available empirical evidence on the extent of Free Trade Agreement in ASEAN and the larger East Asian region. Even if the ASEAN/Cambodia economies do strengthen financial links intraregionally, does that necessarily imply that they are any closer to creating a full fledged monetary union. The second part of the paper therefore discuss the links between trade integration, on the one hand, and Cambodia trade, on the other. The benefit from ASEAN Free Trade Agreement on Cambodia trade would be discussed.

Key words: *ASEAN, East Asia, Free Trade Agreement, Interest Parity, Monetary Integration, Trade Integration*

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1 INTRODUCTION

1.1 Statement of the Problem

The Association of the Southeast Asian Nations (ASEAN) was established in 1967. During ASEAN's early stage, it was found that not much effort was made in terms of economic co-operation among the member countries.

Following the 1976 Bali Submit Meeting, the Agreement on ASEAN Preferential Trading Arrangements (PTA) was signed by the ASEAN Foreign Ministers on 24th February 1977. The instruments for the promotion of intra-regional trade approved by this Agreement consists of the followings: long-tern quantity contracts; trade finance at preferential interest rates; preference in government procurement; extension of tariff preferences; and liberalization of non-tariff measures on a preferential basis. However," practical action has mainly been made in the area of tariff reduction.

In consequence of this Agreement, 71 items of commodity, i.e. 50 items by the voluntary approach and 21 items by the matrix approach were agreed for 10 to 30 percent tariff-cut during the Fourth Economic Ministerial Meeting in Singapore in 1977, and became operational in January 1978. In June 1978, another 755 items were added. This attachment was enforced in September 1978. The number of items offered and covered under ETA increased at each meeting to include 2,327 items by 1979. Note that, prior to 1980; the trade preference negotiations to tariff cuts were on a product-by-product basis. In this approach each country offered in each round of negotiations a list of selected import commodities on which it would be willing to reduce tariffs from ASEAN countries (the so-called "voluntary" approach) and also submitted a list of products for which the country would like to receive tariff concession from the other ASEAN countries (the so-called '"matrix" approach)

In April 1980, the ASEAN leaders agreed to shift from the product-by-product approach to an across-the-board with a value ceiling. Initially, the 20% across-the-board tariff cuts were approved for more than 6,000 items with import value of less than US$50,000 each in 1978 trade statistics, subject to the national exclusion list of sensitive products. The ceiling was raised to US$ 10 million in 1982. Finally, in 1984, the ASEAN foreign ministers approved the application of a 20-25% tariff cut on all PTA items with import value beyond US$ 10 million, effectively, doing away with the ceiling. Up to June 1986, 12,647 items trade preferences have been exchanged and implemented, with the averaging preference margins of 23.6 percent.[13]

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[13] Seiji Naya, Toward the Establishment of an ASEAN Trade Area, (a report prepared for the ASEAN secretariat and COTT, 1987) p.28.

In 1974, the intra-ASEAN trade liberalization was viewed as providing "the quickest way of expanding markets of individual countries and thus some rationalization of the productive structure of ASEAN economies."[14] Up to now, it has been one decade since PTA was implemented. Thus, it is useful to assess the effects of the intra ASEAN trade liberalization on trade flows, specifically, trade expansion, trade creation and diversion.

Moreover, Committee on Trade and Tourism (COTT) of ASEAN urged that the margin of preferences under the PTA would be increased from 25 per cent to 50 per cent within five years after the Third ASEAN Summit in December 1987 in Manila, and the exclusion lists would be reduced to less than 50 per cent of ASEAN trade value. Thus, it is interesting to study the potential effects of the 50% tariff reduction over 12,647 items trade preferences, especially, the potential expansion effect on intra-ASEAN trade, and the potential effects of the exclusion list reduction on the trade flows.

It is believed that for the customs union with higher degree of complementarity, intra-trade expansion will be relatively high, while efficiency is likely to be improved in a customs union of competitive economies. Thus, it is useful to investigate competitiveness and complementarity of the ASEAN member countries and the change in them, especially competitiveness and complementarity in manufactured products.

Finally, according to B.A. Jones, "'the lowering of tariffs has, in effect, been like draining a swamp. The lower water level has revealed all the snags and stumps of non-tariff barriers that still have to be cleared away. Thus, the ASEAN also needs liberalization of non-tariff barriers. To clear non-tariff barriers away, it is necessary to identify the non-tariff barriers to intra-ASEAN trade.

It is evident that the economies of East Asia have been the fastest growing economies in the world until 1997. Some people have termed this as the "East Asian Miracle". Through international linkages, the miracle has spread to Cambodia as well as to the world economy.

In Cambodia, government implemented comprehensive programs of adjustments and reforms and aimed at the transmission of the centrally planned economy. In the transformation process, the country has had many favors from the international environment, especially, from the Asian region, which was the primary source of technology, capital, intermediate input and financing investment requirements to sustain the country's rapid growth.

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[14] United Nations, "Economic Co-operation Among Member Countries of the Association of South East Asian Nation,

" Journal of Development Planning, No. 7, (New York: United Nations, 1974), p.53.

As a developing country, Cambodia export earning is the major source of income of the country, which is used in importing essential capital goods needed for domestic investment, and financing government spending as well as other development expenditure. Changes in export earnings affect the key domestic variables and hamper growth as well as national development.

Cambodia's strong economic growth during the last decade has not resulted in a matching improvement in rural livelihoods. This is a matter of concern for the government. The Rectangular Strategy for Growth, Equity, Employment and Poverty Reduction, approved in 2004 laid the policy groundwork for uplifting the rural economy where 85% of Cambodia's population and 90% of its poor live. Poverty incidence declined significantly from 47% in 1994 to 34.7% in 2004. Rural poverty incidence declined from 43% to 34% during this period. However it reaches close to 60% in some isolated regions. The benefits of growth have disproportionately benefited me urban areas. Achieving significant progress in reducing overall poverty will require a sharp and quick reduction in rural poverty.

Cambodia's recent economic growth performance is commendable. The average annual growth rate of real GDP during 1994 and 2006 was 8.4%. The GDP growth rate after touching 13.4% in 2005 slowed to a robust 10.5% in 2006. Recent growth performance was driven mainly by agriculture and sustained growth of tourism, garment exports and construction. However key trend indicators show that the benefits of growth are skewed in favor of urban areas which could aggravate social disparity and depress the rural economies. A more inclusive and balanced growth performance with both rural and urban economies growing together harmoniously will be more conducive for sustaining long term growth with stability.

1.2   Research Problem

The reason for selecting this is that almost all products of Cambodia import and exports within ASEAN countries. After Cambodia joint ASEAN membership we have seen the volume of trade, imports, exports have change from year to year. The ASEAN Agreement is focus on Free Trade between member countries and most of the member have gain from this agreement including Cambodia that why we choose this topic for research study.

1.3   Research Question

The main problem concerned in this study is how the change of Cambodia Trade under ASEAN Free Trade Agreement?

1.4   Objective of the Study

The objectives of this study can be summarized as follows:

1. To review the characteristic and history of ASEAN Free Trade Agreement.

2. To explore the benefits of the ASEAN Free Trade Agreement on Cambodiatrade.

3. To study the benefits of tariff reduction of ASEAN countries on Cambodia import and export

1.5   Scope of the Study

In this study we should keep confined our focus only in evaluating how benefits of Cambodia's Trade under ASEAN Free Trade Agreement (FTA) since 1999 to the end of 2014.

2   REVIEW OF RELATED LITURATURE

In order to provide background for our methodology, this study reviews the theoretical background and empirical studies relating to trade expansion, trade creation and diversion, the complementarity and competitiveness. Since the estimation of trade expansion in this study must use the value of price elasticity of import demand, we also discuss theoretical background and empirical studies relating to the price elasticity. Firstly, the theoretical background of trade expansion, trade creation and diversion are discussed as follows.

2.1   Trade Expansion, Creation and Diversion

2.1.1   Theoretical Background

The earliest customs-union theory has a general conclusion that "Customs unions will always, or nearly always, raise welfare". On the contrary, Jacob Viner argued that the formation of a customs union could either improve or worsen resource allocation and welfare. He demonstrated that the formation of a customs union lead either trade creation or trade diversion. The trade creation (or so-called "trade creation proper") resulting from increasing competition and trade among the union member countries (movement towards freer trade) is a union-induced shift from the consumption of

higher-cost domestic products to that of lower-cost products of the partner countries. The trade diversion resulting from providing relatively more protection against trade and competition from the rest of the world (movement toward greater protection) is a union-induced shift from the consumption of lower-cost products of the rest of the world to that of higher cost products of the partner countries. He pointed out that trade creation is good and necessarily increases welfare, out trade diversion is bad and necessarily lowers welfare.

Lipsey argued that trade diversion is not necessarily a "bad thing" as Viner has thought. He pointed out that trade diversion may increase welfare. Lipsey explained that Viner's conclusion (trade diversion necessarily reduces welfare) resulted from his assumption of fixed proportion in consumption irrespective of relative prices, i.e., Viner regarded to only production effect and neglected of the consumption effect of trade diversion. Bhagwati offered an alternative condition for a trade diversion to be welfare reducing that is the fixed import level, instead of fixed proportion in consumption as Lipsey suggested.

Johnson pointed out that this dispute arises from a definition of trade diversion which includes (1) diversion of initial trade from a lower-cost source (the rest of the world) to a higher-cost source (partner country), this can be called "pure trade diversion", (2) creation of new trade between the home country and the partner countries resulting both from the adjustment in home country consumption and the replacement of home country's production by partner countries production (due to intra-area tariff cut); this is a good thing.

However, the total increase in trade among members of a customs union brought about through integration, regardless of whether the additional trade replaces domestic production or whether it replaces non-member exports, is called gross trade creation by Balassa. In other words, the summation of trade creation proper and trade diversion is called gross trade creation. But in this study, unless otherwise stated, Balassa's gross trade creation is called trade expansion, and trade creation refers to trade creation proper.

Empirical approaches to measure the effects of integration on trade flows can be broadly classified into residual models and analytical models. The residual models consider the effects of integration as the residual between what actually occurred and the trade predicted on the basis of the continuation without economic integration. On the other hand, the analytical models provide a direct economic explanation of the value or trade flows after economic integration. These models are partial equilibrium analysis. However, there are some literatures relating to general equilibrium analysis which are also discussed in this study. Most of the empirical works deal with the effects of the EEC or EFTA. In the next subsections, we will review empirical studies relating to trade expansion, trade creation and diversion in European Economic Community (EEC) and ASEAN.

2.1.2 Empirical Study Relating to EEC

a. The Demand for Import

Clavaux assumed that relationship between imports and production is constant, so that this relationship can be used as a yardstick for measuring trade creation. Based on the data of 1952-59 and 1959-66 (1959 was taken as the year of integration), he found that (1) imports of manufactures into the EEC countries had increased rapidly since 1959, indicating a substantial gross trade creation, (2) imports of manufactures into the EEC from non-member countries rose after 1959 more than previously, although to a more limited extent than intra EEC imports, it seems that no trade diversion existed.

This model simply assumes that imports will retain the same linear relation to total expenditure, GDP, or GNP, in the hypothetical situation as the same in the pre-integration period. It is simplified approach for measuring the effects. However, according to Williamson and Bottrill, this study makes unlikely assumption that the marginal propensity to import remains constant, whereas the evidence points to its rising with income. Further, this study does not consider price levels or price elasticities of import demand which are the important determinants of import demand changes.

b. Shares in Apparent Consumption

This model assumes that the import shares of each supplier (partner, or nonmember) will remain the same overtime. Thus, the integration effect can be estimated by the differences between the observed shares for any year and a specified hypothetical pattern of shares.

In Truman's study, expenditure on apparent consumption (C) is defined as gross domestic production (V) less exports (B) plus imports from partners; (Mp) and import from non-members (Mw) that is

C = V – B + Mp + Mw

He computed the changes in the three basic shares of various manufactured products in two cases, i.e., (1) the change between 1960 and 1968 with adjustment for domestic cyclical effects, and (2) the deviation between actual and predicted shares in 1968, where the predicted shares were based upon projections of the experience in the pre-integration period.

He found that 'there was net trade created from the formation of the EEC and EFTA, although the results under the two approaches suggest varying orders of magnitude.

This approach is also a simplified way for measuring the effects. However, the crucial weak point is, as Robson's argues, that the assumption of constant shares - DS, PS and WS - is in conflict with empirical data, i.e., prior to 1960, these shares were changing due partly to the lifting of trade restriction. Moreover, in the absence of integration, DS could be expected to decline but PS and WS to increase due to intra-industry specialization, or a secular loss of competitiveness on the part of Western European countries. Thus, this assumption leads to an overstatement of trade creation and an understatement of trade diversion.

2.1.3   Empirical Studies Relating to ASEAN

Armas attempted to estimate the Philippines' trade expansion due to a 10 per cent across-the-board tariff cut. He employed the following formula to estimate the import expansion;

$$dMv = Nd\left(\frac{atMv}{1+t}\right)$$

Where Mv is value of import, Nd is price elasticity of import, t is the original tariff level, and a is the rate of tariff reduction.

Based on 1975 data, he found that, on the whole, the Philippines imports from ASEAN countries increase by U.S. $ 4.43 million, or about 3.4 per cent of total Philippine imports.

To estimate the trade creation and trade diversion, he used price differential (PD) approach –by comparing unit values of Philippine imports from ASEAN vis-a-vis the world. Based on 1975 data, at the seven-digit SITC level, he concluded that, in terms of the number of items, most of the imports from ASEAN were priced higher than the imports from the world. However, in terms of import value, the majority of the imports from ASEAN countries were priced lower compared to imports from the world.

Wong Hock-Yuen, who employed the same formula as A. Armas (1978), attempted to estimate the expansion of trade volume among ASEAN countries due to the reduction of tariff (both the 71 items effected from January 1, 1978 and 755 items effected from September 1, 1978). Based on 1976 data (for Malaysia) and 1977 data (for others), he found that, in total (both import and export), the tariff reduction would bring a trade expansion of U.S. $ 25.136 million, or 0.38 per cent of intra-ASEAN trade in 1975.

In Ooi Guat Tin's study, he attempted to assess the potential gross trade creation effects on Thai and Philippine imports of the 20% across-the-board tariff reduction on all items with import value of less than U.S. $ 50,000 each in 1978 trade statistics. He employed the same formula as A. Armas (1978), and modified for the case of a 20% cut for items less than U.S. $ 50,000 in import value. He found that the maximum overall gross trade creation effects on total imports (SITC 0-9) are negligible for both the Philippines (0.06%) and Thailand (0.02%).

To estimate trade diversion due to the tariff reduction, he summed the import value of items less than U.S. $ 50,000 each in 1978 trade statistics and simply regarded this as the maximum limit for possible trade diversion from non-ASEAN countries. This total imports (SITC 0-9) is less than one per cent for both the Philippines (0.38%) and Thailand (0.65%). It indicates only outer limits; actual trade diversion effects will be much smaller.

2.1.4   Concluding Remark

(1) The empirical studies relating to ASEAN indicated that, in the past, the ASEAN tariff reduction had marginal effects on the ASEAN trade.
(2) The analytical model can provide a direct economic explanation and can be easily interpreted. It is suitable for analyzing the effects of ASEAN tariff reductions with difference margin of preference rates.
(3) The price differential approach, by comparing unit values of the member country's imports from ASEAN vis-a-vis the world, is fairly reasonable for distinguishing between trade creations diversions.

2.2.1   Price Elasticity of Import Demand

To employ the analytical models to estimate the static effects of intra-area trade liberalization, price elasticity of import demand must be estimated. Thus, this subsection will review its theoretical background and empirical studies relating to ASEAN countries import demand.

2.2.1.1   Empirical Studies Related to ASEAN

There are some estimations on the price elasticities of ASEAN on 1962-1977 data, Wong Hock Yuen used three models to estimate price elasticities of import demand of five member countries (Indonesia, Malaysia, the Philippines, Singapore, and Thailand) at the 3-5 digit SITC level).

In his first model, quantity of import depends on real GNP and relative prices. In the second model, a dummy variable is added in the first model to represent the sharp increase of oil price during the years of 1973 to 1975. The third model is simultaneous-equation model as in the above discussion. The first and second models were estimated by ordinary least squares technique, and the third one was estimated by two stage least squares technique.

The results showed that in the first model out of 156 cases, 114 cases or about 73% obtained correct signs for price elasticities, 71 cases or about 46% have the price coefficients significantly different from zero at 95% confidence level. In the second model out of 122 cases, 93 cases or about 76% obtained a correct signs for price elasticities, 60 cases or about 49% have the price coefficients significantly different from zero at 95% confidence level. In the third model out of 44 cases, 24 cases or about 55% have correct signs for price elasticities, 12 cases or 27% have the price coefficients significantly different from zero at 95% confidence level.

2.2.1.2 Some Remarks

(1) Most of the empirical studies relating to price elasticities of the ASEAN member countries used single-equation model. Only a few of them, such as Wong Hock Yuen's study, used simultaneous equation model. His results from simultaneous equation approach cannot be compared with that from the single equation model, because he used different set of data.
(2) The majority of these studies disaggregated commodities of import into one-digit SITC level. Only a few of then disaggregated the commodities into more than one-digit SITC level.

3 METHODOLOGY

3.1 Methodology

This study uses Qualitative Method to discuss and explain the result of the data collection.

This study uses the data analysis, providing an economic explanation of trade flow, to discuss trade expansion due to tariff reduction. This study also investigates the changes of the competitiveness and complimentarily of the member countries.

Note that trade creation proper refers to a FTA-induced shift from the consumption of higher-cost domestic products to lower-cost products or tine partner countries, while trade diversion refers to a FTA-induced shift in the source of imports from lower-cost external sources to higher-cost partner sources. This means that in ASEAN trade expansion (or gross trade creation) is due to both trade creation and diversion. These benefit form ASEAN Free Trade Agreement can be discuss by the member countries' import and export.

This study try to discuss the change of Cambodia trade from ASEAN Free Trade Agreement. The study compare the trade volume with tariff revenue, specific tax, value added tax, and GDP.

3.2. The Sources Of Data

The important source of data in this Study is Commodity Trade Statistics due to availability of continuous time series data. This study is almost based on the secondary data.

4 FINDING AND DISCUSSION

4.1 Tariff and Import in period 1999-2014

Cambodia Importing was increased from year to year. It high growth rate of importing goods and services in 2008 about 5 076.6 million USD and in 2010 about 5466 million USD. The demand for importing goods and services of Cambodia was increase because of increasing for investment, mostly importing capital goods and fiscal policy of government to reduction on tariff rate for ASEAN.

While the tariff revenue was slowly growth. The tariff revenue also more increase in 2008 about 259 million USD.

4.2 Tariff and Export in period 1999-2014

Cambodia Exporting was also increased from 1999 to 2014. It was high rise in 2006 about 3692.4 million USD and decrease in 2007 about 3247.8 million USD.

While the tariff revenue was also increase from 1999 to 2014. The tariff revenue more increase in 2008 about 259 million USD. The finger show us that both exporting and tariff revenue was increase from the beginning of the year 1999 to the end of the year 2014.

4.3   Tariff and GDP in period 1999-2014

Cambodia GDP was increased from 1999 to 2014. It was high growth rate in 2008 about 10 337 million USD. At the same period the tariff revenue was also increase. The tariff revenue more increase in 2008 about 259 million USD. Based on the data collection both GDP and tariff revenue was increase from the year of 199 to the end of 2014.

4.4   Percentage change in Tariff, GDP, Export and Import in period 1999-2014

GDP growth rate was fluctuated from 1999 to 2014. It was high growth rate in 2008 and was slowly growth rate in 2009 about 0.6 percent.

During that period the tariff growth rate was also increase. The tariff growth rate was high increase in 2008 about 40.5 percent and it was decrease in 2009 about -12.4 percent.

Cambodia Importing growth rate was increased from 1999 to 2010. It was high growth rate in 2006 about 26.8 percent and 29.7 percent in 2010. At the same period the tariff growth rate was also increase. The tariff growth rate was more increase in 2006 about 15.3 percent and about 12.9 percent in 2010.

4.5   Import Tariff, Specific Tax and Value Added Tax in period 1999-2014

Import Tariff revenue was increased from 2000 to 2014. The lower tariff rate the more import goods. The more importing goods the more tariff revenues that government collected.

At the same time the Specific Tax also increase from 2002-2004 to 2014. The Cambodian government was reduced the tariff rate for ASEAN countries but it was increased the specific tax rate from 30% to 110% then cut to 45% and was increase to 50%.

Most products imported to Cambodia are specific goods so they have to pay specific tax, such as Cars and spare part, Beer, Wine, Motorbikes, Cigarettes, That why the specific tax revenue was increase during that period.

Value Added Tax-VAT was slowly increase from 1999 to 2003 but more increase in 2008 to 2014. The most of importing goods have to pay VAT even those products are Free Trade. The increasing of importing demand, will increase the Value Added Tax on importing goods. The more importing goods the more VAT revenues that government collected.

4.6   Import, Export and Trade Balance during 1999-2014

Cambodia exporting was increased from year to year. In 2006 the volume of export more increase than the recent year.

The rise of investment in 2006 about 2630.6 million USD especially in garment factories (Exporting Sector). The benefit of Tariffs reduction, GSP, Quota from the importing partners, (EU. USA).

In contrast during 2007 the volume of export have decline about 12 percent. During that time the global financial crisis - 2007 to 2008. It was only a few years later that an even nastier crisis would hit the entire world's financial markets. In many ways it has still has not ended, with the billions in losses and slowing global economy manifesting themselves in the current European sovereign debt crisis. The lower demand for importing goods of partner countries. The decrease level of investment in Cambodia.

However, the volume of Importing increase from year to year especially in 2014.

The rise of Import demand for Cambodian People. The economic growth (an increase of GDP in 2014 about 16 032 million USD).

The ASEAN Free Trade Agreement (Tariff reduction). Cambodia cut off tariff band from 120% to 35% for protection products and from 5% to 0% within member nations. That is the efficient to push importing increase.

Finally, because of volume of Exporting is less than the volume of Importing, so the Balance of trade is Deficit from 1999 to 2014. The high gap of international trade deficit was from 2008 to 2014.

4.7   GDP, Import, and Export period 1999-2014

GDP was growth from year to year with the growing of international trade and tariff. GDP was more increased in 2008 and 2014. The Import was also increase during that period. While the volume of export was also increased. At the same period tariff revenue was also increased.

5   CONCLUSION

5.1   Conclusion

According to the study there are some remarked that:

After Cambodia become an ASEAN member, the tariff band was cut off from the highest rate to the lower rate for protected products importing within ASEAN member and for non-member nation. And it was higher reduction to lowest rate or zero rate for ASEAN members.

However, Cambodia was increase the specific tax rate for importing goods and services from ASEAN member and non-member nation. The reason why Cambodia government increase specific tax rate is to instead of tariffs reduction. Because Cambodia was lost some tariff revenues from reduction tariff rate but it was increase of specific tax revenue instead of losing and to certify budget revenue.

The ASEAN Free Trade Agreement (FTA) is more benefit on Cambodia trade especially on importing goods.

The Reduction of Tariffs Rate between ASEAN members will increase trade volume of Cambodia, both importing and exporting goods and services. By increasing international trade of Cambodia, it will effect on the GDP growth rate increase.

Finally, Free Trade Agreement will push Cambodia economy growth faster.

5.2   Limitation and Future Research

This research faced on a few limitations. The data collection from 1999 to 2014 and the factor effect on Cambodia trade not just only from the Free Trade Agreement (FTA), but from the other factors. The better focusing on international trade should more and deeply other factors and more period of sampling. The future research can include of other modeling such as foreign real income, exchange rate between home currency and foreign currencies, price of importing goods, price of exporting goods, foreign direct investment.

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APPENDIX
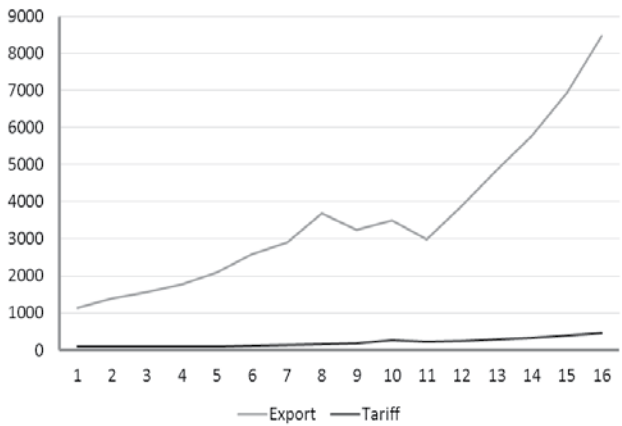
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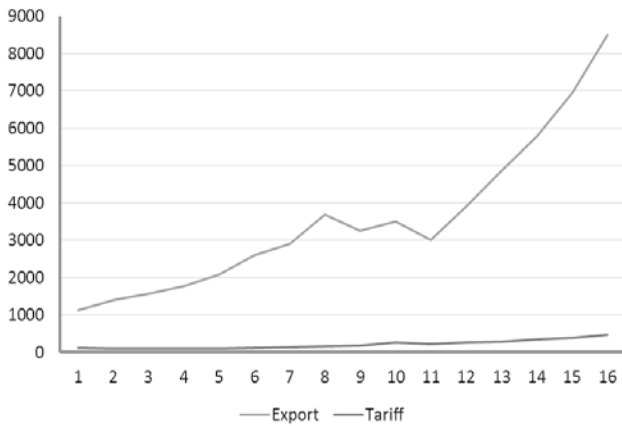
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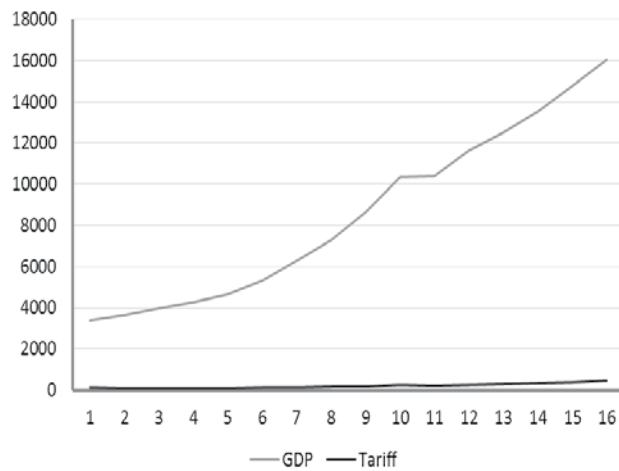
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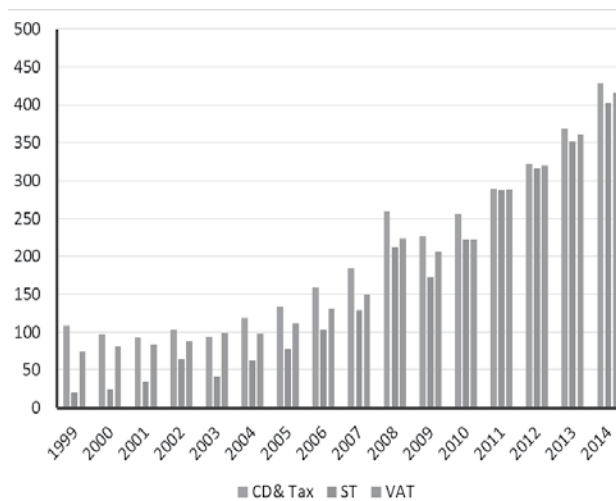
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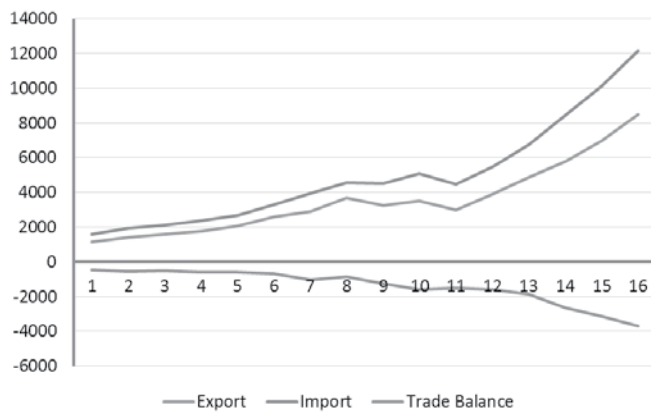
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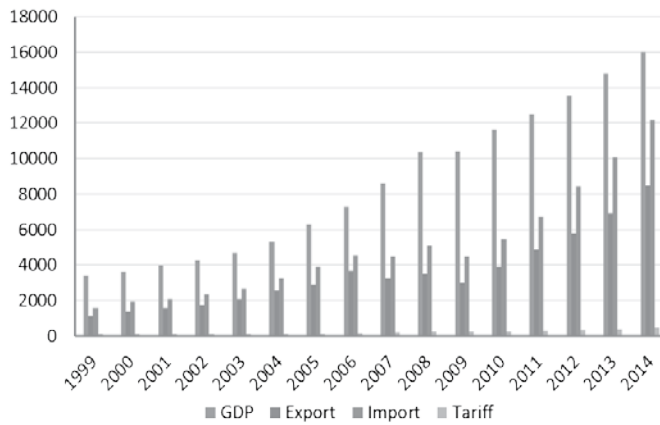
Tariff, GDP, import and Export in period 1999-2014

THE CURRICULUM MAPPING CONSTRUCTION AT THE NATIONAL UNIVERSITY OF MANAGEMENT

Dr. TAN saroeun [15]

Abstract

The Purpose of the present study aimed to the result of the Bachelor of Business Administration Program creating. To create the program mapping, there are some phases administered. Frist phase is to find out the employability skills which the employers and employees need as the tools for the independent variables, including Communication, Computer, Critical Thinking, Team Work, Value Awareness, Research Skills, and Entrepreneurship. The student learning outcomes of each employability skill is used for the dependent variable, including the learning outcomes of communication, computer skills…etc. The Second phase is to find out some outcomes from mean, mode, correlation, to reconfirm how much employers and employees needs employability skills and how much they need the graduate attribution skills through the student learning outcomes. Then the study is found out whether the employability skills and the student learning outcomes are positively correlated each other and finally each student learning outcome matches to find its available course through survey from deans , vice deans, academic head, and senior lecturer .

Keywords: *Curriculum Mapped*

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[15] Deputy of School of Graduate Studies

1   The Statement of Problem

For reforming, restoring, developing the social economy, the stakeholders always focus on human resources to take on labor market skills in local as well as region The higher education institutions are original sources where are charged with training and equip the young with the employability skills . Many stakeholders, especially investors always express their worries about whether higher education institutions established to arrange training the students to fulfill the labor skill needs or not. On the other hand; to evaluate a good, qualified educational institutions, they always note the graduate attribution and quantities of employment absorbed by the labor marketplace. This event can be successfully attained, each higher education institutions concentrate on the student learning outcomes that have played a vital function for linking between employability skills and the graduate attribution .This is one hand. Another hand, the student learning outcomes that can best be achieved depend on the strategic plan that have been driven proper goals of the components; including teachers, course design , sufficient facilities, such as laboratory, infrastructure, other physical plants, and internship .

Referring to Ronald E. Hansen (1995) addressed that the students will find out how to teach and thereby become effective at communicating in the right knowledge, accomplishments, and attitudes connected with a particular curriculum course or course of study. Successful practice in the classroom is not separable with the curriculum development about both what to teach and how to teach.

Another researcher, Biggs (2007) also proved that learning is constructed by what activities the pupils take out; learning is about what they suffice, not about what we, teachers do. Similarly, assessment is around how well they achieve the designated outcomes, not about how well they report back to us what we have ordered them.

Background of the Problem

The curriculum is, a content of the program, one of the most important in building and guarantee the sustainable student learning outcomes because its typically refers to the knowledge and skills that students will be expected to learn. Thus, it relates the preparation of teachers' course syllabus and design, including the student learning outcomes as the goals that they are expected to reach, course contents the teachers teach, the student assessment methods, and some materials and facilities for practice the classroom theory. If the curriculum constructed is not consistent the employability skills in the labor market, the courses which are equipped the students are also impacted on the graduate attribution in wrong disciplines for their job hunted.

Based on the above concept, there are many educational researchers supported, including Duncan D. Nulty (2012) noted that successful learning and teaching depend on curricula that are transparent and effective in terms of goals, learning activities and assessment of learning outcomes. The following approaches and frameworks provide a starting point for developing an effective course curriculum. Referring to the idea of the previous educational researchers shown that the original sources of the successful graduate attribution are to develop an effective course curriculum that results from the program mapped. As Sprague & Nyquist (1991) remarked that the curriculum map is a communicating tool that visually aligns a program's student learning outcomes, instructional activities and primary assessment methods in colleges or universities. It articulates graduate student development from senior learner, to colleague-in-training, to junior colleague. From the National University of Management, as well as most of higher education institutions in Cambodia; the BBA program is not created through program mapped, constructed by only benchmarking from other specific curriculum of some universities.

The curriculum construction is not mapped through researching for finding out the common skills, which the stakeholders, especially the employers and employees necessarily needed in the labor market. The curriculum constructed has formed through some experience of the experts and benchmark some courses from some potential universities or colleges. This is one reason, another the National University of Management has lacked the implementation of the curriculum maturity date policies, every 5 years reviewed. This is a reason why NUM has less opportunity to orient the student learning outcomes. Based on the above concept, there are many educational researchers supported, including Duncan D. Nulty (2012) noted that successful learning and teaching depend on curricula that are transparent and effective in terms of goals, learning activities and assessment of learning outcomes. The following approaches and frameworks provide a starting point for developing an effective course curriculum. Referring to the idea of the previous educational researchers shown that the original sources of the successful graduate attribution are to develop an effective course curriculum that results from the program mapped. As Sprague & Nyquist (1991) remarked that the curriculum map is a communicating tool that visually aligns a program's student learning outcomes, instructional activities and primary assessment methods in colleges or universities. It articulates graduate student development from senior learner, to colleague-in-training, to junior colleague. From the National University of Management, as well as most of higher education institutions in Cambodia; the BBA program is not created through program mapped, constructed by only benchmarking from other specific curriculum of some universities.

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To attain successful graduate attribution for employability skills at local labor market. Actually, the current research shown that in 2014 there are 1723 (59%) employed, and worked in mismatched (wrong discipline of the study) for 882 (51%).
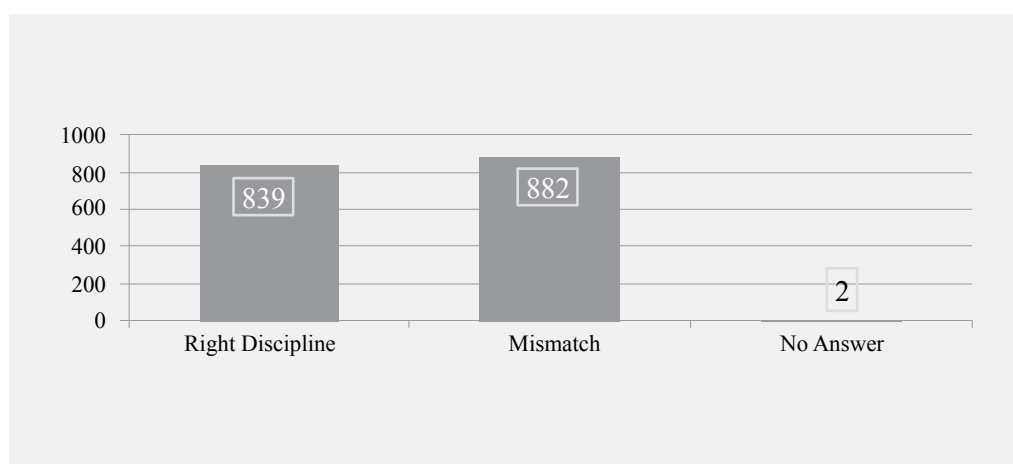
Figure 1. Show on the Student Employment by Discipline, 2014

In 2015 there are 557 (60%) of 938 graduates employed worked in wrong disciplines (mismatched).
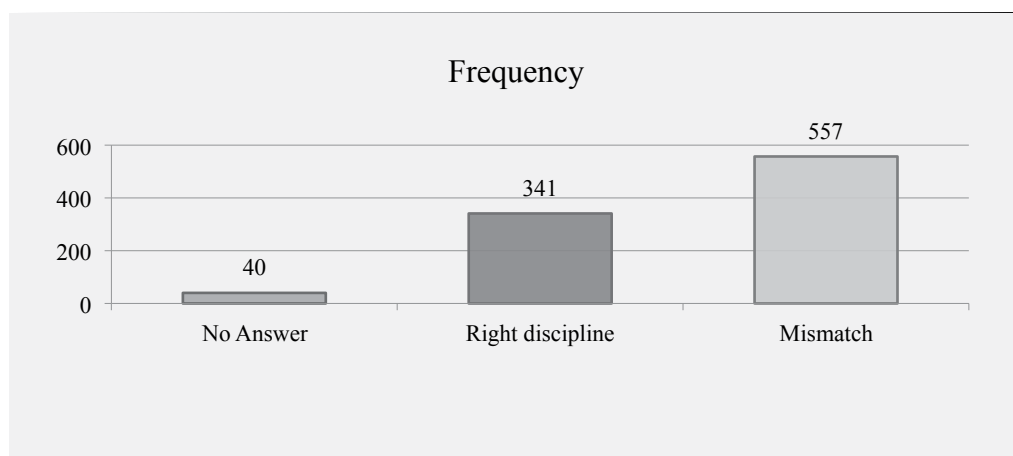
Figure 2. Show the Student Employment by Discipline, year 2015

To successfully orient the BBA graduate attribution, the National University of Management has to find out the needs of the common skills for the employability which the organizations have used for their organizational goal achievement and then the National University of Management creates the program learning outcomes for the right employability skills to orient the BBA graduate attribution to be expected to work.

Research Questions

1. How need are the provisions made in the implementation of the main skills at the workplaces and the program learning outcomes at the National University of Management?

2. Is there a significant positive correlation between the employability skill needs and the program learning outcomes at the National University of Management?

2 Objectives of the Study

- To extend the study of the employability skill and the graduate attribution needs at the National University of Management.

- To evaluate effectiveness of the relationship between the employability skills on the program learning outcomes at the National University of Management.

- To assess the option of the courses proposed based on the program learning outcomes.

- To study the existing policies of program construction at the National University of Management.

3 Hypothesis

Ho.1: There is no employability skill and the program learning outcome needs at the National University of Management.

Ho.2: There is no significant correlation between the employability skills and the program learning outcomes of the National University of Management.

4 Literature Review

The chapter provides a type of secondary data sources which found out the real evidences from other sources, such as the university research, the real physical plants. This chapter is also indicated some indicators which cover enough data to help and improve the variables, including theoretical framework, the model decision, steps in mapping curriculum constructed.

4.1 Theoretical Framework

Profound changes in the society are requiring that students, in addition to learning the basic curriculum of reading, writing, and arithmetic, also gain critical thinking and computer literacy skills in order to succeed. Art education, offered in conducive learning environments which include computer resources, presents an excellent opportunity for students to develop these skills. (Eric Pals, 1995)

The Flax Report (2014) surveyed from the line manager and employees found that the employability skills in the next 5 years are Leadership skills 62%, Management skills 62%, Interpersonal skills 53%, Innovation and creativity 45%, Resilience, 43%, Technical skills 40%, IT skills 40%, Sales/marketing skills 32%, Client Management skills 24%, Other/none of the above 4%.

Another wed page www.insidecareers.co.uk also remarked that even though the skill needed differs considerably from one organization to organization, duty to duty, on that point are some capabilities commonly valued by most graduate employers. The core skills which employers look for include, literacy and numeracy, time management and organization, oral and written communication, teamwork, creative problem-solving, initiative and enterprise, the ability to apply discipline, knowledge and concepts, information gathering, evaluation and synthesis, emotional intelligence and interpersonal skills, adaptability. The application procedures of many major graduate employers have become explicitly focused on motivation, organizational fit and competent. *(Cited on 31/3/2015)*

Nearly the same another founder, Mohammad A. Awwad, (2012, p. 119) noted that faculty members' contribution develop curriculum for reflecting the importance of employability skills to their students as the following: discipline knowledge and understanding, critical thinking, verbal and written communication, learning to learn (self-learning), multicultural understanding teamwork.

The extent to which faculty members develop and enhance their Students' traits and values of work ethics, commitment, and integrity multicultural understanding Teamwork. The extent to which faculty members develop and enhance their Students' traits and values of work ethics, commitment, and integrity.

Table 1. Show about Employability Skills and Employee Traits

Employability Skills	Employee Traits
1. Communication (Verbal & Written)	1. Strong work ethics
2. Analytical Critique	2. Flexible and adaptable
3. Teamwork	3. Confident
4. Computer/IT	4. Honest
5. Interpersonal	5. Integrity
6. Second language	6. Motivated
	7. Initiative

Generic Student Attributes
- Knowledge of the profession Competency
- Communication Skills
- Critical Thinking & Problem
- Solving
- Team Skills
- Entrepreneurship
- Ethics
- ICT
- Positive Outlook of Life towards lifelong learning

Source: University Malaysia

Table 2. Show about the relationship between the employability skills and program learning outcomes.

Employability Skills	Program Learning Outcomes (PLO)
- Communication	- Communication
- Computer Technology	- Computer Technology
- Critical Thinking	- Critical Thinking
- Team Work	- Team Work
- Value/Ethics	- Value/Ethics
- Research skills	- Research skills
- Entrepreneurship	- Entrepreneurship

Courses Proposed
- Introduction to business
- Statistics
- Communication
- English
- Computer
- Business Law
- Thesis Writing
- Business Ethics
- Entrepreneurship
- International Business
- Management
- Accounting
- Finance
- Economics
- Marketing

4.2 Curriculum Mapping

Curriculum mapping refers to the alignment process of the employment skill needs and curriculum components through the data gathering for organizing and matching to formulate the relationship between skills needed, curriculum learning outcomes and curriculum courses proposed. (Alexei G. Matveev, 2008, PTT. P. 39)

Step 1: Common Skill Needs

Research and find out the main skills that the employability needs in achieving their organizational goal.

Step 2: The Program Learning Outcomes

Create the indicators of student learning outcomes in right the indicators of the main skills.

Step 3: Research Tools

Each indicator of the both sides should be consistent each other and test for a proper questionnaire.

Step 4: Mapping

After finding out the correlated results, the courses proposed will be prepared for matching the student learning outcomes to interpret three levels:

"B" (basic course) indicate the students are introduced to the courses relevant.

"C" (core courses) indicate the courses are reinforced for the students who are able to practice.

"S" (specialized courses) indicates that students have had sufficient practice and can now demonstrate mastery. The three levels, B, C, and S are used for mapping, measurement through creating the list of matching between the student learning outcomes and courses proposed.

Step 5: Faculty Academic Member

The result of mapping data is analyzed as frequency of three levels: basic courses, core courses, and specialized courses for evidence to make a decision. Moreover, the faculty members discuss the tools which should be afforded to practice core and specialized courses, such as laboratory, real work places or factories, and other physical plants.

4.3 Graduate Attributions

Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution. These attributes include but go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. *(www.employability. ed.ac.uk)*

4.4 Constructive Alignment

Learning is constructed by what activities the students carry out; learning is about what they do, not about what we teachers do. Likewise, assessment is about how well they achieve the intended outcomes, not about how well they report back to us what we have told them. (Biggs, 2007)

5 The significance of the study

After the present study, the National University of Management will receive some benefits as the following:

- To find out the needs of high influence stakeholder 'skills, especially the employability skills in labor market.
- To arrange better program curriculum to meet the courses needed for the graduate Attribution.
- To enable to create or develop a right curriculum in the right labor market skills,
- To arrange a better course design in alignment of student learning outcomes, teaching activities, and the student assessment.
- To prepare clearly about the facilities, including laboratory or computer lab., physical plants, and other actual workplaces reinforce the graduate attribution through the student learning outcomes.

6 To Study the Existing Policies of Curriculum at National University Management

National University of management is a public higher education institution which was established since 1983. Its names were changed due to the government policies in economic development, free economic market. Till now the National University of Management has a good reputation which ensures in training Cambodian students with some program related business, including Management, Marketing, Accounting and Finance, Business economic, Tourism and Hospitality.

6.1 The Curriculum Committee members

To implement the expected learning outcomes properly , the curriculum committee of the National University of Management makes a decision to select the qualified academic staff who have more than 5 years' experience and equip with the official academic officers, including the Rector, vice rectors, deans, vice deans, head of the academic department. The curriculum committee, who is commonly responsible on the creation, revision and development of curriculum. For specialization, each faculty academic head of department is charged with the program developed or revised initiation.
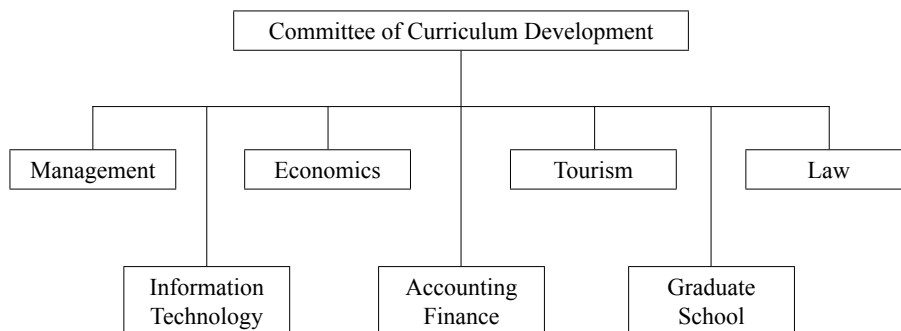
Figure 3 Show the structure of NUM's Curriculum Committee

6.2 Functions and Roles of the Curriculum Committee

To ensure the flexible program for matching the employability skills in the labor market, The National University of Management's Curriculum Committee has set some roles and functions served as the following:

- The basic for the curriculum development of the three degrees came from the outcomes of research skills in the labor market.

- Each Faculty initiates innovating, changing, chapter or course curriculum against data survey evidence.

- Faculty's Dean or academic department submits the curriculum development or change and the reference document to the committee for making a decision.

- The references proves the result of the skill research, and propose the qualified teacher(s) for the right curriculum development.

- The Committee invites the curriculum committee members to meet for reviewing the curriculum every 4 to 5 years or before the deadline if it has necessary case that request from the faculty.

- At the deadline, the faculty needs to keep the current curriculum; submit the evidence that reconfirms the current is still consistent with the employability skills in the labor market.

6.3 The Curriculum Advisory

To reconfirm the real employability skills in the labor market, the curriculum advisory has selected from the relevant specializations, including the representative of industry or factories, tourism agency, bank or financial institutions, and other entrepreneurs; to aim the curriculum in the right labor skills orientation.

7 Methodology

Some establishments such as bank and service 190 (46.70%), producing and trading 80 (19.70%), own business 15 (3.70%), NGOs 45 (11.10%), and government offices 77 (18.90%). Another part, the master data are also interviewed by questionnaires from curriculum committee members who suffer long term experience in academic curriculum at the National University of Management.

7.1 Sample Size

Harris (1985) Defined that the total numbers of respondents are equal number of the independent variables and plus 50. So the sample size of the present study equal 407 is large. According to Cochran (1963), the above sample size is appropriate, 385 in the error value. 05 when the population is unknown. For this research, the employment participates

to respond more than 385 is 407. Therefore, it is enough for data analysis by using stratified sampling, including top, middle, and low management and Employers who are solving for private, NGOs, and public governance.

Table 3. Show about the identification of Sample size and Sampling		
Rank	Frequency	Percent
Top Management	16	3.90%
Middle Management	72	17.70%
Low Management	73	17.90%
Employee	246	60.40%

7.2   Sources of Data

The data for the present study are gathered from both sources, primary and secondary data. The primary data are collected by, two pieces of the categories. The First obtain comprehensive information about the personal data, on the main skills in the organizations, and the student learning outcomes for 407 employed respondents who are working for some types of the organizations, such as 190 (46.70%) from the bank and services, 80 (19.70%) from manufacturers and traders. Another piece of categories is administered about the courses proposed for the curriculum learning outcomes from the senior academic staff, such as deans, vice deans, head of academic departments, and senior lecturers who have long term experience in academic curriculum committee members of the National University of Management.

7.3   Statistical Tools

Grounding on the model of variables, there are three phases to provide the outcomes of the statistics. First, the data collected are analyzed through weighted arithmetic mean, mode, and standard deviation. Second before data analysis of the Correlation Pearson, the reliability is operated to reconfirm items of the questionnaire are reliable.

Finally, Statistical analysis Tools to analyze raw data for the outcomes of the relation Ship between variable analysis is used by IBM, SPSS 21 whenever it is necessary.

7.4   Reliability

The effects of test Cronbatch's Alpha are divided into two sections. First, the result test of 23 items for skills which the employment needs is 0.860. Second, the outcome test of 27 items for the course learning outcomes that the graduate needs is 0.938. Briefly,

the reliability of 0.860 and 0.938 > 0.70 . Briefly, the result of 50 items is 0.944 > 0.70, which is a good reliability (Sekaran, 2000)

8 Result of Data Analysis

The results of data analysis is found out from some variables of the frequency identified respondents , the result of employability needs' mean , program learning outcomes needs' mean , correlation (Pearson) , and the result of program mapped .

8.1 Frequency of the Respondent Identification

In the table 8.1. Shown about the respondents' percentage rate on gender, age, education, organization, work experience and management levels. The respondents' percentage of gender is 62.70% male and 37.30% female. The respondents' organizational work for 46.70% banking and services, 19.70% manufacturing and trade, 15% own business, 11.10% NGOs, and 18.90% civil servant. The management level of the respondents is a 3.90 % top management, 17.70% middle management, 17.90% low management, and 60% employees. The respondents' education level are 7.60% undergraduate, 71.50% graduate, 20.60% master, and 0.20% Ph.D. The respondents' work experience period are 73.20% under 5 years and 26.80 over 5 years.

8.2 Result of Employability Skill Needs

The employability skills are the skills which include both the soft skills and hard skills that the employers needs a lot to achieve the organizational goals. The resulting survey from the employers and employees of the both skills shown as the following:

8.2.1 Weight Arithmetic Mean of the employability Skills Needs

The inputs shown that the mean (ganged from need to strongly needs scales . The mode 4.00 to 4.50 , the most respondents choose need scale , and the standard deviation is less than one.

Table 4. Show about the results of Employability Needs				
Employment Needs	n	SD	Mode	(1-5)
Communication	407	.597	4.50	4.30
Computer Technology	407	.837	4.00	4.02
Critical Thinking & Leadership	407	.589	4.00	4.04
Team work skill	407	.598	4.00	4.34
Cross-culture and Business Ethics	407	.664	4.00	3.83
Research and Thesis Writing	407	.584	4.00	4.07
Entrepreneurship Skill	407	.795	4.57	4.66

8.2.2 Weight Arithmetic Mean of the Program Learning Outcomes Needs

The results of program result's mean (3.77 to 4.14) at need level . The mode result for 4.00, most of respondents choose need scale. The standard deviation is less than one.

Table 5. Show about the result of Graduate Attribution Needs				
Graduate Attribution	n	SD	Mode	(1-5)
Communication	407	.592	4.00	4.07
Computer Technology	407	.681	4.00	3.95
Critical Thinking & Leadership	407	.612	4.00	4.00
Cross-culture and Business Ethics	407	.671	4.00	3.93
Research and Thesis Writing	407	.659	4.00	3.93
Entrepreneurship Skill	407	.700	4.00	3.99
Accounting	407	.830	4.00	3.77
Management	407	.691	4.00	3.96
Marketing	407	.723	4.00	4.14

8.3 The Result of the Correlation between the Employability Skills and the Program Learning Outcomes

Skill Competencies	Graduate Attribute	rxq	p
Communication	Learning Outcomes	0.568	<0.01
Computer	Learning Outcomes	0.457	<0.01
Critical Thinking	Learning Outcomes	0.650	<0.01
Team Work	Learning Outcomes	0.372	<0.01
Value Awareness	Learning Outcomes	0.611	<0.01
Thesis Writing	Learning Outcomes	0.638	<0.01
Entrepreneurship	Learning Outcomes	0.513	<0.01

Standing on the data analysis show that there were positive and significant relationship between skill competencies at the employment and the curriculum learning outcomes for the graduate attributes. First dimension, there is a positive and significant relationship between Communication competencies and its learning outcomes ($r=0.568$, $p<0.01$). Second, the computer competencies are also a positive significant relationship with its learning outcomes ($r=0.457$, $p<0.01$). The third dimension, the critical thinking and its learning outcomes are also significant positive correlation ($r=0.650$, $p<0.01$). The next dimension, the team work competencies is a positively significant related ($r=0.372$, $p<0.01$). With its learning outcomes dimension, the value awareness competencies are also significantly positive correlated ($r=0.611$, $p<0.01$) with its learning outcomes. Another dimension, the thesis writing competencies and its learning outcomes are also a significant positive correlation ($r=0.638$, $p<0.01$).

The last dimension, the entrepreneurship competencies is also significantly positive correlated (r=0The last dimension, the entrepreneurship competencies is also significantly positive correlated ($r=0.513$, $p<0.01$) with its learning outcomes..513, $p<0.01$) with its learning outcomes.

8.4   The Result of the curriculum Mapped

Based result of correlation and multiple regression, the employers and employees. Based result of correlation and multiple regression, the employability skill needed are positively correlated. Based result of correlation and multiple regression, the employers and employee skill needed are positively correlated. Based result of correlation and multiple regression, the employers and employee skill needed are positively correlated with the curriculum learning outcomes. .Therefore, some specific courses are proposed through the such curriculum learning outcomes from the seven skills. The targets for respondents in matching between the curriculum learning outcomes and the courses proposed is chosen from the Curriculum development committee, including dean, vice dean, head of academic department, head of academic office, and senior lecturers. The result shown that:

Learning Outcomes (Competencies)	Intro. to Business	Statistics	Communication	English Term	Computer Literacy	Critical Thinking	Research Writing	Business Ethics	Entrepreneurship	Inter. Business	Management	Accounting	Finance	Marketing	Economics
Table 6. Show the tools for matching between program learning outcomes and courses proposed															
Communication	**B:** Basic Course , **C :** Core Course, **S:** Special Course														
Apply appropriate skills for preparation and performance for effective written and oral communication.															
Assess effective presentation techniques and skills.															
Acquire practical note-taking and listening skills for Effective written communication.															
Computer	**B:** Basic Course , **C:** Core Course, **S:** Special Course														
Apply computer literacy in preparation of reports and presentations.															
Demonstrate ability to use software application to solve business problems.															
Conduct search queries through the use of the Internet.															
Critical Thinking	**B:** Basic Course , **C:** Core Course, **S:** Special Course														
Identify business problems and apply innovative solutions															

Table 6. Show the tools for matching between program learning outcomes and courses proposed															
Learning Outcomes (Competencies)	Intro. to Business	Statistics	Communication	English Term	Computer Literacy	Critical Thinking	Research Writing	Business Ethics	Entrepreneurship	Inter. Business	Management	Accounting	Finance	Marketing	Economics
To solve a problem in an organization by identifying and applying leadership approach.															
To translate the concepts into current business environments.															
Analyze complex problems by identifying and evaluating the components of the problem.															
Writing Competencies	**B:** Basic Course , **C:** Core Course, **S:** Special Course														
Critically evaluate a wide range of academic literature, research philosophies, methodologies and data collection methods.															

*** Each learning outcomes could be marked more than one course ; B , C , or S

Program Learning Outcomes	Intro. to business	Statistics	Communication	English Term.	Computer Literacy	Critical Thinking	Thesis Writing	Business Ethics	Entrepreneurship	Inter. Business	Management	Accounting	Finance	Marketing	Economics
Thesis Writing Competencies	**B:** Basic Course , **C:** Core Course, **S:** Special Course														
Analyze a range of primary and secondary data and report the findings by organizing appropriate documentary evidence in a logical structure reference, and citation styles.															
Organize ideas to support my objectives by using appropriate sentence structure, reference, and citation styles.															
Finance Competencies	**B:** Basic Course , **C:** Core Course, **S:** Special Course														
Integrate knowledge of economics, accounting, and quantitative analysis in the process of making financial decisions.															
Access and interpret financial market data using both internet and print sources.															
Apply basic computational techniques and/or spread sheet software to solve financial problems.															
Computer turn and risk measures for basic financial assets (stocks and bonds).															
Analyze corporate financial statements to pinpoint strengths and weaknesses.															

Program Learning Outcomes	Intro. to business	Statistics	Communication	English Term.	Computer Literacy	Critical Thinking	Thesis Writing	Business Ethics	Entrepreneurship	Inter. Business	Management	Accounting	Finance	Marketing	Economics
Thesis Writing Competencies	**B:** Basic Course , **C :** Core Course, **S:** Special Course														
Analyze a range of primary and secondary data and report the findings by organizing appropriate documentary evidence in a logical structure reference, and citation styles.															
Organize ideas to support my objectives by using appropriate sentence structure, reference, and citation styles.															
Finance Competencies	**B:** Basic Course , **C :** Core Course, **S:** Special Course														
Integrate knowledge of economics, accounting, and quantitative analysis in the process of making financial decisions.															
Access and interpret financial market data using both internet and print sources.															
Apply basic computational techniques and/or spread sheet software to solve financial problems.															
Computer turn and risk measures for basic financial assets (stocks and bonds).															
Analyze corporate financial statements to pinpoint strengths and weaknesses.															

Program Learning Outcomes	Intro. to business	Statistics	Communication	English Term.	Computer Literacy	Critical Thinking	Thesis Writing	Business Ethics	Entrepreneurship	Inter. Business	Management	Accounting	Finance	Marketing	Economics
Identify the impact of investment, financing and dividend policy decisions on the value of an enterprise.															
Use financial tools for life decisions about items such as housing, credit, retirements, and investments.															

*** **Each learning outcomes could be marked more than one course; B , C , or S**

Program Outcomes	Intro. to business	Statistics	Communication	English Term.	Computer Literacy	Critical Thinking	Thesis Writing	Business Ethics	Entrepreneurship	Inter. Business	Management	Accounting	Finance	Marketing	Economics
Value Awareness	**B:** Basic Course , **C:** Core Course, **S:** Special Course														
Interpret the primary ethical theories and identify the decision making in ethics.															
Analysis theoretical frameworks that apply to corporate social responsibility.															
Translate ethical concepts into responsible behavior in a business environment.															
Entrepreneurship	**B:** Basic Course , **C:** Core Course, **S:** Special Course														
Demonstrate common and essential attributes of entrepreneurs and the various motives for creating a new business venture.															

Program Outcomes	Intro. to business	Statistics	Communication	English Term.	Computer Literacy	Critical Thinking	Thesis Writing	Business Ethics	Entrepreneurship	Inter. Business	Management	Accounting	Finance	Marketing	Economics
Analysis in creating and innovating in the development of an organization.															
Compare and Integrate general and international business skills for effective problem-solving.															
Analyze and evaluate micro finance, macro finance in local and international economic for business decision making.															

*** Each learning outcomes could be marked more than one course; B , C , or S

8.4.1   Result of the courses proposed

The targets for respondents in matching between the curriculum learning outcomes and the courses proposed is chosen from the Curriculum development committee, including deans, vice dean, head of the academic department, head of academic office, and senior lecturers. The result shown that:

Table 7. Show about the results of types of courses according to program learning outcomes							
Courses	B	C	S	Courses	B	C	S
Intro. to Business	35	8	1	Entrepreneurship	30	13	13
Statistics	21	32	10	Inter. Business	25	16	34
Communication	18	19	12	Management	29	21	26
English	24	19	3	Accounting	8	17	29
Computer	12	21	4	Finance	12	16	12
Business Law	17	8	9	Marketing	33	13	19
Research Writing	11	42	22	Entrepreneurship	30	13	13

The result of mapping curriculum will be submitted to the committee of the curriculum development at the National University of Management to orient the courses in the right of the interpretation, basic course, core courses, and specialized courses.

9 Limitation

- Time constraint for NUM research series,
- The research is administered only the employment students from the private and public sectors from Phnom Penh and some provinces around Phnom Penh.
- The present study made shows the model of how to develop and construct the program mapped at the National University of Management's faculties,

10 Conclusion

Standing on the result of data analysis, the employability skills and program learning outcomes are positively correlated each other. The final result of the survey on types of courses proposed (Specialized courses, Core Courses, and Basic courses) discuss to make the final decision in curriculum constructed. The result of the present study, review the National University of Management as well as other higher education institutions to rethink about the basic of expected learning outcomes performance upon on the right curriculum formulation for the right graduate attribution. Therefore, the National University of Management can solve the issue of mismatch of the graduate employment and increase more jobs hunted for them.

11 Recommendation

The contexts relevant the academic quality performance are a good curriculum, academic staff, infrastructure and facilities, and internship. Here is the present study, which is drawn from the conclusion, including:

- NUM should implement update curriculum by following the curriculum policies in 5 yearly.

- The updated curriculum should find the result of data collected from the specific labor market .The implication of the update curriculum should be performed into a good course syllabus design for teaching and training.

- To perform the good curriculum, the National University of Management should equip more facilities; including Computer lab, laboratory, increased more internship with partners.

- Moreover, reinforce the internal disciplines regulation to interfere any process part which lacks leadership.

- Define more specific each employability skills in the curriculum.

12 Future Research

The National University of Management faculties implement own crriculum revised through the program mapped construction to reduce the graduate mismatches in labor market. Even though, the mismatches are one part of external factor, but the HEIs' curriculum still plays the vital roles in ensuring the quality of student learning outcomes. Therefore, in the future research; the other programs will continuously research for the curriculum development to match the employable skills at labor market.

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AGGREGATE IMPORTS AND EXPENDITURE COMPONENTS IN CAMBODIA: ARDL BOUNDS TESTING APPROACH TO COINTEGRATION

Chhun Rady [16] , Soun Hong [17], and Moeung La [18]

Abstract

This research examines the long run and short run relationships between Cambodia aggregate imports and expenditure components. Time series data for the period 1988-2013 are employed and an autoregressive distributed lag modeling process is used to capture the effects of exports, economic growth, government consumptions, and private consumptions on imports. In term of the value of F-statistic indicates that import demand and its determinants are cointegrated in the long run. The major findings are as follows. Firstly, private consumptions and exports positively affect aggregate imports both in the short-run and long-run. Secondly, economic growth and government consumptions, however, negatively affect aggregate imports both in the short-run and long-run. The private consumption is the most significant determinant of aggregate imports in Cambodia.

Keywords: *Aggregate Imports, Expenditure Components, and Bounds Testing Approach*

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1 Introduction

The contribution of trading across borders to the magnification process of economies has been of interest to many economists. Imports are a key part of trading between a country to another countries and the import of capital goods in particular is vital to stimulating economic magnification, especially in countries characterized by inhibited productive capacity. Every country wants to achieve rapid pace of economic development through getting the maximum benefits from international trade and use of modern techniques in the production process. Growth of Cambodian imports is much higher than growth in Cambodian exports, reaching approximately 7.0 billion US dollars in 2011. The imports showed the steady growth from 2006 to 2008, dropped in 2009 and recovered in 2010 and 2011. Main imported products in 2011 were "garment sector" and "petroleum" by occupying the share of 22.6% and 30.2% respectively. On the import side, petroleum and inputs into the garment industry accounted for around 25% of total in 2007. This means that, despite garments comprising a large share of total exports, net exports are actually far lower (almost 50% lower). Most material used in the industry is imported. Disaggregated estimates of import elasticities are important for quantifying the influence of the various determinants of import demand (Sarmad , 1989) and the investigation of import demand function has important implications for macroeconomic policy issues (Tang, 2003). There are many research studies which attempt to examine the aggregate demand for imports in both developed and developing countries, with the consumptions, gross domestic product, and exports being the most consequential empirical estimates utilized in international economics. Thus, the present paper's contribution resides in an effort to better understand the determinants of imports and to examine the disaggregated marginal propensities of expenditure, in an attempt to understand how changes in these macro-components have impacts on imports in Cambodia by using annual data for the period 1988-2013. The data were taken from sundry issues of World Bank.

2 Background

The necessary of foreign sector has risen with the globalization of the world in recent years. The countries are having higher degree of involvement in the global economy through trade and investment improved their economies significantly and reduced the level of poverty.

The Cambodia's imports of goods and services have also played a very important role in the development of its economy. Cambodia's imports of goods and services as percentage of GDP have an upward trend since 1993-2013 as shown in the Figure 1.
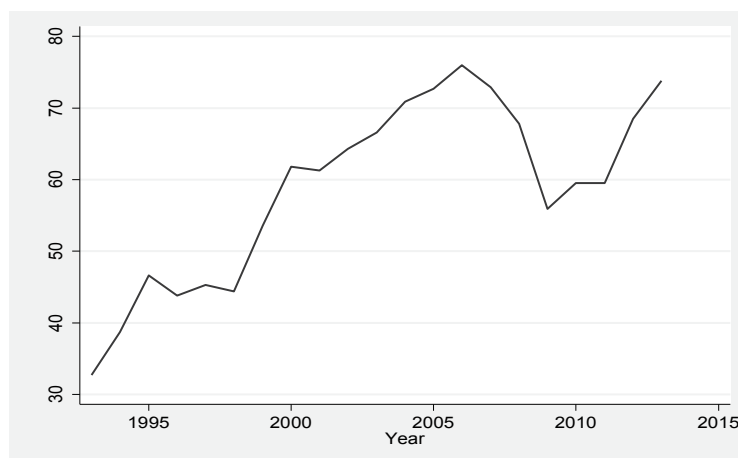
Figure 1: Imports of goods and services as percentage of GDP

Source: World Bank

Like other developing countries, Cambodia has tried to achieve the benefits from growth of world economy. Cambodia has experienced an average growth of almost 10.5 percent in exports and 13.8 percent in import in 2013. This rise in exports was mainly due to the rapid improvement in the trading environment at international level. The imports showed the steady growth from 2006 to 2008, dropped in 2009 and recovered in 2010 and 2011. Main imported products in 2011 were "garment sector" and "petroleum" by occupying the share of 22.6% and 30.2% respectively. The rise in domestic demand due to strong economic growth increased the level of investment which ultimately increased the country's import demand. Real economic growth is estimated to reach 7.4 percent in 2013, driven mainly by the garment and tourism sectors.

3 Literature Review

It is necessary for policy makers to know that how imports react to changing economic conditions for the effective implementation of trade policies. It is generally believed that imports react more rapidly than exports to trade liberalization. For that reason, it is needed to predict imports demand more correctly to achieve the maximum benefits from the growing world economy. Many different researchers tried to estimate the import demand function for different countries for policy purposes. Abbott and Seddighi

(1996) used the cointegration approach and the error correction models to estimate an import demand model for the UK. From their results consumption expenditure had the largest impact on import demand (1.3) followed by investment expenditure (0.3) and export expenditure (0.1). The relative price variable (the ratio of import price to domestic price) had a coefficient of 20.1.

Mohammad and Tang (2000) examined. The long run relationship between aggregate imports and the components of final demand expenditure and relative prices by using Johansen multivariate cointegration analysis with annual dada for the period 1970 and 1988. The cointegration analysis is found the major determinants of aggregate imports in the long run to be consumption expenditure, investment expenditure, exports and relative prices. The partial elasticities of import demand with respect to consumption expenditure and exports are 0.73 and 0.385 respectively. The elasticities of import demand with respect to the three components of final demand expenditure are not similar. In the short run analysis of import demand behavior using error correction modeling, it is found that 63.7 per cent of the disequilibrium is corrected within a single year (the lagged error correction term is significant at the 1 per cent level).

Dutta and Ahmed (1999) utilized Engle-Granger's (1987) and Johansen's multivariate approaches to estimate the aggregate import demand function for Bangladesh using quarterly data from 1974 to 1994. In this study, Bangladesh's aggregate import demand and its determinants, real import prices, real gross domestic product (GDP) and real foreign exchange reserves, were cointegrated. The estimated long-run elasticities of the explanatory variables based on Engle-Granger's (1987) approach were 1.63 (for real GDP).

Min *et al.* (2002) estimated South Korea's import demand using the Johansen and Juselius approach over the 1963-1998 period. They found that evidence of long run elastic (1.04) impacts of final consumption expenditure on import demand and evidence of inelastic (0.49) impacts of export expenditure on import demand. Ho (2004) has estimated the import demand function of Macao by testing both aggregated and disaggregated import demand models with the components of aggregate expenditure using quarterly data over the 1970 to 1986 period. Using JJ-Maximum likelihood cointegration and error correction techniques, Ho (2004) found significant partial elasticities of import demand with respect to exports (1.4810) with its expected signs implied by economic theory in the disaggregated model. A study by Bahmani-Oskooee and Niroomand (1998) using Johansen (1988) found that there existed at least one cointegrating vector among the variables of import demand function (volume of imports, relative prices and domestic income). The estimated long run elasticities of income and relative prices were 1.35 and - 1.01, respectively. The relatively high-income elasticity suggests that import demand is strongly driven by economic growth.

Dash (2005) studied on the aggregate import demand function for India used yearly time series data and applied the Johansen Juselius multivariate co-integration technique during 1975 to 2003. The study used co-integration and error correction model (ECM) to integrate the dynamics of the short run (changes) with long run (levels) adjustment process. The used variables were gross domestic product, unit value of import prices, prices of domestically produced goods and foreign exchange reserves. Their study suggested that import demand in India is largely explained by price of domestically produced goods, GDP, lag of import and foreign exchange reserves.

A study of Narayan and Narayan (2005) by applying the bounds testing approach to cointegration to estimate the long-run disaggregated import demand model for Fiji using relative prices and the components of final expenditure over the period 1970 to 2000. Their results indicated a long-run cointegration relationship among the variables when import demand is the dependent variable; and import demand to be inelastic and statistically significant at the 1 per cent level with respect to all the explanatory variables in both the long-run and the short-run. Their long-run elasticities were 0.69 for both export expenditure and total consumption expenditure, - 0.38 for relative prices and 0.17 for investment expenditure.

Alias and Cheong (2000) examine the long-run relationship between Malaysian aggregate imports and the components of final demand expenditure (namely, public and private consumption expenditure, investment expenditure and exports) and relative prices by applying the JJ multivariate cointegration procedure with using annual data for the period 1970 and 1998. Alias and Cheong (2000) found that the quantity of Malaysian import demand is cointegrated with its determinants, while both final consumption expenditure and investment expenditure appear to be the dominant determinants in the long run.

2 Data Sources And Methodology

Data Sources

The underlying study comprises of the aggregate import demand and expenditure components in Cambodia. In this study, the annual time series data for the period 1988 to 2013 were utilized. The data were taken from sundry issues of World Bank.

Methodology

The designation of the regression models for the variables: aggregate imports, exports, government consumption, and private consumption are given below:

IMP = f(EXP, GDP, GC, PC) (Model 1)

Another functional form of the above models was experimented; however, only the best possible ones are presented below:

$LnIMP_t = \alpha_0 + \alpha_1 LnEXP_t + \alpha_2 LnGDP_t + \alpha_3 LnGC_t + \alpha_4 LnPC_t + \varepsilon_t$ (Model 2)

Where IMP_t, EXP_t, GDP_t, GC_t, and PC_t represent aggregate imports, exports, economic growth, government consumptions, and private consumptions. Ln represents natural logarithmic form of the series. Parameters α_1, α_2, α_3, and α_4 are the long-run elasticities of IMP with respect to EXP, GDP, GC, and PC respectively. Engle and Granger (1987) test, maximum likelihood-based Johansen (1988, 1991) and Johansen-Juselius (1990) tests are the most widely used methods to investigate cointegration (long-run equilibrium relationship) among variables. These methods involve a pre-testing step for unit roots in order to determine the order of integration of the variables in the model. In particular, these methods require all variables under study to be integrated to the same order of one, that is I(1). In practice, however, not all variables have a unit root. Some variables are stationary in level, I(0), while others might have one unit root I(0) or one unit roots I(1), it means that variables are stationary in zero or first differences. If the orders of integration of the variable under study are different, it will cast doubt on the accuracy and validity of the estimation results obtained from the above cointegration testing procedures.

If the time series is non-stationary, one can include lagged dependent and independent variables using a sufficiently complex dynamic specification (Engle and Granger, 1987) such as an ARDL model to ensure the residual stationary. Pesaran et al (1996) and Pesaran and Shin (1999) developed the Autoregressive distributed lag (ARDL) approach. Whereas Pesaran et al (2001) developed it further. ARDL approach to cointegration has some merits over and above the other cointegration technique. The ARDL bounds testing approach to cointegration can be applied irrespective of whether the regressors are of I(0) or I(1). However, it requires that the dependent variable is of I(1) in levels and none of the explanatory variables is I(2) or higher. ARDL approach to the co-integration is useful technique even when the sample size is small (Ghatak & Siddiki 2001).

The error-correction version of ARDL model of model 1; which follows Pesaran and Pesaran (1997), Pesaran and Shin (1999) and Pesaran and Smith (2001); can be written as follows:

$$\Delta(LnIMP) = a + \sum_{i=1}^{n} b_i\,\Delta(LnIMP)_{t-i} + \sum_{i=0}^{n} c_i\,\Delta(LnEXP)_{t-i} +$$

$$\sum_{i=0}^{n} d_i\,\Delta(LnGDP)_{t-i} + \sum_{i=0}^{n} e_i\,\Delta(LnGC)_{t-i}$$

$$+ \sum_{i=0}^{n} f_i\,\Delta(LnPC)_{t-i} + \delta_1(LnIMP)_{t-1} +$$

$$\delta_2(LnEXP)_{t-1} + \delta_3(LnGDP)_{t-1} + \delta_4(LnGC)_{t-1} + \delta_5(LnPC)_{t-1} + \varepsilon_t$$

(Model 3)

Where Δ is the first difference operator, n is optimal lag length, b_i, c_i, d_i, e_i, and f_i represent short-run dynamics of the model and δ_1, δ_2, δ_3, δ_4, and δ_5 are long-run elasticities. Before running the ARDL model, we tested the level of integration of all variables because if any variable is I(2) or above, ARDL approach is not applicable. For this we use Augmented Dickey-Fuller test (ADF). In order to find the long-run relationship as given in equation (2), we conducted bounds test of equation (3) using F-statistic with two bounds, i.e. lower bound and upper bound. There are two steps in testing the cointegration relationship between Ln(IMP), Ln(EXP), Ln(GDP), Ln(GC), and Ln(IMP). First, the model above is estimated by OLS technique. Second, the null hypothesis of no-cointegration H_0: $\delta_1 = \delta_2 = \delta_3 = \delta_4 = \delta_5 = 0$ is tested against the alternative of H_1: $\delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq \delta_5 \neq 0$ by the means of F-test. Two sets of critical value bounds for the F-values are generated by Pesaran *et al.* (2001). If the value of F statistic is greater than the upper bound, then the null hypothesis is rejected and if it is less than lower bound, then null hypothesis is accepted and if it falls between the lower and upper bounds, the test is inconclusive. After testing cointegration, we use Schwarz Bayesian Criterion (SBC) to select the optimal lag length of variables. An error correction version of equation (4) is given as below:

$$\Delta(LnIMP)t = a + \sum_{i=1}^{n} b_i\,\Delta(LnIMP)_{t-i} + \sum_{i=0}^{n} c_i\,\Delta(LnEXP)_{t-i} +$$

$$\sum_{i=0}^{n} d_i\,\Delta(LnGDP)_{t-i} + \sum_{i=0}^{n} e_i\,\Delta(LnGC)_{t-i} + \sum_{i=0}^{n} f_i\,\Delta(LnPC)_{t-i} + \lambda EC_{t-i} + \varepsilon_t \quad (4)$$

Where n represents optimal lag length, **λ** is the speed of adjustment parameter and EC represents the error correction term derived from long-run relationship as given in model (3).

Empirical Results And Analysis Unit Root Results

Before we proceed with the ARDL bounds test, we test for the stationarity status of all variables to determine their order of integration. This is to ensure that the variables are not I(2) stationary so as to avoid spurious results. According to Ouattara (2004) in the presence of I(2) variables, the computed F-statistics provided by Pesaran et al. (2001) are not valid because the bounds test is based on the assumption that the variables are I(0) or I(1). Therefore, the implementation of unit root tests in the ARDL procedure might still be necessary in order to ensure that none of the variables is integrated of order 2 or beyond.

We applied ADF test to check the unit root of all variables. The test regression included both a constant and trend for the log-levels and a constant with no trend for the first differences of the variables. The results suggest that all variables are having mix order of integration. A summary of the results of ADF tests is given in Table 1.

Table 1 Augmented Dickey-Fuller Test (ADF)		
	Augmented Dickey-Fuller Test (ADF	
Variable	Intercept	Intercept and Trend
LnIMP	-0.100992	-0.413707
	(0.035217)	(0.080550)
ΔLnIMP	-0.759103**	-1.032453**
	(0.215191)	(0.244716)
LnEXP	-0.099723**	-0.230612
	(0.028261)	(0.086145)
ΔLnEXP	-0.951458***	-1.195562***
	(0.205353)	(0.213070)
LnGDP	-0.142167**	-0.582551**
	(0.038375)	(0.061731)
ΔLnGDP	-0.752985	-0.799858
	(0.325419)	(0.364807)
Lungs	-0.061148	-0.436510
	(0.068678)	(0.175259)
ΔLungs	-1.291121***	-1.291228***
	(0.204551)	(0.209386)
LINPAC	-0.006613	-0.473278
	(0.037511)	(0.221005)
ΔLINPAC	-1.220513**	-1.470870**
	(0.340517)	(0.339122)

Rejection of hypothesis of a unit root ***at 1%, ** at 5%, * at 10%

Results show that each of the variables is integrated of different orders. The results of the unit root tests enable us to apply any cointegration technique. The results of ADF tests show that all variables are integrated of order one or I(1) except GDP is integrated of order zero, or I(0). Because table 1 indicates that the variables are integrated I(0) and I(1), ARDL approach is used for the cointegration of the model.

Cointegration

Results of long-run relationship are sensitive to lag-length selected in the model (Bahmani-Oskooee and Bohal, 2000). Table 2 presents the computed F-statistic to select optimal lag-length in the model. According to Pesaran et al. (2001), with lag of order 1 the lower and upper bound values at 90 percent significance level are 2.45 and 3.52 respectively. Table 2 shows that the computed value of F-statistic (16.12705) is greater than the upper bound value of F-statistic which helps us to reject the null hypothesis of no long run relationship. Therefore, we conclude that there is long-run relationship among the variables.

Table 2 Cointegration result of bounds test for lnIGS		
Variables: lnIGS, lnEGS, lnGDP, lnGC, and lnPC		
Lag	F-statistics	Critical value
1 2	16.12705*** 2.597203	10% CV [2.45, 3.52] 5% CV [2.86, 4.01] 1% CV [3.74, 5.06]

The bounds critical values were obtained from Pesaran et al. (2001); Critical values for the bounds test: Table CI(iii) Case III: Unrestricted intercept and no trend (k = 4) ;

***Significant at 1% level.

To assess Model 1, concerning the effect of expenditure components on aggregate imports, we estimated Model 3 by using ARDL approach. We used Schwarz Bayesian Criterion (SBC) to select the optimal lag length of variables included in the ARDL model. The results of dynamic ARDL (1, 0, 1, 0, 1) model are reported in Table 3. Furthermore, based on the goodness of fit of the ARDL model, it is clear from Table 3 that the model is well fitted as it passes all the diagnostic tests. The diagnostic tests revealed no evidence of misspecification. Also no evidence of autocorrelation was found.

TABLE 3	
Autoregressive Distributed Lag Estimates	
ARDL(1,0,1,0,1) selected based on Schwarz Bayesian Criterion	
(Dependent Variable = lnIGS)	
Regressor	**Coefficient and Standard Error**
LNIMP(-1)	0.33178*** (0.071589)
LNEXP	0.49018*** (0.066707)
LNGDP	-0.49645*** (0.089369)
LNGDP(-1)	0.20729** (0.063812)
LNGC	-0.11174** (0.055345)
LNPC	1.2207*** (0.16881)
LNPC(-1)	-0.65215*** (0.15587)
***Significant at 1% level. ** Significant at 5% level. R^2 = 0.99869, F-stat. = 2290.4[0.000], Serial Correlation = 0.66902[0.413] Ramsey's Reset Test = 2.13792[0.183] Normality = 0.73240[0.693] Heteroscedasticity = 0.89443[0.734]	

Stability of the model is tested by CUSUM and CUSUM Square tests. Since the results of CUSUM and CUSUM Square tests proposed by Brown et al. (1975) stay within a 5% level (portrayed by two straight lines) show the significant and stable relation among the variables under consideration (Figure 1 and 2).

Plot of Cumulative Sum of Recursive Residuals

The straight lines represent critical bounds at 5% significance level

FIGURE 1

Plot of Cumulative Sum of Squares
of Recursive Residuals

The straight lines represent critical bounds at 5% significance level
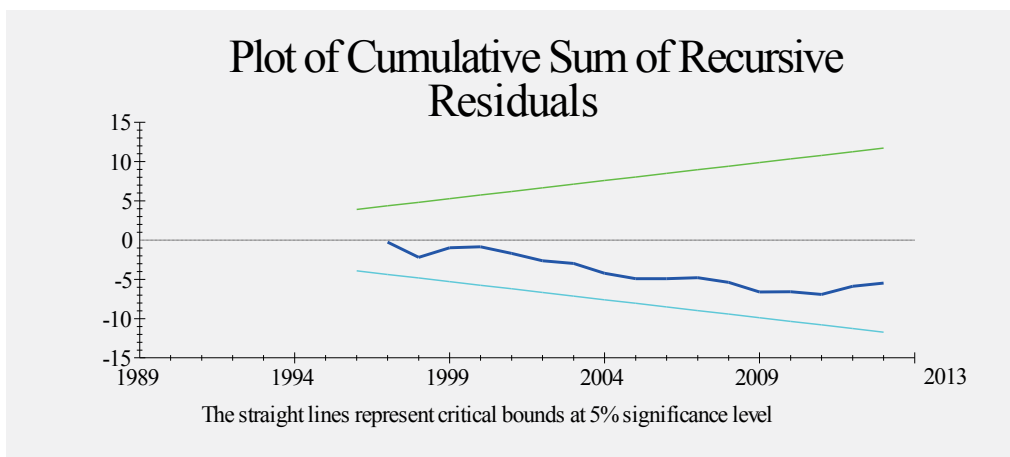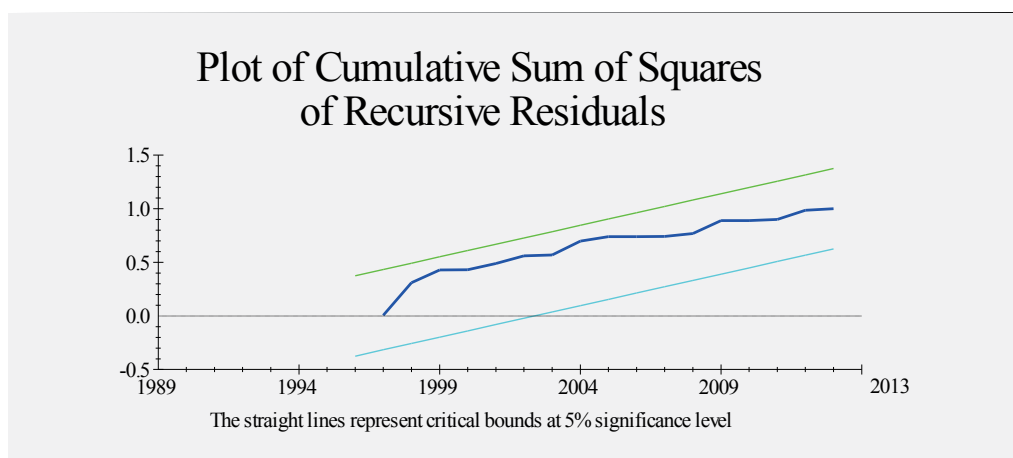
FIGURE 2

After establishing stability and LR relationship, the results of LR coefficients using ARDL approach are presented in Table 4 which presents the results of long-run relationship of the selected ARDL model (1, 0, 1, 0, 1) using SBC.

TABLE 4	
Estimated Long Run Coefficients using the ARDL Approach ARDL(1,0,1,0,1) selected based on Schwarz Bayesian Criterion (Dependent Variable = lnIMP)	
Regressor	Coefficient and Standard Error
LNEXP	0.73355*** (0.037127)
LNGDP	-0.43273** (0.11324)
LNGC	-0.16723** (0.079165)
LNPC	0.85077*** (0.10168)
***Significant at 1% level. ** Significant at 5% level.	

The coefficients of exports and private consumptions are positive and statistically significant, these indicate that these two factors enhance aggregate imports in long-run. Exports have positive and highly significant effect on aggregate imports (about 73%) at 1% significance level in LR. GDP has negatively and highly significant effect on aggregate imports (about 43%) at 5% significance level in LR. Private consumptions have positive and highly significant effect on aggregate imports (about 85%) at 1% significance level in LR. Present study supports the findings of Mohammad and Tang (2000), Dutta and Ahmed (1999), Min *et al.*(2002), Dash (2005), and other researchers. The coefficient of government consumptions is negative and significant. It means that one percent increase in the government consumptions deteriorates the aggregate imports by o.17% in long-run at 5% significant level.

The next stage of analysis is the estimation of Error Correction Model (ECM) of ARDL (1, 0, 1, 0, 1) for the variable economic growth. After examining LR relationship among variables, the short-run dynamics of these variables can be determined by Error Correction Representation of ARDL model based on Model 1. ECM specification for ARDL (1, 0, 1, 0, 1) model is reported in Table 5.

TABLE 5	
Error Correction Representation for the Selected ARDL Model **ARDL(1,0,1,0,1) selected based on Schwarz Bayesian Criterion** **(Dependent Variable = lnIMP)**	
Regressor	**Coefficient and Standard Error**
ΔLNEXP	0.49018*** (0.066707)
ΔLNGDP	-0.49645*** (0.089369)
ΔLNGC	-0.11174** (0.055345)
ΔLNPC	1.2207*** (0.16881)
ECM(-1)	-0.66822*** (0.071589)
ECM = LNIGS - 0.73355LNEGS + 0.43273LNGDP + 0 .16723LNGC - 0.85077LNPC R^2 = 0.95087, F-stat. = 87.0930[0.000] ***Significant at 1% level. ** Significant at 5% level.	

Coefficients of the variables with sign show the short-run elasticities. Results represent that in the short-run PC once again is the most significant factor (with the largest coefficient and largest t-ratio) of aggregate imports. However, the variables EXP, GDP, and PC affect the aggregate imports at one percent significance level. The 0.49 value of coefficient of LNEXP reveals that one percent increase in EXP brings about 0.49

percent addition in aggregate imports in the short-run. The 0.50 value of coefficient of LNGDP reveals that one percent increase in GDP brings about 0.50 percent decrease in aggregate imports in the short-run. The 1.22 value of coefficient of LNPC reveals that one percent increase in PC brings about 1.22 percent addition in aggregate imports in the short-run. Similarly, -0.11 value of the coefficient of LNGC reflects that one percent increase in GC pulls aggregate imports down by almost 0.11 percent. The coefficient of error correction term (-0.66822) is significant at one percent level. Highly significant negative sign of the error correction term reinforces the existence of long-run relationship among the variables. However, the speed of adjustment from previous year's disequilibrium in aggregate imports to current year's equilibrium is only 66.82 percent.

CONCLUSION

This study aimed to investigate the determinants of aggregate imports in Cambodia for the period 1988 to 2013. We considered four variables (exports, economic growth, government consumptions, and private consumptions) as the determinants of aggregate imports. Due to certain advantages discussed in methodology section, we used ARDL approach to cointegration and an error correction representation of the ARDL model. According to results of this study, the PC is the most significant determinant of aggregate imports in Cambodia both in the short-run and long-run. Private consumptions and exports also positively affect aggregate imports significantly both in the short-run and long-run. Economic growth and government consumptions, however, negatively affect aggregate imports both in the short-run and long-run. The speed of adjustment process from previous year's disequilibrium in aggregate imports to current year's equilibrium is also very fast (66.82 percent).

These results could have profound implications for the formulation and implementation of trade policy in the Cambodia to achieve improved trade performance. Policies that are designed to stimulate investment, such as exports, GDP, and private consumptions including trade liberalization policy, appear to be most effective in impacting positively on import demand in both the short run and long run in the Cambodia.

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CAMBODIAN PURCHASE INTENTION TOWARD LOCAL FOOD PRODUCTS

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Abstract

This article presents the results of a survey of Cambodian consumers' perception and attitude towards local food products. The paper analyses the factors that might influence Cambodian purchase intention toward domestic foods sector. Using a sample of 881 respondents, and the econometric results found that five dimensions (perceived quality of food products, brand name, emotional value, patriotism, and personal factor) have a significant, positive impact on the purchase intention of Cambodian consumers, with perceived quality dimension (like carefully produced and fine workmanship, a higher or similar quality than products available from other countries, enough degree of technological, a very clever use of color, style and design, quite reliable and the desired length of time, packaged more attractively, more environmentally responsible, important for the health, safer, more convenient to obtain, labeled as local) being the most important predictor of Cambodian purchase intention toward domestic foods.

Key words: *Domestic foods, local market, purchase intention, Cambodian*

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Introduction

In this new era, the researchers of international marketing and business sector discussed commonly about globalization (Mohammad Shah,n2012), universal marketplace in the globalization perceived as the world shrinking (Snakar, 2006), and measuring consumers' attitudes toward both local and foreign products were regarded as important and wonderful topic in globalization (Netemeyer et al., 1991) and making alive the greater challenges between domestic and foreign products (Nguyen,e et al., 2008). Currently, the effects of the products' country of origin on consumer's perception of products was considered as interested sector (Oyeniyi, 2009) and a vital driver of consumers' assessment of products originating from different nations focus on country-of-origin image (COI) (Roth, 2006). The country-of-origin image is related to economic development, technology, world status of the country, as well as to the availability and familiarity of products and advertising. Therefore, it has been discovered from previous studies that consumers prefer products from advanced countries rather than those from less developed countries. In preferring these products, consumers may also be willing to pay a higher price compared to products from developing countries (Shenge, 2010).

However, the share of buying local products contributing to higher tax revenue, more employment and more income among local stockholders are also growing, which is confirmed by Yoo and Donthu, (2005), and also help to resist outflow of labor force to neighboring countries and building reputation of each nation of origin. Recently, a great change from domestic brands to foreign brands base on the show of consumers' similar needs and preferences (Snakar, 2006).

Moreover, the food market play a significantly role in contributing to social and economic development and are also great interesting from local and foreign investors, and more and more complex and competition among domestic and imported food products are occurring those food market. Hirekenchanagoudar, (2008) said that class of consumers is the requirement for everyone in the world. The last breath of someone cannot be absent of consumer hood. As Gupta (2009) confirmed that the growing of competition and complexity of food market exists in the rest of the world. And rising pace of globalization, entry of large foreign and local firms in the food market, intra-regional movement of consumers, larger proportion of working female population etc. are the some significant reasons of such shift. The business practitioners and researchers have emphasized on the sector of food because of changing the above socio-economic, increasing number and varieties of food products in the country.

Problem Statement

Some local consumers like to be favors more imported than domestic foods, in which depend on quality, price, package, and brand name. Cambodia is member of World Trade Organization (WTO) and of ASEAN community that require membership of each countries obey quality standard and copy right. The compliance with international quality standards and quality control of products and foods were given shrift of Cambodian people, is now increasingly enforced and considered essential for home-product firms and enhance consumer confidence. With capitalization on their improved product quality, local companies have been able to reinvent or create Cambodia brands and thereby compete with their foreign counterparts, and then capture mind or heat of Cambodia consumers to use their local foods for leading to improve the living standard and getting more opportunities for employment for local people.

What are the major factors that affect their purchasing decisions for local foods in Cambodia?

Objectives of the study

The key objective of the study was to understand consumer perception of local brands in the Cambodia. The research explores and comprehends consumers' intention of local food products. The secondary objectives of the study are to highlight the factors that affect consumer preference for domestic foods; and to study the effects of each factors towards local brands of foods.

Related Review Literature

1 Purchase intention

Purchase intention is the preference of consumer to buy the product or service. In another words, purchase intention has another aspect that the consumer will purchase a product after evaluation. Many factors affect the consumer's intention while selecting the product and the ultimate decision depends on consumers' intention with large external factors (Keller, 2001). In referencing to Keller (2001) Rezvani et al. (2012) stated that consumers' buying decision is very complex. Usually purchasing intention is related with consumers' behavior, perception and theirs (Rezvani, Rahman, & Dehkordi, 2013). Purchase behavior is a key point for consumers during considering and evaluating of certain products. Nik-Mat, Abd-Ghani, and Al-Ekam (2015) stated that purchase intention is an effective tool use in predicting purchasing process. Once the consumers decide to purchase the certain food products, they will be driven by their intention. However,

purchase intention might be altered by the influence of price, quality perception and value perception (Anić, 2010) and (Rezvani et al., 2012). In addition, consumers will be interrupted by internal impulse and external environment during purchasing process. Their behavior will be driven by the physiological motivation that stimulates their respond which approach them to the food product to fulfill their need (Yao & Wang, 2012).

The study conducted by Majid, Muliadi, and Samad (2015) put forward to the argument that patriotism, defined as love for or devotion to one's country, is positively related to ethnocentrism. It is also positively related to intention and actual purchase behavior. Their logic was imported from earlier studies that dealt with ethnocentrism in general. Other studies like Jaafar, Lalp, and Naba (Undated) argued that cognitive and affective states influence purchase behavior. This recognition relates to the basic understanding that consumers are rational and emotional as well. This understanding extends to the cognitive–affective model of buying intentions, in which both cognitive response (perceived quality) and affective response (liking) influence willingness to buy (Nejad, Samadi, Ashraf, & Tolabi, 2015).

Another research of Purwanto (2014) proposes that perceived quality is defined on the basis of users' recognition while objective quality is defined on the basis of product or manufacturing orientation. The differences between objective quality and perceived quality lie in that objective quality has a pre-design standard to a product, and perceived quality is influenced by internal and external product attributes which is an evaluation basis for consumers (Parts & Vida, 2013). Zhu (2013) elaborates that perceived quality is a consumer judgment on the accumulative product benefits and a subjective feeling on product quality. Mesaroš, Đokić, and Penić (2013)Aaker (1991) argues that perceived quality can show the salient differentiation of a product or a service and becomes a selective brand in consumers' mind.

Yaseen, Tahira, Gulzar, and Anwar (2011) examined to determine the factors of consumers purchase intensions. The purpose was to check the effect of brand factors on the consumers purchase intensions. He also proposed to check the effect of environmental changes on the purchase intensions of the buyer, brand image (measured with brand awareness and brand preference), brand attitude (measured with attitude advertisement and brand cognition). Aertsens, Verbeke, Mondelaers, and Huylenbroeck (2009) defined personal factors as an individual's beliefs that acting or behaving in a certain way is right or wrong. Studies suggest that personal factors have a strong impact on consumer's choice of food, also influence on their attitude. In other words, consumer attitude towards an object is deemed to be influenced by consumer self-beliefs (Beriain, Sánchez, & Carr, 2009). According to the theory of reasoned action (McCarthy, Liu, & Chen, 2015), an individual's behavioral intention depends on his or her attitude toward the behavior and the subjective norms associated with the behavior.

2 Factors Influencing Consumers' Purchase Intention

In a competitive market, to effectively predict any changes in consumers' purchase intention in order to adjust the marketing strategy is one of the most basic sales challenges many businesses face. To achieve this objective, they need more accurate and comprehensive measurements of consumers' potential purchase behavior (Mirabi, Akbariyeh, & Tahmasebifard, 2015). Therefore, research on consumers' purchase intention is essential for the field of marketing. Based on the literature review, the generally accepted factors which influence purchasing intention include consumers' personal characteristics (such as age, sex, educational background, income, etc.), consumers' attitudes, cognition, motivation, normative beliefs, values, and self-efficacy. (Rybina, Reardon, & Humphrey, 2010). Younus, Rasheed, and Zia (2015) found that purchase intentions were affected by knowledge and socio-demographic variables. Axelrod's study (1968) was one of the first studies to apply a consumer attitudes analysis for predicting purchase intention. Kurajdova and Táborecka-Petrovicova (2015) pointed out that purchase intention grew out from consumers' perceived value, and the willingness to buy usually depends on the benefits obtained by their perceived value. Abdullahi Farah, Zainalabidin, and Ismail (2011), in research on consumption intention of purchasing special rice, found that product quality, practicality, and health were the primary factors influencing purchase intention, while the product price was not an important factor. A lot of research about purchase intention was conducted in different kinds of product and some are new products (Chaudary, Ahmed, Gill, & Rizwan, 2014). Although the existing studies are not comprehensive enough, the results provide a solid foundation for further study in the field of purchasing intention and consumption behavior.

2.1 Patriotism

The first independent variable should be thought through it in country of origin perspective is patriotism. Theory of this issue has been represented in literature of governmental sciences and global businesses. Rezvani et al. (2012) discussed about healthy and ethnocentric patriotism, when someone likes his/her country and has prejudice about it, it called ethnocentric patriotism; however, a healthy person has no prejudice (Hasan & Ali, 2013). Several scholars have improved that patriotism consists of encouraging feelings besides loving people of their identifiable country; in this case, national power and governance are not essential. Another description of patriotism is being ready to give up for the country. Patriotism is not correlated with negative. Patriotism and purchase intention investigating consumers' ethnocentrism and animosity is increasingly growing in the literature of consumers' behavior (Spillan & Harcar, 2013).

Scholars believe that it hurts economy, reduces employment and it is an unpatriotic action. On the other hand, customers who are not ethnocentric tend to buy foreign and imported products. Moreover, researchers have added that customers look for the same culture even in purchasing foreign products, which is called cultural similarity. Literature review has shown that ethnocentrism has an influence on customers' awareness about the value of overseas products and also purchase intention (Nik-Mat et al., 2015).

Ethnocentrism and patriotism have a straight relationship with consumers' insight about purchase intention, country of origin despite quality of products and price (Bandara & Miloslava, 2012); as a result, patriotism has a negative consequence on consumers' purchase intention and evaluation (Bandyopadhyay, 2012).

Hypothesis1: Patriotism has positively and significantly relationship with purchase intention

2.2 Emotional value

It was the benefit which one gets by experiencing something new or different (Lotfi & MortezaKouchakAmoli, 2015). The products and brands provided other benefits (such as a fun and enjoyable experience) that generate emotional values for the consumers. Consumers perceived foreign brands to be more superior in all aspects to the national brands. Several researchers recognize that cognitive and affective states influence purchase behavior (Naing & Chaipoopirutana, 2014). This recognition relates to the basic understanding that consumers are rational and emotional as well. This understanding extends to the cognitive–affective model of buying intentions, in which both cognitive response (perceived quality) and affective response (liking) influence willingness to buy. Nasermoadeli, Ling, and Maghnati (2013) model utilizes price, brand, and country-of-origin as influential factors of cognitive and affective responses. Chitra (2014) also argue that consumers not only perceive cognitive cues but also perceive emotional meanings from products originating from another country.

This study investigates the direct influences of emotional on consumers' purchase intention (buying intention) toward a local food. Food safety is an important issue nowadays, where people are more concern on the safety of the product especially those related to food product. Risk is due to a mistake or uncertainty. Uncertainty happens due to the appearance of the product. Consumers always think that purchasing a low price, simple packaging and even less-well known product are highly risky because the quality of those products are of lack of confidence and doubtful (Choi & Kim, 2013). That is the reason why consumers perceived local product as high-risk products. Most of the consumers are not so familiar with local product and they do not understand the product very well, therefore afraid of making wrong decision. Consumers usually

maximize their utility of the product they purchase by avoiding mistake (Shah, Shahzad, Ahmed, & Ahmed, 2012).

Hypothesis2: emotional value has positively and significantly relationship with purchase intention

2.3 Perceived Quality

Perceived quality is a result of consumers' subjective judgment on a product (Shaharudin, Mansor, Hassan, Omar, & Harun, 2011). Chi, Yeh, and Yang (2009) also consider perceived quality is a judgment on the consistency of product specification or an evaluation on added value of a product. Vo and Nguyen (2015) point out that objective quality is that consumers will use their experience and knowledge to evaluate overall product benefit, function, durability, technology and reliability when consumers purchase a product. In addition, perceived quality is a relative concept which possesses situational, comparative, and individual attributes. Perceived quality will be affected by factors such as previous experience, education level, and perceived risk and situational variables such as purchase purpose, purchase situation, time pressure, and social background from consumers (Tsiotsou, 2005). In sum, perceived quality is a consumer subjective judgment on product quality, and he or she will evaluate product quality from their previous experiences and feelings.

The perceived quality is defined as a consumer's evaluation of a brand's overall excellence based on both intrinsic cues (e.g. performance, durability) and extrinsic cues (e.g. brand name, warranty) (Bandyopadhyay, 2012). When consumers perceive a brand to be of high quality, they are more likely to purchase the brand over competing brands, pay a premium price, and choose the brand (Kemal, et al., Undated). Brand loyalty is defined as a tendency to be loyal to a particular brand such that the consumer intends to purchase the brand routinely and resists switching to other brands. Thus, brand loyalty encourages a customer to pay a premium price, develops a barrier to entry for other brands, and protects the brand against intense price competition (Arshad, 2014). Intrinsic is defined as being part of the natural of something (Espejel-Blanco & Fandos-Herrera, 2008). Intrinsic factor is related to physical product characteristics where it includes perceived quality, risk and value.

Hypothesis3: Perceived quality has positively and significantly relationship with purchase Intention

2.4   Promotion

In the present era, where the concepts of communication, competition, and customer orientation are linked together, advertising plays a central role in the maintenance and survival of organizations as a marketing element by making the products known to the public. In other words, advertising is one of the most well-known marketing tools to enter the market and an important factor in the selling of the products (Lin, 2013). Considering the foregoing points, promotion has an important impact on customers' purchase intention of the food and other products. Due to rising prices and inflation in the country at present, if these companies use the strategy "lower prices, better quality and more promotion and innovation", they can act more successfully against rival which are growing rapidly day by day. In this respect, the researchers in this study aim to examine and identify the impact of promotion on customers' purchase intention of the food products (Gracia & Magistris, 2007).

According to (Tung, 2012) here are many factors to make a profitable enterprise. However, every business needs customers and promotions to survive. Starting a career or pursuing a job depends on three essential factors for attracting customers. First, you need to know about the people who are your customers: you must identify the customers, promote your business extensively, and re-identify the customers. Second, you need to know how to attract people into your business. Finally, and above all, you need to know how to keep customers attracted such that they adhere to your products and services in the market. No business can exist without customers. Finding clients is the result of the activities of the marketer who serves as a link between the various stages of consumer buying behavior (Ye & Zhang, 2014).

Hypothesis4: Promotion has positively and significantly relationship with purchase intention

2.5   Brand Factor

Lin and Lin (2007) have concluded that brand factor have a positive and significant relationship in a food product brand study. Many researches also maintain that the higher the brand awareness is, the higher perceived quality is. (Karampour & Ahmadinejad, 2014) further suggests that the higher the brand awareness is, the higher the consumers' quality evaluation is. Besides, Dursun, et al., (2011) said that a brand with high awareness and good image can promote brand loyalty to consumers, and the higher the brand awareness is, the higher brand trust and purchase intention are to consumers. Consumers will have a higher purchase intention with a familiar brand. Likewise, if a product has higher brand awareness it will have a higher market share and a better quality evaluation

(Rana, at al., 2015). A well known brand will have a higher purchase intention than a less well known brand. Perceived quality will influence consumer purchase intention, and indicates that perceived quality will positively influence purchase intention through perceived value, Beriain, Sánchez, and Carr (2014) also asserts that the higher the perceived quality and perceived value of the private brand foods, the higher buying intention to consumers. In addition, Dursun et al. (2011) conclude that brand factor and purchase intention are positively related. Brand factor is a repurchase commitment that promises consumers will repurchase their favorable brands in the future, and they will not change their loyalty under any circumstance, (Mirabi et al., 2015) also mention that consumers must have positive feelings to a brand, and then they will produce purchase intention.

Brand equity is the added value endowed to a product as a result of past investments in the marketing of the brand. Added value of a brand is created in the mind of consumers as a result of perceived performance on various marketing dimensions (Bouhlel, at al., 2011). Further, brand equity develops from the confidence that consumers place in one brand over another (Lin & Lin, 2007). This confidence leads to value for both the firm and the customer (Choi & Kim, 2013). The advantages that a brand with higher equity enjoys are increased brand loyalty, premium pricing, and lower advertising-to-sales ratios (Ye & Zhang, 2014).

Consumers react to marketing efforts differently between a branded product and an unbranded product, which can be attributed to brand equity (Nejad et al., 2015). Besides, differences in consumer response may arise from individual characteristics because they influence cognitive and affective components, which in turn influence behavior (Lotfi & MortezaKouchakAmoli, 2015). It is likely that Iranian consumers' perceived quality and brand factor are influenced by their gender, need for uniqueness, and attitudes toward foreign products. Therefore, these individual characteristics are incorporated in this study. On the other hand, attitudes are overall evaluations and are learned over time (Anić, 2010).

Keller (2001) proposes brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary brand assets as dimensions of brand equity. Similar dimensions are suggested by other researchers; brand loyalty and brand associations are identified by Spillan and Harcar (2013); brand knowledge, composed of brand awareness and brand image, by Keller (2001). Among various suggestions, perceived quality of brand, brand loyalty, and brand associations with brand awareness are popularly accepted as common dimensions of brand equity (Spillan & Harcar, 2013). On that basis, manufacturer branded products which are higher in price are always perceived to be high quality product with lower risk and hence, they will always use price and brand to determine the quality of the product.

Purchase intention refers to a consumer tendency to purchase the brand routinely in the future and resist switching to other brands (Beriain et al., 2009). Consumers may purchase a brand when they perceive the brand offers the right product quality or features. The perception of high quality may lead consumers to recognize the differentiation and superiority of a particular brand and thus encourage them to choose that brand over competing brands (Rezvani et al., 2012). This positive relationship between quality and purchase intention should apply regardless of whether the product is a global brand or a local brand. Consumers' positive attitudes towards brands determine brand loyalty; positive attitudes, in general, lead to great loyalty (W.M.C.Bandara & Miloslava, 2012). Researchers have stated that for consumers in less developed countries, country image or attitude toward a country plays a significant role in influencing their purchase behavior (Yao & Wang, 2012). This is because consumers in less developed countries do not have enough information and experience with purchasing foreign brands (Rezvani et al., 2013). Also Brand loyalty towards local brands has been studied as well.

Hypothesis5: Brand factor has positively and significantly relationship with purchase intention

2.6   Personal factor

Cook, Kerr, and Moore (2002) defined personal norms as an individual's beliefs that acting or behaving in a certain way is right or wrong. Studies suggest that personal norms have a strong impact on consumer choice between organic and non-organic food, also influence on their attitude. In other words, consumer attitude towards an object is deemed to be influenced by consumer self-beliefs (Lee, Knight, & Kim, 2008). On the other hand, subjective norms are defined as the social pressure for an individual to engage or comply with a group behavior such as family and friends. These norms are normative beliefs and expectation that the groups or important referents have on this person (Magnusson, Arvola, Hursti, berg, & Sjoden, 2003). In relation to attitude, Quan, at al., (2014) concluded that subjective norms have a positive influence on consumer attitude towards food products. It is aligned with the study by Yeow, Chin, Yeow, and Tan (2013), who claimed an indirect effect of social norms on consumer attitude.

Hypothesis6: Personal factor has positively and significantly relationship with purchase intention

3 **Research Methodology**

a. Data Collection and Method

Cross sectional was used for this research and relevant information about consumer behavior on domestic foods is obtained by means of a survey conducted to collect the needed information for the analysis. A survey questionnaire is designed and distributed randomly to target respondents, who are Cambodian people in located inside and outside the capital city of Phnom Penh. The questionnaire includes the seven widely-used dimensions patriotism, emotional value, perceived quality of domestic foods, promotion of domestic products, brand factors, personal factor, and purchase intention. The questionnaire is classified into three major parts. The first part of the questionnaire contains respondents' perceived performance of their domestic foods. The second part captures the information related to purchase intention of national products origin. Respondents were asked to respond to each item on the widely used five-point Likert scale, ranging from 5 being very agree to 1 representing very disagree. The final part of the questionnaire is used to get the information on the socio-demographic information of the respondents. A pilot test of 50 observations was conducted in the item verification stage to assess the reliability of attributes and to ensure that the wording, format, length and sequencing of questions were appropriate.

Roscoe (1975) suggests a series of general rules in determining the acceptable sample size for research, and proposes that for any research intending to conduct a multiple regression analysis, a sample size should be 10 times as large as that of the number of variables in order to produce the best estimates possible, the collection of a reasonably large data set has to be made from the population. To this end, 1000 questionnaires were distributed to Cambodian. The rate of the responses was about 83.4%. Following cleaning process of the data, a sample of 881 respondents is considered usable for the analysis. Data collection work took approximately three months, starting April to June 2015.

b. Analytical Techniques

In this research, an exploratory data analysis was employed since the researcher's aim was to discover each dimension influence on consumer choice of domestic foods. Statistical packages, in particular the Statistical Package for the Social Sciences (SPSS 20) and/or STATA 12.1 was used for analysis after data collected and cleaned.

The statistical analysis of data includes descriptive statistics. Mean responses with standard deviation, cross tabulation, frequencies and percentages of responses in each

category were calculated and presented in tabular form, and multiple regression analysis and other necessary testing to obtain the best possible results. To avoid reporting misleading results from the estimation of the regression model, several diagnostic tests are needed. Reliability check is to be carried out in order to assess the degree to which data collection method will yield consistent findings; similar observations would be made or similar conclusions reached by other researchers. In order to test the reliability of the instrument used, the reliability coefficient Cronbach's alpha is used. It is generally agreed that Cronbach's Alpha should exceed 0.70 to be reliable (Hair et al., 2010).

Several tests were employed for this research such as multicollinearity, based on variance inflation factor (VIF), and heteroskedasticity before econometric results was presented in this paper. A number of tests for heteroskedasticity (Wooldridge, 2006): the Breusch and Pagan (1979) test for heteroskedasticity (Verbeek, 2004; Wooldridge, 2006); and the special White test for heteroskedasticity was shown in this research.

c. The Model

Cambodian choice behavior on domestic foods is a key pathway to develop country and improvement of living standard of Cambodian. In light of discussion on the review of related literature, following among others Granzin, and Olsen (1998); and (Nguyen, et al., 2008), the relationship between customer behavior on local products and purchase intention can be modeled. This model consists of a dependent variable, domestic product choice, and six explanatory variables: patriotism, emotional value, perceived quality of domestic products, promotion of domestic products, brand factors, personal factor.

$$DFPI = \beta + \beta1\ patriotism + \beta2\ emotional\ value + \beta3\ perceived\ quality + \beta4\ promotion + \beta5\ brand\ factors + \beta6\ personal\ factor + \mathcal{E}$$

Where DFPI denotes domestic food purchase intention, and $\mathcal{E}$ is error term, which is assumed to be normally distributed.

4 Findings

a. Basic Statistics

Researcher was to assess Cambodian purchase intention on domestic foods, and will present the results of survey questionnaires and commence with an analysis of the quantitative research.

In table 1 below shows that classified the collected data into married status groups, it is found the 50.5% was female. With respect to respondents' age, more than 60 % are between 20 to 30 years. The data set also reveals that nearly 34% of the respondents are students, followed by company staff (26.6%), seller (14%), and other (7%). Moreover, with respect to Cambodians' income, the majority of the respondents seem to have income $100-$200 per month (37%), followed by 200$ to 300$ (25%). Due to respondents' educational level is bachelor degree (59%), and high school (27%). With respect to the residents' location, Phnom Penh (nearly 37%), followed by Kandal (12.7%), Takeo province (12.3%), respectively,

Table 1: Characteristic of the Respondents		
Categories	Frequency	Percentage
Gender		
Male	445	50.5
Female	432	49.5
Age		
under 20 years old	116	13.2
20-30 years old	532	60.4
31-40 years old	170	19.3
41-50 years old	35	4.0
upper 50 years old	18	2.0
Occupation		
Civil servant	34	3.9
Seller	123	14.0
Company's staff	234	26.6
Student	298	33.8
Farmer	29	3.3
Oganization staff	49	5.6
Garment staff	51	5.8
House wife	39	4.4
Unemployment	10	1.1
Other..	6	.7
Education Level		
Primary	50	5.7
High school	239	27.1
Bachelor	519	58.9
Master	37	4.2
Ph.D	2	.2
Income		
Under $100	120	13.6
$100-200	327	37.1
$201-300	222	25.2

Table 1: Characteristic of the Respondents		
Categories	**Frequency**	**Percentage**
$301-400	95	10.8
$401-500	36	4.1
$501-600	14	1.6
$601-700	11	1.2
$701-800	2	.2
$801-900	2	.2
$901-1000	1	.1
Over $1000	14	1.6
Location		
Phnom Penh	324	36.8
Takeo	108	12.3
Kandal	112	12.7
Svay Rieng	19	2.2
Prey Vieng	36	4.1
Katie	33	2.0
Siem Reap	20	.7
Kompong Thom	15	1.7
Batdam Bang	43	4.9
Kompong Chhnang	42	3.0
Komport	48	1.6
Banteay Meanchey	30	.5
Kompong Cham	78	7.7

b. Reliability Check

Table 2 reports the results of reliability checks for both dependent and explanatory variables in bus transport companies. Cronbach's alpha values for all variables are high, exceeding the 0.7 cutoff recommended by Hair et al (2010). As can be also seen from table 2, Cronbach's alpha estimated for the patriotism scale was 0.769; emotional value scale was 0.855; the perceived quality scale was 0.902; promotion scale was 0.771; the brand name scale was 0.835; personal factor scale was 0.903; and purchase intention scale was 0.824 respectively. As the Cronbach's alpha in this study was higher than 0.7, the constructs were therefore deemed to have an adequate reliability (Hair et al., 2010). Based on estimated reliability coefficients, it is apparent that the RACTERS scale is good reliable instrument.

Table 2: Reliability checks for individual variables

Dimensions	Case	Reliability Statistics	
	No. of Obs.	Cronbach's Alpha	No. of Items
Patriotism	881	.769	6
Emotional value	881	.855	4
Perceived quality	881	.902	12
Promotion	881	.771	4
Brand name	881	.835	4
Personal factor	881	.903	6
Purchase intention	881	.824	5

c. The Empirical Model

The following model is used to examine the factors that may affect the Cambodian purchase intention on domestic foods:

$DFPI = \beta + \beta1$ patriotism $+ \beta2$ emotional value $+ \beta3$ perceived quality $+ \beta4$ promotion $+ \beta5$ brand factors $+ \beta6$ personal factor $+ \mathcal{E}$

where DFPI denotes domestic food purchase intention, and $\mathcal{E}$ is error term, which is assumed to be normally distributed.

The data set used for the analysis is from a sample of 881 Cambodian. The data set contains detailed information on the explanatory variables— patriotism, emotional value, perceived quality, promotion, brand factors, *and* personal factor-which are included in the model presented above.

Table 3: Estimation Results with Usual Standard Errors and Multicollinearity check

No. of observe = 881		Ramsey RESET statistic 0.23(P-value = 0.87)					
R-squared = 0.5791		White Test Statistic 38.36, (P-value = .07)					
Adjusted R squared = 0.5762							
F-value = 200.45; P-value= 0.000							

Model	Unstandardized Coefficients		Standardized Coefficients	t-stat	p-value	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Patriotism	.082	.033	.066	2.477	.013	.687	1.455
Emotional	.108	.032	.116	3.400	.001	.411	2.434
Quality	.308	.041	.307	7.498	.000	.286	3.491
Promotion	.044	.028	.051	1.610	.108	.483	2.070
Brand	.256	.030	.294	8.494	.000	.402	2.489
Personal	.077	.017	.112	4.576	.000	.800	1.250
(Constant)	.397	.129		3.085	.002		

Notes:

- Dependent Variable: Purchase Intention

- Independent Variable: patriotism, emotional value, perceived quality, promotion, brand factors, and personal factor.

In order to obtain a stable estimated slope parameters, VIF should be less than five (Studenmund, 2006). As can be seen from table 4, VIF for all explanatory variables is much less than 5, confirming the absence of harmful multcollinearity. Therefore, estimated coefficients of the explanatory variables are considered to be stable. To avoid reporting misleading results, two additional tests such as heteroskedasticity test and RESET test were also performed.

Purchase intention on domestic foods is regressed on the six dimensions of patriotism, emotional value, perceived quality, promotion, brand factors, and personal factor. It is found that White Test statistic of 38.36, (P-value = 0.07) is highly insignificant at any conventional significance level, pointing to a clear evidence of heteroskedasticity absence in the data set. Ramsey's RESET test was also undertaken. RESET statistic (F-value) of 0.23 with p-value of 0.87 is also statistically insignificant at any conventional significance levels. This suggests that the model does not suffer from functional form specification.

Interestingly, all explanatory variables have the positive signs, while the model fits the data set quite well as shown by the high value of R2 of 0.5791, which implies that about 57.91 % of the variation in the domestic food purchase intention is explained by

six patriotism, emotional value, perceived quality, promotion, brand factors, and personal factor. Moreover, the value of F-statistic of 200.45 is highly statistically significant at less than the 1% significance level.

The estimated coefficient of 0.308 on perceived quality dimension is highly significant at the 1% significance level, indicating that perceived quality has indeed positively affected upon purchase intention on domestic foods. It means that a unit change in the response rate of Cambodian for perceived quality item, ceteris paribus, leads to an estimated change in their purchase intention of about 0.308. Similarly, brand factor is also highly significant at less than 1%. The estimated coefficient of about 0.256, implies that, holding other factors fixed a unit change in the response rate of domestic foods for brand name leads to a positive change in their purchase intention of about 0.256. And Coefficient of 0.108 on emotional value dimension is highly significant at the 1% significance level, indicating that emotional value has indeed positively affected on intention of purchasing domestic foods. It means that a unit change in the response rate of Cambodian for emotional value item, ceteris paribus, leads to an estimated change in their purchase intention of about 0.108. Coefficient of 0.082 on patriotism dimension is highly significant at the 1% significance level, indicating that patriotism has positively affected on purchase intention. It means that a unit change in the response rate of Cambodian for patriotism item, ceteris paribus, leads to an estimated change in their purchase intention of about 0.082. And Coefficient of 0.077 on personal dimension is highly significant at the 1% significance level, indicating that personal has positively influenced on domestic foods purchase intention. It means that a unit change in the response rate of Cambodian for personal item, ceteris paribus, leads to an estimated change in their purchase intention of about 0.077.

However, the other dimensions such as promotion factor is statistically insignificant at any significance level, the evidence that this variable has not impacted upon the purchase intention of domestic foods of Cambodian.

Referring to table 4, five of all the six dimensions included as the explanatory variables have a significant, positive effect on the purchase intention. The highest estimated standardized coefficient on perceived quality dimension of 0.308 implies that the dimension makes the greatest contribution to Cambodian intention of purchasing domestic foods, followed by the brand name dimensions (0.256), emotional value (0.108), patriotism (0.082) and personal factor (0.077).

5 Conclusion and Implications

The empirical study began with addressed the research questions with respect to dimensions that may influence Cambodian purchase intention of domestic foods. It also seeks to identify the dimensions that contribute most significantly to domestic food purchase intention. The purposes of the study are to identify the relationship between dimension attributes and purchase intention. Cross-sectional data were used and survey questionnaires were distributed randomly to 1000 respondents; but after rounds of verification only 881 are usable.

With multiple regression analysis used, the results indicate that five dimensions (perceived quality, brand name, emotional value, patriotism and personal factor) show significant, positive sign on the Cambodian purchase intention of domestic foods, with perceived quality dimension also contributed most on the purchase intention. The findings of the study indicate that the five dimensions cannot be replicated fully to the Cambodian purchase intention of domestic foods. The results present a number of production implications and recommendations for companies that willing to product domestic foods, while contributing to the improvements of foods quality, in order to attract Cambodian to use own foods.

With cross-sectional data, the special attention should be paid to the most important trigger of companies that product domestic foods should also place an emphasis significant predictors such as perceive quality of products in which companies should focus on carefully produced and have fine workmanship, a higher or similar quality than products available from other countries, show a enough degree of technological, a very clever use of color, style and design, quite reliable and seem to last the desired length of time, packaged more attractively, more environmentally responsible, important for the health your family, safer, more convenient to obtain, labeled as local, and cost a little more, they are worth the extra cost.

Meanwhile, brand name dimension was also a vital factor to contribute their purchase intention of domestic foods and also identify long-life of domestic companies. Brand popularity, recognizable, reputation and loyalty of domestic products are the key point to attract Cambodian to use their own products.

On the other hand, domestic foods produced-companies in Cambodia has been facing more challenges with foods imported companies and also challenge in a change environment of globalization. So domestic companies should emphasize on users' emotional value (such as feel good, pleasure, willingness, and comfortable with using domestic products) Moreover, food domestic companies cannot ignore the dimension of patriotism and

personal factor that is also an important factor to contribute the Cambodian purchase intention even though these factors less influence on intention of domestic foods buying. Companies should know that Cambodian is proud of their nation, strong historical heritage, an important part of my identity. Patriotism and loyalty are the first and most important requirements of a good citizen of Cambodia, as close as people can get to a perfect society, and enjoy with domestic products. The attributes of age, gender, occupation, qualification, income level, and family structure (family size, family situation) of Cambodian people also affect on the domestic products of Cambodian.

However, this research has few limitations. First, the researcher used convenience method of non-probability, and simple random of probability sampling of data collection thus the sample may not be truly representative of the population. Secondly, the study emphasizes only on domestic foods in Cambodia. The results of the study, therefore, may be applied with food-produced companies only. Third, this research did not identify clearly about criteria of foods (such as sea foods, fast foods…).

The future research may be conducted any specific local food product, and should expand dimension that apply in the domestic foods sector. Future research may be conducted through qualitative methods such as focus group and in-depth interviews and/or observations or both methods of qualitative and quantitative and should expands this research in other provinces in Cambodia or ASEAN region.

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MOBILE BANKING ADOPTION IN CAMBODIA: A CASE STUDY WING LTD

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Abstract

Internet or mobile banking is very popular method commonly adopted by Cambodian people. No particular research had been conducted to investigate this popularity. The purpose of this study is to investigate what factors influenced on this technology acceptance by using the theory of Technology Acceptance Model. A borrowed scale questionnaire with seven point Liker scale was used to administer to 400 customers. After screening only 350 valid responses were put into confirmatory factor analysis (CFA) processs. Finaly, structural equation modeling (SEM) analys was used to determine significant factors influenced WING adoption. Several fit indice, sach as chi-square, GFI, CFI, TLI and RMSEA were used to assess the model fit. As results, the study found that most part of WING's popularity might come from perceived credibility/reliability and usefulness in the system and some part of its popularity might come its ease of use and compatibility.

Key words: *Mobile Banking; Technology Acceptance Model; Structural Equation Modeling; Compatibility; Perceived credibility; Perceived Usefulness; Perceived Ease of Use; Intention to use.*

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Introduction

Many recognized that information and technological change have significantly impact on banks or financial institutions. To counter the change, most of banks have spent more on technology to maximize return and attracting more customers. This change includes using the information technology and communications to replace manual and paper operations to electronic operations. Notably electronic banking (e-banking) or internet banking or mobile banking is the commonly method adopted by the banks.

Internet banking enables the banks to provide effectively 24 hours services to their customers (Howcroft, Hamilton, & Hewer, 2002; Polatoglu & Ekin, 2001). Other studies show that online e-banking is the cheapest delivery channel for many banking services (Robinson, 2000; Sathye, 1999). Similarly to the banks, the bank customers also enjoyed the same types of benefit. Therefore, uptake of online banking has been particularly great among young people (Calisir & Gumussoy, 2008).

In 2008, similar technological banking was launched in Cambodia, WING Money scheme has operated by ANZ and offered customers the ability to send and receive cash, and transfer cash in account through mobile networks domestically. WING Money scheme gains most popular use in Cambodia (Leishman, 2009), but the contribution to this success is still unknown. Therefore, the purpose of this study is to investigate what significant factors contributed to the success. If those factors have been known, then it will help the company better service performance and provide good experience for other companies that offer similar service.

Conceptual Framework

The proposed research model is an extension of two theories:Technology Acceptance Model (TAM) and Innovation Diffusion Theory (IDT). The two theories have been widely used in numerous empirical studies of consumers' uptake of new technologies e.g. (Taylor & Todd, 1995). In particular, they have been extensively used to study the acceptance of e-commerce applications (L. Chen, Gillenson, & Sherrell, 2004; Gefen & Straub, 1997), as well as various m-commerce applications (Alda´s-Manzano, Ruiz-Mafe, & Sanz-Blas, 2009; Koivumaki, Ristola, & Kesti, 2006; Luarn & Lin, 2005; Yu, Ha, Choi, & Rho, 2005). Therefore, the two theories are expected to provide an excellent theoretical foundation for the current study.

TAM is an adaptation of the Theory of Reasoned Action (TRA), which claims that behaviour is a direct consequence of behavioural intention (Fishbein and Ajzen (1975) as cited in (http://edutechwiki.unige.ch/en/Theory_of_reasoned_ action). According to TAM, behavioural intention is influenced by a user's attitudes towards

a product, which in turn is affected by the perceived usefulness of the product and its perceived ease of use (Davis, Bagozzi, & Warshaw, 1989). Whereas perceived usefulness refers to the degree to which using a specific product will increase a user's ability to achieve desired goals, and perceived ease of use refers to the extent to which the use of the system is free of effort (Davis et al., 1989). Among the three factor, most studies have suggested that usefulness is a significant factor for the acceptance of mobile services (Koivumaki et al., 2006; Y S Wang & Luarn, 2006).

However, TAM has been criticized by some author about its deterministic approach on the decision to adopt or reject a novel technology (McMaster & Wastell, 2005). One important criticism is that TAM typically uses as an outcome variable, the intention to utilize a new technology, rather than actual behaviour in adopting it. Another criticism of TAM is poor explanation. Research has suggested that TAM typically explains about 40 percent of the variance in usage intentions and behaviour (V. Venkatesh & F. D. Davis, 2000). Next theory has been emerged to fill the gap of TAM. IDT is created by Rogers in 1995 to investigate the adoption of an innovation of technology. In general, the innovations should be perceived by consumers as having greater relative advantage, observability, trialability, compatibility, and less complexity; in this case, the adoption rate will increase (Rogers, 2003). However, a number of studies have shown that only relative advantage, complexity, and compatibility have a significant effect on the adoption rate of innovatory products (Lee, Kozar, & Larsen, 2003).

Interestingly, it has been suggested that TAM and IDT complement each other. Relative advantage is very closely related to the construct of perceived usefulness of an application, whilst complexity refers to the perceived ease of use in the TAM approach (Moore & Benbasat, 1991). Compatibility is an important aspect of innovation that can be defined as the extent to which a new service is consistent with users' existing values, beliefs, previous experiences, habits (C. D. Chen, Gillenson, & Sherrell, 2002). Several researches have shown that compatibility will lead to higher perceived ease of use as less effort is required (Agarwal & Karahanna, 1998; Wu & Wang, 2005). Furthermore, Agarwal and Karahanna (1998) state that more innovative, and thus more experienced users, will recognize the value of the innovation more easily. Furthermore, these innovative customers are likely to place greater trust in the channel/competence underlying the technology. The inclusion of compatibility beliefs into the TAM model could hence be very useful for explaining the adoption of money banking like WING.

This research seeks to build on the common elements of the TAM and IDT by combining the some importance constructs of the two theories to reflect the reality of Cambodian context. Therefore, the theoretical framework for current study includes only four constructs that might be useful to predict intention variable. Those constructs consist of perceived usefulness, perceived ease of use, perceived credibility, and compatibility as showed in Figure 1 and proposed model is showed in Figure 2.
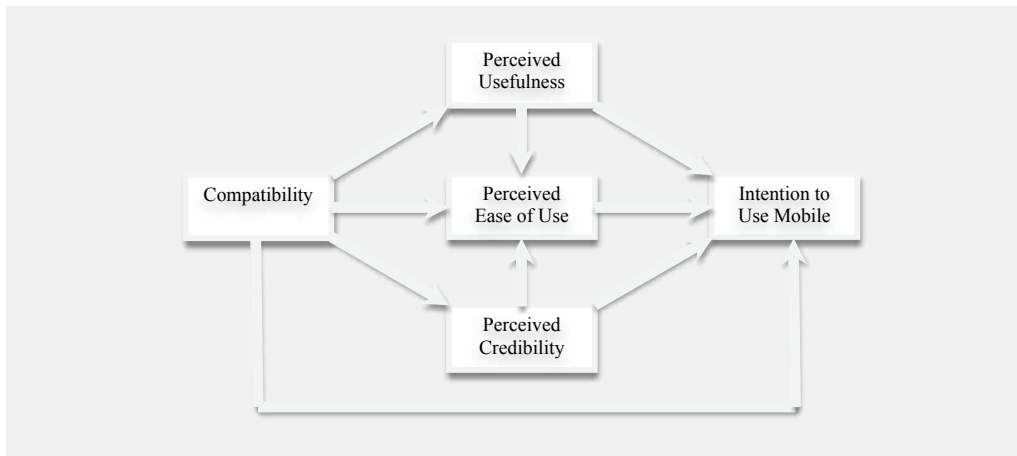
Figure 1. Theoretical Framework

Perceived usefulness (PU): Most previous studies defined this construct as perceptions or a set of believes about benefit in using particular system. This means that the higher perception is the stronger intention. The results of previous studies revealed that PU had positive impact on intention construct (Chong, Ooi, Lin, & Tan, 2010; Goh & Liew, 2009; Koenig-Lewis, Palmer, & Moll, 2010; McKechnie, Winklhofer, & Ennew, 2006; Nguyen & Barrett, 2006; Sang, Lee, & Lee, 2010; Singh, Fassott, Chao, & Hoffmann, 2006; Yi Shun Wang, Wang, Lin, & Tang, 2003).

Perceived ease of use (PEU): Previous studies defined this construct as a set of believes that using a particular system would be free of effort. Based on TAM, PEU has positive relationship with other three constructs: PEU and Intention, secondly, PEU and PU, and finally, PEU and Perceived Creditability (PC).The stronger believe in ease of use, the more intention of usage. Most of previous studies found PEU had positive impact on intention (i. e., Wang et al.,2003; Nguyen & Barrett, 2006; Singh et al., 2006; McKechnie et al., 2006; Goh&Liew, 2009; Chong et al.,2009; Koenig-Lewis et al., 2010; Sang et al., 2010; Lorenzo-Romero et al., 2011; Pinho & Soares, 2011; Vasquez & Potter, 2013). Interestingly, some of previous studies additionally revealed that PEU had also positive impact on PU (Kesharwani & Bisht, 2012; Lorenzo-Romero et al., 2011; Pinho & Soares, 2011). Finally, most of the studies also found that PEU had positive impact on PC (Koenig-Lewis et al., 2010).

Perceived credibility (CRE): The concept of perceived credibility based on Wang et al. (2003) who defined it as the degree to which a potential user believes that the service will be free of security and privacy threats. Research has suggested that credibility has a significant positive effect on the adoption of online banking (Wang et al., 2003) and m-banking (Luarn & Lin, 2005). Furthermore, as m-banking consumers mainly interact with the bank through their mobile device, easy-to-use services should facilitate the creation of trust (Gefen, Karahanna, & Straub, 2003).

Compatibility (COM): the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters (Rogers, 2005).

Intention (INT): an indication of a person's readiness to perform a given behavior. The higher intention is higher actual performance of a given behavior. Based on TAM, INT had positive impact on Adoption (Ajzen, 1991).

Research Hypothesis

Following the structural model is proposed and exhibited in Figure 1, which consists of one exogenous variable (compatibility), three mediating variables (ease of use, perceived usefulness and perceived credibility), and one endogenous variable (intention). Compatibility is hypothesized to have a direct impact on each of the mediating variables and subsequently each mediating variable has a direct impact on intention. It is also hypothesized that the relationship of compatibility and intention will be mediated by ease of use, perceived usefulness and perceived credibility. Thus, the generated hypotheses for this study are formed as follows:

H1. Compatibility positively affects perceived usefulness,

H2.Compatibility positively affects perceived ease of use,

H3. Compatibility positively affects perceived credibility,

H4. Perceived ease of use positive affects perceived usefulness,

H5. Perceived ease of use positive affects perceived credibility,

H6. Compatibility positive affects behavioral intention to use m-banking,

H7. Perceived usefulness positive affects behavioral intention to use m-banking,

H8. Perceived ease of use positive affects behavioral intention to use m-banking,

H9. Perceived credibility positive affects behavioral intention to use m-banking,

H10. Perceived usefulness mediates the relationship between compatibility and intention,

H11.Perceived ease of use mediates the relationship between compatibility and intention,

H12. Perceived credibility mediates the relationship between compatibility and intention.

Research Instrument

A survey instrument was developed based on previously validated scales as mentioned in the literature review, and then administered to 400 consumers, who study at the National University of Management during second semester in 2015. The question-naires is subdivided into two parts. First part focuses on the independent varibles such as perceived usefulness (8 items), perceived ease of use (8 items), perceived

credibility (7 items), compatibility (4 items) and purchase intention (5 items). Second part is demographic variable such as gender, race, age, education and personal income. Seven points Likert scale were used to measure those item. One means strongly disagree, 4 means neutral, and 7 mean strongly agree. Those Likert scale were adapted and modified from Wang et al., (2003). Only 350 valid responses were coded into SPSS version 20 software programand analyzed using AMOS version 18. Several statistical validity tests were used in confirmatory factor analysis (CFA) processs. Those testes include reliability, composite reliability tests, discriminant validity for multicollinearity treatment. After CFA was completed, a descriptive analysis and correlation were followed andfinally, structural equation modeling analys was used to determine significant factors influenced WING adoption.
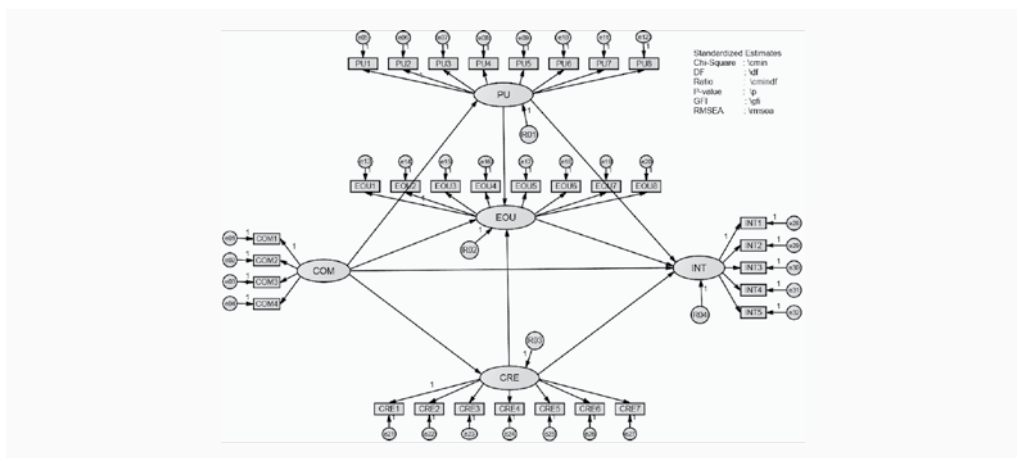
Figure 2. Hypothesise Model

Finding

Table 1. The profile of respondents (104)		
Demographics	Frequency	Valid Percent
Gender		
Male	71	68.3%
Female	33	31.7%
Job		
Owner	2	1.9%
CEO	1	1.0%
Operation Manager	12	11.5%
Line Manager	21	20.2%
Staff	68	65.4%
Age		
Below 18	0	0.0%
18-25 years	30	28.8%
26-35 years	59	56.7%
36-45 years	10	9.6%
46-55 years	4	3.8%
Above 56 years	1	1.0%
Education		
Diploma	1	1.0%
Bachelor Degree	71	68.3%
Master Degree	29	27.9%
Doctoral Degree	3	2.9%
Monthly Income		
Less than $300	26	25.0%
From $300 to $600	55	52.9%
From $600 to $900	12	11.5%
From $900 to $1,200	3	2.9%
From $1,200 to $1,500	3	2.9%
From $1,800 or more	5	4.8%

Descriptive Analysis of Variables:

Table 2 reveal that the initial Cronbach's alphas (before the confirmatory factor analysis was conducted) lie between 0.82 to 0.93. These values indicate that the items in each construct is reliable to measure the underlying concept, therefore the reliability of the measures used in this study can be considered as internally consistent (Sekaran, 2003).

Table 2. Descriptive Statistics of Variables

	Variable Name	No of Item	Mean (Std. Dev)	Cronbach's Alpha
Y	Intention	5	5.01(1.18)	91.0%
X1	Compatibility	4	4.61(1.26)	79.9%
X2	Usefulness	8	4.84(1.19)	88.9%
X3	Ease of use	8	5.15(1.15)	91.2%
X4	Credibility	7	4.79(1.24)	92.2%
Total		32		

Confirmatory Factor Analysis Result

The confirmatory factor analysis (CFA) result is showed in Table 3. From this table we observed that the factor loadings of all observedvariables or items are high enough and ranging from 0.615 to 0.888. This indicates that all the constructs conform to the construct validity requirement.

Table3. Final Confirmatory Factor Analysis Results of Construct Variables

Construct	Code	Attributes	Loadings
Perceived Usefulness (8 items)	PU1	Using internet banking would enable me to accomplish banking activities more quickly	0.618
	PU2	Using internet banking would improve my performance in banking activities	0.773
	PU3	Using internet banking would increase my productivity	0.757
	PU4	Using internet banking would enhance my effectiveness in banking activity.	0.766
	PU5	Using internet banking would make it easier for me to do my banking activities	0.772
	PU6	I would find the internet banking system to be useful	0.678
	PU7	Using internet banking would make it easier for me to get information such as bank statements.	0.671
	PU8	I would find the internet banking useful in getting information such as bank statements	0.645
Perceived Ease of Use (8 items)	EOU1	Learning to use internet banking is easy for me	0.727
	EOU2	I would find it easy to use internet banking to obtain decision-making information	0.654
	EOU3	My interaction with the internet banking was clear and understandable	0.729
	EOU4	I found the internet banking to be flexible to interact with	0.772
	EOU5	It would be easy for me to become skillful at using internet banking.	0.786
	EOU6	I found the internet banking easy to use	0.797
	EOU7	Internet banking makes the banking transactions faster	0.765
	EOU8	Getting information from the internet banking is easy	0.789

Table3. Final Confirmatory Factor Analysis Results of Construct Variables			
Construct	Code	Attributes	Loadings
Perceived Credibility (7items)	CRE1	Internet banking has protect privacy (personal information)	0.684
	CRE2	I would find internet banking secure in conducting my transactions.	0.793
	CRE3	I feel safe in your transactions with internet banking	0.837
	CRE4	One can trust the internet banking system	0.888
	CRE5	Internet banking has a good security system	0.847
	CRE6	I would find internet banking secure in requiring and receiving other information, e.g. bank statements.	0.722
	CRE7	Overall, I find the banking internet system services trustworthy.	0.797
Compatibility (4 items)	COM1	Internet banking is compatible with my lifestyle	0.764
	COM2	Using internet banking fits well with the way I like to manage my finances	0.713
	COM3	Using internet banking fits into my working style	0.765
	COM4	Using internet banking applications for conduct transaction does not conflict with my past manner	0.615
Intention (4items)	INT1	I intend to use internet banking within the near future	0.793
	INT2	I plan to use internet banking	0.837
	INT3	I expect to use internet banking in the near future	0.808
	INT4	Given that I had access to the internet banking, I predict that I would use it	0.844
	INT5	I intend to use the internet banking as much as possible	0.819

Composite Reliability and Discriminant Validity of the Constructs

Table 4 shows the result of the calculated composite reliability and variance extracted to support composite reliability of each construct (with error consideration) and discriminant validity of constructs respectively. According to Fornell and Larcker (1981), average variance extracted (AVE) should be more than the correlation squared of the two constructs to support discriminant validity (compare table 5 and table 6). Each AVE value is more than correlation squared, therefore, discriminant validity is supported or multicollinearity is absent.

Table4. Composite Reliability and Variance Extracted of Constructs						
Construct	Code	Factor Loading	SMC	Error	CR	VE
Perceived Usefulness (8 items)	PU1	0.618	0.38192	0.61808	0.8912	0.50765
	PU2	0.773	0.59753	0.40247		
	PU3	0.757	0.57305	0.42695		
	PU4	0.766	0.58676	0.41324		
	PU5	0.772	0.59598	0.40402		
	PU6	0.678	0.45968	0.54032		
	PU7	0.671	0.45024	0.54976		
	PU8	0.645	0.41603	0.58398		
Perceived Ease of Use (8 items)	EOU1	0.727	0.52853	0.47147	0.91292	0.56805
	EOU2	0.654	0.42772	0.57228		
	EOU3	0.729	0.53144	0.46856		
	EOU4	0.772	0.59598	0.40402		
	EOU5	0.786	0.6178	0.3822		
	EOU6	0.797	0.63521	0.36479		
	EOU7	0.765	0.58523	0.41478		
	EOU8	0.789	0.62252	0.37748		
Perceived Credibility (7items)	CRE1	0.684	0.46786	0.53214	0.92427	0.6371
	CRE2	0.793	0.62885	0.37115		
	CRE3	0.837	0.70057	0.29943		
	CRE4	0.888	0.78854	0.21146		
	CRE5	0.847	0.71741	0.28259		
	CRE6	0.722	0.52128	0.47872		
	CRE7	0.797	0.63521	0.36479		
Compatibility (4 items)	COM1	0.764	0.5837	0.4163	0.80761	0.51388
	COM2	0.713	0.50837	0.49163		
	COM3	0.765	0.58523	0.41478		
	COM4	0.615	0.37823	0.62178		
Intention (4items)	INT1	0.793	0.62885	0.37115	0.91142	0.67308
	INT2	0.837	0.70057	0.29943		
	INT3	0.808	0.65286	0.34714		
	INT4	0.844	0.71234	0.28766		
	INT5	0.819	0.67076	0.32924		

Table 5: Average Variance Extracted (AVE) Matrix of Constructs					
Construct Name					
	1	2	3	4	5
PU (1)	1				
EOU (2)	0.5378508	1			
CRE (3)	0.5723759	0.6025777	1		
COM (4)	0.5107639	0.5409657	0.5754908	1	
INT (5)	0.5903624	0.6205642	0.6550893	0.5934773	1

Table 6. Correlation and correlation Square Matrix					
Construct Name					
	1	2	3	4	5
PU (1)	1				
EOU (2)	.804 (.6464)	1			
CRE (3)	.641 (.4108)	.759 (.5760)	1		
COM (4)	.759 (.5760)	.669 (.4475)	.645 (.4160)	1	
INT (5)	.765 (.5852)	.816 (.6658)	.788 (.6209)	.752 (.5655)	1

Goodness of Fit Indices:

In measurement models process, CFA was conducted on every construct and (see Table 7). All CFAs produce a relatively good fit as indicated by the goodness of fit indices such as CMIN/df ratio (<2); p-value (>0.05); Goodness of Fit Index (GFI) (GFI>= 0.90); and root mean square error of approximation (RMSEA) of values less than 0.08 (<0.08). The measurement model has a good fit with the data based on assessment criteria such as GFI, CFI, TLI, RMSEA (Bagozzi & Yi, 1988; Nejatian, Piaralal, Sentosa, & Bohari, 2011). Table 7 shows that the goodness of fit of generated or revised model is better compared to the hypothesized model.

TABLE 7: Goodness of Fit Analysis -CFA of Measurement Models and structural Models (N=159)								
Final Models	Usefulness	Ease of Use	Credibility	Compatibility	Intention	CFA	Hypothesized	Re-Spcecified
Item Remain	7	7	5	4	4	19	32	19
CMIN	23.237	23.453	8.193	1.425	1.711	167.035	892.408	167.558
df	14	14	5	2	2	142	456	144
CMIN/df	1.6598	1.6752	1.6386	0.7125	0.8555	1.1763	1.9570	1.163597
p-value	0.057	0.053	0.146	0.491	0.425	0.074	0	0.087
GFI	0.938	0.941	0.972	0.993	0.991	0.901	0.75	0.901
CFI	0.97	0.974	0.991	1	1	0.987	0.885	0.987
TLI	0.955	0.962	0.981	1	1	0.984	0.875	0.985
RMSEA	0.08	0.081	0.079	0	0	0.033	0.078	0.032
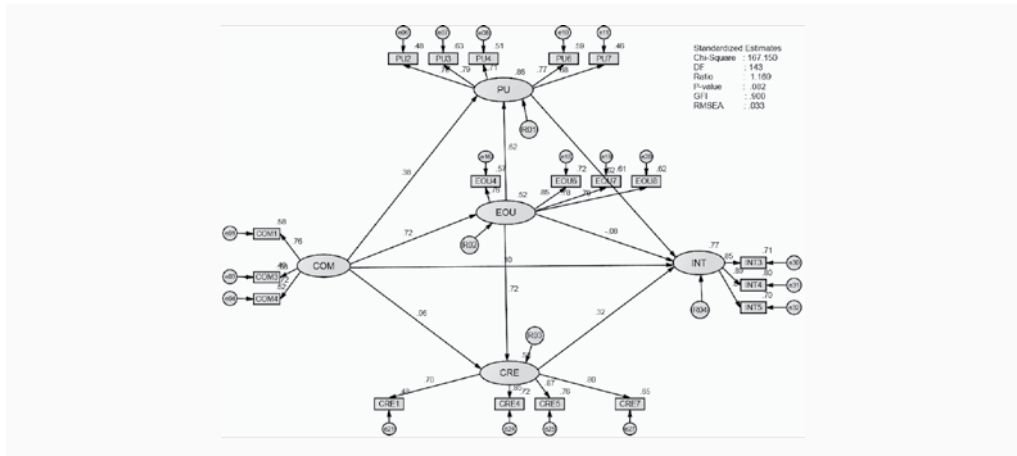
Figure 3. Revised Model

Hypothesis Results

Table 8 and Figure 3 show that compatibility has a direct positive and significant influence not only on: (1)perceived usefulness (ß=.62; CR=4.07; p<.001); (2) perceived ease of use (ß=.77; CR=5.83, p<.001); and (3)perceived credibility (ß=.64; CR=4.11; p<.001), but also on intention (ß=.38; CR=2.19, p<.05) a newly found path of this research. Thus, H1, H2, H3 are asserted and a new hypotheses is generated for the relationship between self-efficacy and intention. Perceived ease of use has a significant and positive link with perceived usefulness (ß=.26; CR=2.62; p<.05), thus, H4 asserted. However, perceived ease of use is found to be insignificantly related to perceived credibility (ß=.21; CR=1.56; p>0.1). Thus, H5 is rejected. Additionally, perceived usefulness (ß=.39; CR=3.05; p<.001) and perceived ease of use (ß=.30; CR=2.92; p<.001) has adirect positive and significant influence on intention. Hence H6 and H7 are asserted.

However, H8 is rejected when perceived credibility (ß=.07; CR=.713; p>.05) has an insignificant impact on intention.

TABLE 8: Direct Impact of Revised Model: Standardized Regression Weights								
H	Relationships between Exogenous and Endogenous			Estimate	S.E.	C.R.	P	Label
H1	Perceived Usefulness	<---	Compatibility	0.377	0.088	3.474	***	Sig.
H2	Perceived Ease of Use	<---	Compatibility	0.725	0.107	6.946	***	Sig.
H3	Perceived Credibility	<---	Compatibility	0.055	0.109	0.455	0.649	InSig.
H4	Perceived Usefulness	<---	Perceived Ease of Use	0.617	0.09	5.425	***	Sig.
H5	Percived Credibility	<---	Perceived Ease of Use	0.722	0.119	5.254	***	Sig.
H6	Intention	<---	Compatibility	0.095	0.147	0.672	0.502	InSig.
H7	Intention	<---	Perceived Usefulness	0.616	0.248	3.815	***	Sig.
H8	Intention	<---	Perceived Ease of Use	-0.079	0.202	-0.596	0.551	InSig.
H9	Intention	<---	Perceived Credibility	0.325	0.115	3.294	***	Sig.

Variance Explained (Squared Multiple Correlation-SMC)

From Table 9, it could be deducted that compatibility explains 85.9 % of the variance in perceived usefulness, 53.2 %variance in perceived ease of use and 58.1%variance in perceived credibility. All mediating variables (perceived ease of use, perceived credibility and perceived usefulness explains 76.8 % variance in intention.

Table 9: Square Multiple Correlation Results	
Endogenous Variable	Square Multiple Correlation(SMC)= R^2
Perceived Usefulness	.859
Perceived Ease of Use	.525
Perceived Credibility	.581
Intention	.768

Direct and Indirect Impact (Mediating Effect)

Table 10 present the findings for direct and indirect effects of compatibility to intention through the mediating variables-perceived ease of use, perceived usefulness and perceived credibility. Hair, Black, Babin, Anderson, and Tatbam (2006), Ali and Sentosa (2008) suggest that if all direct effects between the three latent variables are significant then, mediating effects are justified (see table 6). Since Table 10 shows the direct impact of all hypothesized links as those in Table 8. So the explanation of Table 10 and Table 8 are similar. Meanwhile Table 9 shows the calculation of indirect effect of the structure path. The indirect estimates are calculated by multiplying each direct impact (e.g., [Self-efficacy –> perceived usefulness] × [Perceived usefulness -> intention]). The results show that perceived usefulness and perceived ease of use partially mediate the link between self-efficacy and intention because the indirect impacts reduced but remain significant. The same goes to the mediating effect of perceived ease of use (partial mediator). However, perceived credibility is not mediated the relationship between self-efficacy and intention due to the insignificant indirect impact generated. This means that the direct effect is strongest (Hair et al., 2006). Therefore, H9 & H10 are partially asserted while H11 is rejected. Table 9 summarizes the mediating effects of perceived usefulness, perceived ease of use and perceived credibility. Table 10 presents the results of total effects between the mediators and direct relationship. It is calculated by summing indirect effects and direct effects.

Table 9. Indirect Effect of Variables Interaction

Exogenous	Mediated	Endogenous	Path	Indirect Affected Estimate	Mediating Hypothesis
Compatibility	Perceived Usefulness	Intention	COM-->PU--> INT (.377*.616)	0.232	Partial Mediate
Compatibility	Perceived ease of use	Intention	COM-->EOU--> INT (.725*.079)	0.069	Not Mediate
Compatibility	Perceived credibility	Intention	COM-->CRE-> INT (.055*.325)	0.018	Not Mediate

Table10. Total Effect of Mediating   Variables

Exogenous	Mediated	Endogenous	Path	Total effect
Compatibility	Perceived Usefulness	Intention	COM-->PU-->INT (.095+.232)	0.327
Compatibility	Perceived ease of use	Intention	COM-->EOU-->INT (.095+.068)	0.163
Compatibility	Perceived credibility	Intention	COM-->CRE--　>INT(.095*.325)	0.113

Conclusion

The results of the study indicate that perceived usefulness has the most direct effect on intention and followed by perceived credibility, meanwhile, perceived ease and compatibility have no direct effect on intention. However, they have significant indirect effect on intention. From these relationships we can conclude that the intention of WING usage is effect directly by perceived usefulness, and perceived creditability. In other words, most part of WING's popularity might come from perceived credibility/ reliability and usefulness in the system (you rely and can use WING service everywhere, just a few walks for you house without holiday or waiting time), and some part of its popularity might come its ease of use and compatibility. These mean that in process of money transfer, WING does not need a complicated document from sender and receiver. All of those four reasons enable WING to get great success in money transferring service in Cambodia.

Suggestions for Future Research

The current study focuses only on behavioural intention rather than actual behavior. Because there is mixed evidence of a link between intention and behaviour with some researchers reporting a close correlation (Venkatesh & Davis, 2000; Venkatesh & Morris, 2000), while others have reported a weak link, for example Wang et al. (2006, p. 175). Future research might extend to the usage behaviour. Second, this study is investigated mediated effect of related variables in the proposed model. Future study might include moderated variable in the model and extend sample in larger area.

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EXPECTATIONS AND PERCEPTIONS OF EMPLOYERS AND EMPLOYED GRADUATES ON JOB OPPORTUNITY FOR CAMBODIAN STUDENTS AFTER GRADUATES

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Abstract

This research was conducted with the objectives of identifying university graduates' job opportunity, job expectations and perception of employers and employed graduates from private companies and organizations in Cambodia. The study attempts to find the nature of the gap between employers' and employed graduates' expectations and perception of skills and job expectations of graduates from Cambodia universities to make recommendations for stakeholders of the problem. Data for the study were collected through surveys of selected samples of employers, employed graduates. Survey questions were designed to obtain information on expectation, perceptions, and attitudes of sample respondents based on the determinants identified from the literature review. Findings reveal the widest gap score between expectations and perception of employers such as able to learn about relevant technical skills/ product/service thoroughly and quickly; wish to learn and self-education; wish to accept a challenge; research skills; and problem-solving skills, and perception of employed graduates focus on value and promote truth, accuracy, honesty, accountability and ethical standards, teamwork ability, self improvement, language proficiency, knowledge acquiring, diligence, adaptability/flexibility, mature attitude, experience of the work environment, and motivation. Thus, all stakeholders: the government, the university system administrators, employers and graduates themselves must all endeavor to find a solution to this gap.

Key words: *job opportunity after university graduate, expectation and perception of employers and employed graduate, private companies and organizations in Cambodia*

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1 Introduction

In era of unlimited changing of technology, integration of societies occurred through globalization process and societies are becoming increasingly the warehouse of knowledge (Weligamage, and Siengthai, 2003). To produce graduates that meet the need of the globalizing labor market is not an easy task for university due to various fundamental changes to society and economy (Lie, Pang and Mansur, undated; Ting, and Ying 2012). The gap between employers' needs and graduate abilities in work performance to some extent exists. Given the fact that there has been an extensive body of research concerning graduate employability in the last two decades or so, there is no one finding or solution that can bridge the gap due to different demand of workplace. In addition, as the economy becomes globalized, it is no longer sufficient for new graduates to have only knowledge of academic subjects; they must be required to increase the skills that will enhance their employment prospect (Md. Abdullah-Al -Mamun 2012). The attributes (i.e., knowledge, attitudes and abilities), sometimes known as soft skills, of graduates are very decisive in the workplace for a critical life-long learning (ibid).

However, there is a broad understanding of what quality, characteristics, skills and knowledge contribute to employability of graduates required for work effectiveness (Lowden, Hall, Elliot and Lewin 2011). A case study in Malaysia by Ting, and Ying (2012) reveals that the feedback from employers who employed fresh graduates includes the lack of communication skills, untested intelligence, knowledge and expertise in the own field of study. While this feedback may be true for Malaysia and some other countries around the globe, the case of Cambodia is still unanswered due to a shortage of such research. There is then a need to understand whether the abilities of graduates from Cambodian universities match employers' expectations and the gap between employers' expectation and graduates' performance in workplace to better inform and improve the university's academic curricula to fit the needs of the labor market. Specifically, this study seeks to understand what graduates expect of their jobs and how their expectations meet the needs of employers and the job markets. In so doing the study will empirically investigate the nature of the gap between employers' expectations of skills and job performance of graduates from certain Cambodian universities by identifying attributes and factors that (1) affect and meet the employer needs and expectations and (2) affect the graduates' job performance.

2 Literature Review

2.1 The Concepts and definitions of employability

To understand the concepts and definitions of employability is perhaps necessary at this juncture. The debate on employability and its contribution to labor market policy, especially in governments such as the United Kingdom (UK) and many in European countries and in the United States, has emerged in an extensive of literature. However, the concepts and definitions of employability vary and remain stubbornly challenging to articulate. Lees (2002, cited in Maxwell, Scott, Macfarlane and Williamson 2009) noted "employability a difficult concept to define succinctly and comprehensively". Kumar. K. and Jain (2010) content that employability is the acquisition of attributes (knowledge, skills, and abilities) that make graduates more likely to be successful in their chosen occupations (whether paid employment or not). It usually refers to the employment of graduates but this includes self-employment. That is, employability refers to the development of abilities to ensure graduates are critical life-long learners. According to McQuaid (2004) (see also McQuaid and Lindsay 2005), employers, particularly in the United States, tend to see employability a primarily a characteristic of the individual. The Confederation of British Industry (CBI) in 1999 defines employability as the possession by individuals of the qualities and competencies required to meet the changing needs of employers and customers and thereby help to realize their aspirations and potential in work. Others such as The Canadian Labor Force Development Board in 1994 (ibid) used a more holistic approach, emphasizing the impact of both individual characteristics and labor market conditions, i.e., both labor demand and supply factors, to define employability as the relative capacity of an individual to achieve meaningful employment given the interaction of personal circumstances and the labor market.

McQuail, in this regard, argues that if employability concerns a person's ability and readiness to move into employment, its concept needs to consider both employer attitudes towards skills and external factors such as a person's ability to work shifts. Three main interrelated components that influence a person's employability are important in the holistic approach of employability; they are individual factors, personal circumstances and external factors. Employers may be likely to accept a person under one set of circumstances, but may not consider the same individual to have the minimum necessary skills, for example, under different circumstances. In this regard, Lie et al. (undated) assert that employability is a contested discourse involving many actors. They

are to do with global actors and local government actors, employers, industry, students and academic institutions, professional bodies, etc. to provide an insight into understanding its concepts.

The following provides employability skills and attributes, as well as issues related to employers' perceptions and expectations in graduates' knowledge gap in order to understand and improve graduates' skills and performance.

2.2   Employability attributes and factors

The importance of employability skills is well documented in an era which demands a value-added approach (see Maxwell et al. 2009). The demand of such skills is inevitably developed in the global marketplace. These include the technical knowledge and ability to carry out a specific role and the behaviors and attitudes that are required to succeed in a commercial, service-orientated environment. However, government approaches, which are mainly skills-led, to graduate employability have been increasingly called into question regarding the efficacy of skills provisions in higher education (Hinchliffe and Jolly, 2009; Playfoot and Hall 2009). And cited by Davies et al. (1999) then Mol (1997) recognize that growth of potential issues faced focus on the divorce of theory and practice because separation of a large number of professional way to qualification are the reason of knowledge of technic and practice. Davies et al. (1999) also indicated that less practical knowledge for the right graduates claimed by practitioners whilst right of educational objective development was still defended by academic institutions. Such approaches are no longer sufficient for graduates to secure their work prospect. Most people must develop a range of personal and intellectual attributes beyond those traditionally made explicit in educational programs.

In the current globalizing and information age, employers are in more need of knowledge workers who are able to use logical-abstract thinking to diagnose problems, research and apply knowledge, propose solutions, and design and implement those solutions, often as a team member (see Lie et al, undated). That is, employers want graduates who can adapt to the workplace culture, use their abilities and skills to evolve the organization and participate in innovative teamwork. Employers not only expect graduates to have technical and discipline competences from their degrees, but also to have ability to demonstrate a range of broader skills and attributes that include team-working, communication, leadership, critical thinking, problem solving and managerial abilities (Lowden et al. 2011).

According to Kumar M. and Jain (2010), a published report in 2002 of the Business Council of Australia and the Australian Chamber of Commerce and Industry entitled Employability Skills for the Future identified 8 employability skills important for the

workplace and is crucial to consider for this study. They are: *communication skills,* which contribute to productive and harmonious relations between employees and customers; *teamwork skills,* which contribute to productive working relationships and outcomes; *problem-solving skills,* which contribute to productive outcomes; *initiative and enterprise skills,* which contribute to innovative outcomes, planning and organizing skills, which contribute to long-term and short-term strategic planning; and *self-management skills,* which contribute to employee satisfaction and growth; *learning skills,* which contribute to ongoing improvement and expansion in employee and company operations and outcomes; and *technology skills,* which contribute to effective execution of tasks.

Numerous studies produced detailed breakdowns and taxonomies of particular skills and attributes required to promote graduate employability such as core skills, key skills, common skills, transferable skills, essential skills, functional skills, skills for life, generic skills and enterprise skills. Such skills (soft skills in the main) have strategic roles in determining graduates' success in their works (see Md. Abdullah-Al-Mamun 2012; Lowden et al. 2011). Md. Abdullah-Al-Mamun's study on the soft skills education for vocational graduates indicates that those with a solid command of soft skills can think critically, solve problems, lead a group through teamwork exercises, give critical feedback, motivate other employees and set a good example for the rest of the workforce. The promotion of core skills or key skills makes individuals more likely to gain employment and be successful in their chosen occupations (Weligamage and Siengthai 2003).

While many researchers look at skills that can be developed to promote graduate employability, Maxwell et al. (2009) explored the position and views of employers as a critical stakeholder group in postgraduates' employability skills. Their intention is to raise the important issue of the gap between the skills developed on postgraduate programs and employers' stated needs of postgraduates. They identified ten core skills areas for their study, namely: communication skills, decision-making skills, independent working skills, information retrieval skills, leadership skills, numerical skills, personal learning and development skills, problem-solving skills, strategic skills, and team working skills. The study found that all of the skills are of some importance. However, most important overall are "communication", "independent working", followed by "problem-solving", "personal learning and development", and "teamwork", while least important are "strategic skills", then "leadership" and "numerical skills". Their study's finding validates the chosen ten core skills.

2.3   Soft skills and their importance for work prospects

The importance of soft skills of individuals or graduates is usually the focus of employers for new recruitments (see Orr, Sherony and Stainhaus 2010). Communication skills, a strong work ethic, teamwork skills, initiative and interpersonal skills are

generally found to be top characteristics that employers look for in new hires. After interviewing more than 300 employers, Peter D. Hart Research Associates, Inc. (on behalf of The Association of American Colleges and Universities) found that teamwork, communication, and critical thinking skills were essential learning outcomes for graduates. Communication skills, teamwork skills, problem-solving skills, and work ethic are necessary to promise greater success for both the individual and their employers (Orr et al. 2010).

According to Brett Good, President of the Southern California District of Robert Half International Inc., interpersonal abilities and skills such as diplomacy, persuasiveness and effective face-to-face communication will remain vital (2006, ibid.). In general, employers rate soft skills highest in importance for entry-level success in the workplace, but they expressed that these skills are just as critical for promotion opportunities (Wilhelm 2004, cited in ibid.). Verbal communication skill, other than technical skills and industry knowledge, for example, is one that impresses employers most when interviewing executive-level candidates.

2.4 Qualities valued by employers

The concept of qualities of individuals is also important for the marketplace. There is a general need among employers for graduates to possess and demonstrate skills that are relevant and applicable to working in their organizations, but this need is not being met. The implicit assumption is that graduates will arrive in the increasingly competitive workplace with skills developed for ready manifestation as required by employers, emphasizing human capital value and justifying policy investment (Morley 2001, cited in Maxwell et al. 2009). Employers, according to typically expect employees to have good knowledge, skills and behaviors for their institution success. An in-depth study by Playfoot and Hall (2009), somehow based on Goldman Sachs's thesis in 2013, which developed the concept of "qualities valued by employers" in his research that introduced Brasil, Russia, India and China as four emerging economies, provides an interesting finding. These authors list the common qualities employers have said they are looking for in job candidates and employees. They believe that being clear about these qualities will give a clearer understanding of the importance of effective education for employment. Then, it will also offer a useful skills focus for governments, industries, educators, learners and employees.

Many employers who took part in Playfoot and Hall's study initially felt that it was impossible to identify a set of generic attributes that would be valuable for any job in any sector. They include: problem solving, positive thinking, creativity/innovation, trust, leadership and management, multi-tasking, initiative, accepting responsibility, team working, sustainability, empathy, communication/languages, professional manner, and

cultural sensitivity. However, with further exploration, Playfoot and Hall confirmed that this is possible; the generic attributes are important. One of the most striking findings across the whole of their research was the commonality of these transferable qualities relevant to any person, in any job, in any industry and in any country.

3 Research Methodology

Cross-sectional method of study was used whereby data was collected at a single point in time. Research approach of this study was conducted in both qualitative and quantitative. Self-administered questionnaires were used as an approach to collect data. The data were gathered from a purposive sample consisting of 212 respondents of human resource managers and functional managers from 14 main industries in Cambodia, and of 600 samples of employed graduates who has been working. The methodology of research employed was through survey questionnaires. A survey instrument that had a 1-5 Likert scale was adopted and it consisted of three main sections. Section A, respondents were asked to rate the level of importance of 40 competencies they attributed as important attributed for the industries (1 refers very unimportant and 5 very important). Section B, they were also asked to rate the level of performance of the employers and employed graduates demonstrated for each competency (1 refers very bad and 5 very good) and section C focused on respondents' profile. The 40 competencies items were used in this study which had been checked and validated. The data collected was reviewed and entered in SPSS 20.0 software for descriptive analysis (such as frequency, percentage, standard deviation and chart) and compare t-test analysis.

4 Data Analysis and Finding

4.1 Basic Statistics

The profiles of employers are presented in table 1. A broad range of age group was represented, with 53.3% of the sample aged 20-30 years among sample size 212. Of the 209 respondents, almost 51.1%; and 28% were male and female. Of the 210 of respondents was bachelor degree. For industrial classification of employer, over 15%; 11.5%; and 9.6% of 203 employers who have been working in the sector of education; finance, real estate and business service; and hotel and restaurants,

respectively. And 24.3%; 13%; and 8.8% of 206 respondents said they were manager; function manager; and human/administrative manager, respectively,. Due to responses of employers for the reason for being unemployment after graduate, more than 40%; 35%; and over 30% refer to the lack of professional eligibility requirements; inadequate experience; and no connections, respectively,.

Table 1: Descriptive Statistics of Characteristics of employers			
Employer's Characteristic	Frequency	Percentage	Total
The reasons for being unemployment after graduate			
Did not like the job offer	82	31.4	212
No job opening in the field of specialization	76	29.1	212
Inadequate experience	91	34.9	212
Lack of professional eligibility requirements	105	40.2	212
Family situation	48	18.4	212
No connections	79	30.3	212
Low starting pay	78	29.9	212
No job opening for anyone	53	20.3	212
College not prestigious	54	20.7	212
Job far from residence	54	20.7	212
Lack of parental consent in accepting the job	53	20.3	212
No job opening within the vicinity of the residence	43	16.5	212
Gender			
Male	136	52.1	209
Female	73	28	209
Age			
Less than 20 years	20	7.7	210
20 - 30 years	139	53.3	210
31 - 40 years	45	17.2	210
41 - 50 years	6	2.3	210
Education level			
Associate degree	12	4.6	210
Diploma degree	11	4.2	210
Bachelor	136	52.1	210
Master	50	19.2	210
Doctor/PhD	1	.4	210
Industrial classification of employer			
Agriculture	12	4.6	203
Mining and Quarrying	1	.4	203
Building and Construction	7	2.7	203
Electricity, Gas and Water	10	3.8	203
Wholesaler and retailer	13	5.0	203
Transportation, Storage and communication	16	6.1	203

Table 1: Descriptive Statistics of Characteristics of employers

Employer's Characteristic	Frequency	Percentage	Total
Community service	5	1.9	203
Finance, real estate and business service	30	11.5	203
Finance intermediation (insurance inclusive)	13	5.0	203
Real Estate, Rending and Business activities	7	2.7	203
Public Administration, Defense and Community Social Services	16	6.1	203
Education	40	15.3	203
Health and social work	8	3.1	203
Hotels and Restaurants	25	9.6	203
Position in your company/organization			
GM	13	5.0	206
CEO	5	1.9	206
Manager	64	24.5	206
Function manager	34	13.0	206
Human resource/Admin manager	23	8.8	206
Other	67	25.7	206

In addition, based on table 2 below, also shown about characteristic of employed graduates who has been working in companies or organizations in Cambodia. Due to responses of employed graduates for the mean of obtaining job after graduate, 43%; 38.5%; and over 28% were student self; friend's/relative's recommendation; and advertisement on media, respectively,. Meanwhile, the reasons behind the long waiting period of looking for job after graduate came from low salary offer (45.4%); little or no opportunity(33.6%); no job opportunity (25.3%); unsatisfactory working (23.3%); job too far from home (23.3%), respectively. And reasons for your job satisfaction depend on good income (nearly 49%); job provides self fulfillment (nearly 36%); and able to utilize talents (over 33%), respectively. Generally, graduates, in average, spend 1 to 2 months to get a waiting period after finishing the course and after actively looking for job.

Table 2: Descriptive Statistics of Characteristics of employed graduates			
Employed graduate's Characteristic	**Frequency**	**Percentage**	**Total**
Mean of obtaining job after graduate			
Friend's/relative's recommendation	213	38.5	553
Company personnel office	136	24.6	553
Teacher's/instructor's recommendation	145	26.2	553
School placement office	105	19.0	553
Mailed Application	73	13.2	553
Government placement office	72	13.0	553
My self	238	43.0	553
Employment Agencies	94	17.0	553
Advertisement on media	157	28.4	553
Other	57	10.3	553
The reasons behind the long waiting period of looking for job after graduate			
Low salary offer	251	45.4	553
Little or no opportunity	186	33.6	553
For advancement	79	14.3	553
Conditions	122	22.1	553
Unsatisfactory working	129	23.3	553
No job opportunity	140	25.3	553
Job too far from home	129	23.3	553
Other	92	16.6	553
How long do you get a waiting period (After finishing the course)			
Less than 1month	115	20.8	539
1-2months	171	30.9	539
3-4months	124	22.4	539
5-6month	60	10.8	539
7-12month	33	6.0	539
Over1year	36	6.5	539
How long do you get a waiting period (After actively looking for work)			
Less than 1month	134	24.2	521
1-2months	178	32.2	521
3-4months	115	20.8	521
5-6month	51	9.2	521
7-12month	19	3.4	521
Over1year	24	4.3	521
Reasons for your job satisfaction			
Job provides self fulfillment	198	35.8	553
Able to utilize talents	183	33.3	553
Good employee relations	174	31.5	553
Job offers secure future	172	31.1	553
Good prospect for career	170	30.7	553

Good income	270	48.8	553
Ample time off for family and hobbies	78	14.1	553
Opportunity to travel	65	11.8	553
Scholarship opportunities	78	14.1	553

4.2 Gap mean score of expectation and perception of employers, and graduate

Table 3 reports the average of each attribute score of employers. Raw scores for the perceived level of excellence and for the expected level of excellence are on the five-point scale for attributes, which are considered to be important to graduate students. For each of the attributes, the perceived performance and expectation scores are calculated. The difference is the gap scores, which measure perception of employers. As can be seen from the table 3, the scores for all items bear the positive signs, indicating that organization employers' expectations are greater than the perceived performance across all attributes. It should be noted that perceived performance scores in table 3 are on average greater than 3, which is above the mid-point on the five-point scale. This indicates clearly that companies' employers generally rated graduate' performance in terms of works favorably although it remains below expectations of the employers of organizations. The results reported in table 3 also can be summarized as follows. First, company employers' expectation is the five highest for the wish to learn and self-education (self improvement); value and promote truth, accuracy, honesty, accountability and ethical standards; problem-solving skills; willing to take responsibility for their works; and motivation. Second, the perception of employers also focuses on five higher for the language proficiency; teamwork ability; adaptability /flexibility; computer skills; and self-dependability. The third is that five widest gap score between expectations and perception of employers refer to "able to learn about relevant technical skills/ product/ service thoroughly and quickly; wish to learn and self-education (self improvement); wish to accept a challenge; research skills; and problem-solving Skills). The fourth, the five smallest gap of employers' expectation and perception focus on tolerance; numerical skills (ex. statistic data...); language proficiency; adaptability /flexibility; and grasp the underlying values of the workplace, its dynamics and expectations.

Moreover, perceived performance scores of employed graduates in table 3 are on average greater than 3, which is above the mid-point on the five-point scale. It also shows that employed graduates generally rated their performance in terms of works favorably although it remains below expectations. Actually, in table 3 below also indicated some factors of graduates' perceptions like to be greater than their expectation such as initiative; mature attitudes; and drive and flexibility. Meanwhile, employed graduates' perceptions on ten higher factor refer to the value and promote truth, accuracy, honesty,

accountability and ethical standards; teamwork ability; wish to learn and self-education (self improvement); knowledge-acquiring; and language proficiency; adaptability /flexibility; diligence; mature attitude; experience of the work environment; and self-dependability. And the other hand, table 3 also shown the five smallest gap score between expectations and perception of employed graduates around job opportunity after graduates, it refer to mature attitude; reporting skills; value-improving skills; ethics/social responsibility; and experience of the work environment.

Table3: Average item Scores of expectation and perception of employers and employed graduate					
	E			**Employed graduates (n=553)**		
Criteria	**Expectation Score (E)**	**Performance Score (P)**	**Gap Score (E-P)**	**Expectation Score (E)**	**Performance Score (P)**	**Gap Score (E-P)**
Verbal and written Communication	3.85	3.43	0.42	3.85	3.70	0.15
Reporting Skills	3.74	3.35	0.39	3.64	3.64	0.00
Research Skills	3.75	3.26	0.49	3.82	3.76	0.06
Knowledge acquiring	3.85	3.44	0.40	3.99	3.86	0.13
Self-dependability	3.81	3.54	0.27	3.96	3.77	0.19
Value and promote truth, accuracy, honesty, accountability and ethical standards	3.96	3.56	0.40	4.11	4.01	0.10
Diligence	3.65	3.44	0.21	3.93	3.81	0.12
Adaptability /flexibility	3.79	3.59	0.19	3.90	3.82	0.08
Resourcefulness	3.87	3.41	0.47	3.96	3.74	0.22
Value-improving Skills	3.82	3.46	0.36	3.75	3.74	0.01
Leadership Skills	3.86	3.52	0.34	3.87	3.77	0.10
Teamwork Ability	3.85	3.59	0.25	3.94	3.92	0.02
Creativity/Innovative Skills	3.74	3.36	0.38	3.77	3.75	0.02
Diversity Awareness Ability	3.48	3.25	0.23	3.70	3.69	0.01
Global Understanding Ability (understand the economic, social and cultural forces in the world)	3.69	3.33	0.36	3.80	3.73	0.07
Numerical Skills (ex. statistic data...)	3.49	3.39	0.11	3.63	3.41	0.22
Problem-solving Skills	3.95	3.46	0.49	3.80	3.69	0.10
Computer Skills	3.86	3.57	0.29	3.93	3.75	0.18
Initiative	3.65	3.34	0.31	3.58	3.65	0.07
Willing to take responsibility for their works	3.89	3.48	0.41	3.79	3.65	0.14

Table3: Average item Scores of expectation and perception of employers and employed graduate						
	E			**Employed graduates (n=553)**		
Criteria	**Expectation Score (E)**	**Performance Score (P)**	**Gap Score (E-P)**	**Expectation Score (E)**	**Performance Score (P)**	**Gap Score (E-P)**
Motivation	3.88	3.52	0.36	3.91	3.76	0.15
Wish to accept a challenge	3.83	3.45	0.38	3.72	3.60	0.12
Wish to learn and self-education (self improvement)	3.98	3.49	0.50	4.00	3.88	0.12
Wish to accept a challenge	3.72	3.22	0.50	3.66	3.61	0.05
Tolerance	3.47	3.46	0.01	3.83	3.68	0.15
Cultural sensibility	3.55	3.32	0.23	3.69	3.63	0.06
Demonstrates good time-management of employees	3.73	3.35	0.34	3.81	3.73	0.08
Drive and Flexibility	3.69	3.39	0.30	3.73	3.76	0.03
Experience of the work environment	3.78	3.47	0.31	3.80	3.78	0.02
Information technology application	3.70	3.35	0.35	3.72	3.64	0.08
Ethics/social responsibility	3.73	3.47	0.26	3.73	3.73	0.00
Mature attitude	3.70	3.38	0.32	3.67	3.80	-0.12
Is capable of learning new IT products and systems quickly	3.6667	3.36	0.31	3.54	3.43	0.11
Is able to learn about relevant technical skills/ product/service thoroughly and quickly	3.8123	3.25	.56	3.63	3.53	0.10
Is able to reflect on their own development and identify strengths and weaknesses	3.66	3.35	0.31	3.65	3.55	0.10
Is able to identify areas of weakness and suggest strategies to change	3.68	3.29	0.38	3.61	3.60	0.01
Is able identify areas for change or improvement	3.61	3.25	0.36	3.61	3.55	0.06
Extensive practical knowledge	3.62	3.38	0.24	3.76	3.61	0.15

Table3: Average item Scores of expectation and perception of employers and employed graduate						
	E			**Employed graduates (n=553)**		
Criteria	**Expectation Score (E)**	**Performance Score (P)**	**Gap Score (E-P)**	**Expectation Score (E)**	**Performance Score (P)**	**Gap Score (E-P)**
Understanding Workplace : The ability to grasp the underlying values of the workplace, its dynamics and expectations	3.65	3.46	0.19	3.74	3.71	0.03
Language proficiency	3.81	3.63	0.18	4.07	3.86	0.21

4.3   Paired Sample Test on Expectation and Perception Mean Score

In table 4 and 5 showed that paired-sample t-test was carried out to test the significant difference between the mean score of company employers' expectations and perceptions of the job opportunity of graduate. The gap scores for each attributes are calculated by deducting the expectation means from the perception means. A positive score indicated that, employers ' perception was exceeding the its expectations. Oppositely, a negative gap showed that the employer perceived job opportunity which is not meeting the employers' expectations. Paired-sample t-test between the respective expectation means and perception means of all the 40 attributes showed that they were significantly different. In general, there were highly significant differences among the all items.

Table 4 Paired Samples Statistics for employer					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Expectation	3.74	203	.496	.035
	Perception	3.39	203	.555	.039

Table 5 Paired Samples Test for employer								
	Paired Differences					T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Expectation - Perception	.36	.589	.041	.274	.437	8.59	202	.000

In table 6 and 7 below showed that paired-sample t-test was employ to test the significant difference between the mean score of graduates' expectations and perceptions. Through the result of Paired-sample t-test between the average of expectation means and perception

of all 40 attributes for graduates identify that they were slightly different. In general, the perception of graduate on job opportunity is similar to its expectations.

Table 6 Paired Samples Statistics for employed graduate				
	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Expect	3.79	544	.424	.018
Perception	3.70	544	.513	.022

Table 7 Paired Samples Test for employed graduate									
	Paired Differences					T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Expect - Perception	.088	.556	.024	.042	.136	3.71	543	.000

Conclusion

The literature review involved job opportunity was explored by this paper and flexibility of their application to a Cambodia context. The results mentioned that perception not yet meet expectation of employers and employed graduates. The study showed that employers in companies expect that graduates from universities emphasize on the factor of developing the way of learning and self-education (self improvement); value and promote truth, accuracy, honesty, accountability and ethical standards; improve the skill of problem-solving; willing to take responsibility for their works; and motivation. And the perception of employers on employability like to be satisfied with the language proficiency; teamwork ability; adaptability /flexibility; computer skills; and self-depend-ability. But the results also mentions the widest gap score between expectations and perception of employers like to be able to learn about relevant technical skills/ product/ service thoroughly and quickly; wish to learn and self-education (self improvement); wish to accept a challenge; research skills; and problem-solving skills. Meanwhile, perception of employed graduates on employability after graduates refer to item of value and promote truth, accuracy, honesty, accountability and ethical standards; teamwork ability; wish to learn and self-education (self improvement), language proficiency; knowledge acquiring; diligence; adaptability /flexibility; mature attitude; experience of the work environment; and motivation. And expectation of employed graduates focus on value and promote truth, accuracy, honesty, accountability and ethical standards; language

proficiency; wish to learn and self-education (self improvement); knowledge-acquiring; self-dependability; resourcefulness; teamwork ability.

The results of this study indicate the mean of obtaining job for Cambodian students after graduate were student self; friend's/relative's recommendation; and advertisement on media. Meanwhile, the reasons behind the long waiting period of looking for job after graduate came from low salary offer; little or no opportunity; no job opportunity; unsatisfactory working; job too far from home. And reasons for your job satisfaction depend on good income; job provides self fulfillment; and able to utilize talents. On the other hand, the reason for being unemployment after graduate, it likes to be the lack of professional eligibility requirements; inadequate experience; and no connections of students.

Furthermore, the study classified high-performance and high expectation attributes, high-perception and low expectation attributes, low- perception and high expectation attributes, and low- perception and low-expectation attributes of employers and employed graduates in companies or organizations through expectation- perception analysis.

This classification will help Cambodia universities and undergraduates to enhance their strengths and improve their weaknesses. The undergraduates should emphasize on high-perception and high-expectation attributes (including the language proficiency; teamwork ability; adaptability /flexibility; computer skills; and self-dependability; value and promote truth, accuracy, honesty, accountability and ethical standards; wish to learn and self-education (self improvement); knowledge acquiring; diligence; mature attitude; experience of the work environment; and motivation; the skill of problem-solving; willing to take responsibility for their works; and motivation; and resourcefulness) offered .

They also should focus more on low-perception and high expectation attributes' (including able identify areas for change for improvement; able to learn about relevant technical skills/ product/service thoroughly and quickly; accept a challenge; diversity awareness ability; research skills; able to reflect on their own development and identify strengths and weaknesses; capable of learning new IT products and systems quickly; numerical skills (ex. statistic data...); and the way of learning and self-education (self improvement); value and promote truth, accuracy, honesty, accountability and ethical standards; improve the skill of problem-solving; willing to take responsibility for their works; and motivation; language proficiency; knowledge-acquiring; self-dependability; resourcefulness; teamwork ability) to meet companies' expectations.

Moreover, reasons for employment after graduates, Cambodia universities or curriculum developers in any universities should equip students with basic skills leaving to meet labor market, and lecturers also should change from the style of lecturer center to students center and should offer more and more opportunity to students for internship or field

trip in companies or anyplace in order to increase students' critical thinking and gain experiences. And universities, companies or institutes should have professional eligibility requirements for facilitating students to find job after graduates. On the other hand, universities and government should set up school and government placement office for being easy to receive job information after graduate. Companies or organizations also should allow graduates submit application forms through mail and should open personal office for students to ask for employment information. However, university undergraduates should improve skills, knowledge and do something well to meet the company employers' expectation, and should select the right skill to study in any universities. On the other hand, students (self) try to open heart and mind to get less satisfied job or less pay in starting works in order to get more and more work experiences. The more works experiences are the bridge to success in carrier in the near future.

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APPLYING BINARY LOGISTIC REGRESSION TO STUDENTS' PERFORMANCE IN CORPORATE FINANCE COURSE

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Abstract

Purpose – Academic performance of students at all levels in Cambodia has been declining in recent years. The declining has suffered much criticism from all stakeholders and Cambodian government itself. This paper aims to determine factors influenced on students' academic performance in corporate finance course.

Design/methodology/approach –A survey was used to collect data from a planned sample of 400 students, who majored in finance and banking under graduate program during academic year 2013-2014 at the National University of Management, Cambodia. Three hundred and twenty six valid respondents were returned for analysis. A standard binary logistic regression was conducted to determine effect of nine predictor variables on student's academic performance in corporate finance.

Findings – The result found that four predictor variables, such as Math, English, Smartphone, and number of family member, were statistically influenced on student's performance, whereas, sex, standard of living, scholarship status, high school origin, and parent's education, were not.

Key words: *Student's failure, socioeconomic, family's education background, smartphone, student's background in English and math, binary logistic regression.*

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1 Introduction

Many recognized that quality of education improves the quality of human resources and is directly related to increased individual earnings, productivity, and economic growth (Alma, 2014). Moreover, Eric and Ludger (2007) stated that there is strong evidence that the cognitive skills of the population – rather than mere school attainment – are powerfully related to individual earnings, to the distribution of income, and to economic growth. Therefore, education quality has been concerned by not only many stakeholders but also policymakers, especially in the fast-growing numbers of higher education institutions context.

Notably, academic performance of students at all levels in Cambodia has been declining in recent years. The declining has suffered much criticism from many stakeholders and including Cambodian government itself. The Ministry of Education, Youth and Sports (MoEYS), governmental and non-governmental agencies, and World Bank have been starting a project aimed at improving the overall aspects of quality of Cambodian higher education (Moniroith, 2012).

No much work in higher education has been done to identify the factors contributed to this declining. The purpose of this paper is to investigate factors influenced the poor performance (failure) of student in corporate finance course at the National University of Management (NUM). The paper includes only three factors: social-demographic, economic and family's and student's background factors. Other factors are excluded from the study for reason of time-limited.

2 Literature Review

Student's academic achievement or performance has been well researched in many countries, especially in developing country including Asian and African nations. The studies range from high school to graduate programs with different variables and different technical analyses. A number of research findings have shown that student performance may be affected by different factors such as personal intelligence, study habits, and attitudes of student towards school, socio economic status, etc. In a study by Guili, Tomthy, Mathew, and Brian (2004), who used six predictors: ethnicity, gender, high school grade point average, math score, verbal score, and citizenship status to identify factors influence student's achievement in engineering field (undergraduate level). The authors found that high school GPA, gender, ethnicity, math scores, verbal

scores, and citizenship had significant impact on graduation. While high school grade point average and math scores were significant for all models tested, the significance of other predictors varied among institutions. Another study by Habibollah, Rohani, Tengku, Jamaluddin, and Kumar (2009), who used self-esteem and gender variable to predict academic achievement of undergraduate students. The findings from this study indicate that although self-esteem indicates a strong significant relationship on academic achievement when gender is controlled; there is no relationship between self-esteem and academic achievement. In other words, a significant difference between gender and self-esteem was observed. In some cases, student's personality type and their learning approaches may effect on their performance. Findings from Adahi, Chen, and Yao (2011) indicate that those two factors are key predictors of MBA student's performance. Behind the learning approaches and personality type, the experience related courses are also important key to determine the student performance as proved by De Winter and Dodou (2011), who used high school exam scores (physics, mathematic, chemical scores…) to predict first-year student performance. The findings reveal that the natural sciences and mathematics factor (loading variables: physics, chemistry, and mathematics) was the strongest predictor of first-year GPA and B.Sc. completion, the liberal arts factor was a weak predictor, and the languages factor had no significant predictive value. Another separate study by Goutam (2011), who analyzed the school examination results (scores) of 1002 students based on gender, medium of instruction, type of schools, category of schools, board of examinations as explanatory variables and score or mark of examination results as dependent variable. From the study, the author indicates that the performances of English medium schools are found to be satisfactory in higher secondary examination. Similarly urban schools always show better performance in higher secondary examination.

Long tradition has recognized that family is a useful factor in determining student performance. Recently Ushie, Emeka, Ononga, and Owolabi (2012) confirmed that family structure did not determine students' academic performance, but parental socioeconomic background did. Students whose parents have better jobs and higher levels of income tend of have higher levels of literacy performance. Beside the family factor, the environmental factor is also seen to be useful factor in predicting student performance. The most recently study by Aromolaran, Oyeyinka, and Olukotun (2013), who used socio-demographic, and economic factors to predict the student performance in Nigeria. The authors found that mothers' education level, living togetherness of parents, student class and weekly income/ allowance; are found to influence students' academic performance.

Several technical analyses have been used in identifying factors influenced student's achievement as mentioned in literature review. Most of the study use binary logistic regression (Aromolaran et al., 2013; De Winter & Dodou, 2011; Goutam, 2011; Jedsarid & Kasetchai, 2011), some authors used multiple logistic regression (Guili et al., 2004;

Habibollah et al., 2009; Ushie et al., 2012), and rare case is used structural equation modeling (Adahi et al., 2011). In determining what type of technique is better to predict the student performance or achievement, Maria and Maria (2008) used three academic variables (the prior grades obtained in the areas of biology, chemistry, and mathematics) and four demographic (sex, location, public/ private school, and orientation chosen in high school in medicine/ engineering) with two different techniques. Finally the authors found that (binary) logistic regression is a better approach than linear regression. Additionally, the statistical model of logistic regression is more flexible than linear regression because it does not require the variables to meet the aforementioned assumptions of normality and homocedasticity, it allows the criterion variable to be dichotomic or polytomic and it is useful when one does not expect the relation between the predictor variables and the criterion to be linear (Hair, Black, Babin, Andeson, & Tatham, 2006; Robert, 2014; Tabachnichk & Fidell, 2007)

3 Research Method

The dataset used in this study are collected via survey questionnaire completed by junior student undergraduate program majored in finance and banking, studying at National University of Management in Cambodia during academic year 2013-2014. The questionnaire is divided into three parts. First part consist of some selected demographic factors such as sex, origin of high school, mother's and father's education, family income, gaining scholarship status, and having smart phone. Second part is the level of the knowledge in math and English. Final part is raw score of midterm exam in corporate finance course. A convenient sampling approach was adopted for the current study.

4 Sample Size

Four hundred questionnaires were distributed after students getting the result of the midterm exam with clear instruction from instructor. Finally, there are only 326 valid questionnaires are available for further analysis.

5 Research Model

Based on the above literature review, binary logistic regression is employed for current study. The logistic regression is a linear combination for the predictor variables. The logit, is not the end in itself, but is used to find the odds of being in one of the categories of the dependent variable given a particular combination of scores on the independent variables (Tabachnichk & Fidell, 2007).

$$\text{Prob(failure)} = \hat{Y}_i = \frac{e^{b_0 + b_1 X_1 + b_2 X_2 + \dots + b_n X_n}}{1 + e^{b_0 + b_1 X_1 + b_2 X_2 + \dots + b_n X_n}}$$

where failure = 1 if a student failed in exam and 0 otherwise

b   = the coefficient of the predictor variables
e   = 2.7183
n   = number of independent variables
X1   = Gender (1 if student is male, and 0 if student is female)
X2   = Parent's education—interaction term between father's and mother's education (interval)
X3   = Origin of high school (1 if student came from high school locates in Phnom Penh, and 0 otherwise)
X4   = Number of member in family (continuous)
X5   = Standard of living (very poor, poor, medium, rich, very rich)
H6   = Scholarship status (1 if student gets scholarship, 0 otherwise)
X7   = Having smart phone (1 if student has smart phone(s), 0 otherwise)
X8   = Degree of knowledge in math (very poor, poor, fair, good, very good)
X9   = Degree of knowledge in English (very poor, poor, fair, good, very good)

6 Descriptive Analysis

Among 326 valid responses, there are 229 students are female or 70.2 percent and 97 students are male of 29.8 percent. These percentages are reported in Table 7.1.

Table 1 sex		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	229	70.2	70.2	70.2
	male	97	29.8	29.8	100.0
	Total	336	100.0	100.0	

7 Logistic Regression Analysis

A standard binary logistic regression was used to model the binary variable of failure in exam of corporate finance course (using successful completion of the corporate finance exam as the reference category). The predictor variables in this study were the binary variable of gender with male, high school origin with Phnom Penh located, gained scholarship status, having smart phone as the focus category, and the quantitative variable of parent's education, number of children in family, living standard, math, and English scores are continuous. Based on a classification threshold predicted probability of target group membership as 0.5, as result of the logistic analysis indicated that the two-predictor model provided a statistically significant prediction of success, $\chi 2(9, N=326) = 58.116$, p <0.001. The Nagelkerke pseudo R2 indicated that the model accounted for approximately 26% of the total variance. Classification success for the cases based on a classification cutoff value of 0.5 for predicting membership in success group was moderately high, with an overall prediction failure rate of 83.4% and correct prediction rate of 97.7%% for failure in exam of participants and 25% for those success in the exam.

Table 2 presents the partial regression coefficients, the Wald test, odd ratio [Exp(B)], and the 95% confidence interval (CI) for odds ratios for each predictor. Among nine predictor variables, only three predictor variables such as "having smartphone", "math score" and "English score", were statistically significant at 5 percent level as indicated by their Wald tests, whereas, "number of children" predictor variable was statistically significant at 10 percent level. Other five predictor variables were found insignificant. The odds ratio for knowledge in "English" (five point interval scale) was 0.363 (CI=0.201, 0.656). Given that relationship between "English" and dependent variable (code 1 = failure, and 0= success) is negative (b= -1.014). This shows that a higher knowledge in "English" score decrease the odds of failure in exam. Each one-unit increase on the "English" scale decreases the odds of failure in exam by a factor of 0.363. Thus, a student who had knowledge in "English" (e.g,. with a score of 4 on the 5-point Likert scale) is only 0.363 times as likely of failure in the exam less than a student who had less knowledge in "English" (with a score of 3 on the 5-point Likert scale),

controlling for other variables in the model or it means that the higher score knowledge in "English is less likely to fail in the exam. Similarly, the odds ratio for "Math" score was 0.262 (CI= 0.120, 0.573), and its relationship between the dependent variable is also negative (b=-1.339). This indicates that a higher "Math" score decrease the odds of failure in the exam. For every unit increase on the "Math" score decreases the odds of failure in the exam by a factor of 0.262. Thus a student who had knowledge in "Math" (e.g,. with a score of 4 on the 5-point Likert scale) is only 0.262 times as likely of failure in the exam less than a student who had less knowledge in "Math" (with a score of 3 on the 5-point Likert scale) or it means that the higher score knowledge in "Math" is less likely to fail in the exam, controlling for other variables in the model. Additionally, odds ratio for "Number of Children in Family" was 1.222 (CI = 0.975, 1.532) with a positive beta of 0.201. Given that relationship, for every member increases in a student's family increases the odds of failure in the exam by a factor of 1.222. Finally, the odds ratio for "Smart Phone" (code 1= having a smart phone, and 0 = no smart phone) was 0.339 (CI= 0.156, 0.736). This indicates that student had a "Smart Phone" were approximately 0.339 times less likely to fail in the exam than a student, who had no "Smart Phone" controlling for other variables in the model.

Table 2 Variables in the Equation								95% CI for EXP (B)	
		B	S.E	Wald	df	Sig.	Exp(B)		
Step 1ª	Sex	-.427	.342	1.554	1	.212	.652	.333	1.277
	Pedu	-.017	.042	.171	1	.679	.983	.906	1.067
	School Oringin	-.106	.349	.092	1	.762	.900	.454	.1.783
	Children	.201	.115	3.019	1	0.82	1.222	.975	1.532
	Living SD	.022	.635	.001	1	.973	1.022	.295	3.546
	Scholarship	-.051	.950	.003	1	.957	.950	.148	6.113
	Smart phone	-1.083	.396	7.476	1	.006	.339	.156	.736
	Math	-1.339	.339	11.285	1	.001	.262	.120	.573
	English	-1.014	.302	11.254	1	.001	.3.63	.201	.656
	Constant	6.222	1.607	15.001	1	.000	503.952		

a. Variable(s) entered on step 1: Sex, Pedu, School Origin, Chidren, Living SD, Scholarship, Smartphone, Math, English.

8 Discussion and Conclusion

Several studies on students' academic performance have been conducted in different countries with different results. For example, a study by Ushie et al. (2012) on influence of family structure on students' academic performance revealed that father's education, father's education were not significantly influenced, however, parental socioeconomic backgrounds was statistically influenced students' performance.

In contrast to those studies, the current study found that family's education influenced on students' performance. This finding consist with the results studied by Aromolaran et al. (2013), who found that family's education background has positively influenced student's performance. The study also found that math is the most influenced predictor variable. This finding is supported the previous studies by De Winter and Dodou (2011) and by Guili et al. (2004). Similarly, "English" predictor variable is also statistically significant variable; its power on student's performance is similar to that "Math" did. This finding confirms a previous study by Goutam (2011), who found that English performance is significantly influenced examination scores. Additionally, "number of member in student's family" was statistically significant on student's failure, but its power was low. This may result from supporting of parent in student 'study. When a student lives in a family with more members, usually gains less support from their parent. Surprisingly, for student who had smartphone (say, yes) had negative effect on students' failure. This is more likely that student might use his/her smartphone for illegally cheated in the exam than learning through the smartphone. Finally, other four predictors such as sex, high school origin, living standard, and scholarship status were not significantly influence student's performance (failure).

9 Implication for Practice

- To avoid the failure in corporate finance exam, students should be ready in math and English before starting the course.

- To improve education quality, school administrators should not allow student to bring smartphone in exam session.

- To improve education quality, public policy makers should reform math and English from beginning level of education, because the success of the two subjects might not achieve in a short time period.

- To avoid the failure in exam, parent should increase their supporting their children even there are a large number in their family.

10 Recommendation for Future Research

There were several limitations to the study. First, the current study uses binary logistic regression to identify the important factors affecting students' failure in the exam with nine predictor variables only, other factors such as learning strategies, motivation, self-concept, personal intelligence, study habits, and attitudes etc., which would surely increase the predictive value of the models, were not considered. They should be taken into account in future research. Second, the research analyzed only data from 326 students registered in finance and banking of the undergraduate level at the National University of Management. Future investigation should expand the study to analyze the students' performance in other programs with larger sample size. Final, it is likely that student used their smartphone as a tool for cheating in their exam; future research should be conducted to clarify this argument.

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FACTORS INFLUENCING ONLINE SHOPPING BEHAVIOR

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Abstract

As the Internet and online shopping is growing at a very fast pace worldwide, very few studies and even less have examined the factors and reasons that entice Cambodian to utilize this modern shopping channel; therefore, exploration consumers behavior towards online shopping and reasons for taking up online shopping facility, from a Cambodian perspective become the goal of this study. A snowball sampling method was used to identify participants fitting the predetermined sample criteria and in-depth qualitative interviews were conducted with all participants.

Initially, the results of this study express that saving time or energy, convenient shopping, seeing many selections and no sale pressure are benefits of online shopping. However, its limitations are lacking touch and feel aspect of the products and misleading advertisements. Next, the top five online shopping products are clothe bags or shoes; payment services, money transfer or mobile pop up; tickets; and food and beverage. People buy those produces due to saving time or energy, convenient shopping, seeing many selections, saving cost, and individual consumption needs.

Regarding aspects influencing online shopping behavior, there are three aspects—crime rate, risk-taking, and hacking into the Internet—having negative influenced on online shopping behavior, but attitudes towards to online shopping were seen not to be negatively influenced. Conversely, there are seven factors have more trend in positive influence on online shopping behavior. They are speed of Internet access, credibility of shopping channel, no sale pressure, ability of sale promotion and ads, better price, trust, and familiarity of Internet.

Keywords: *Online shopping, advantages of online shopping, aspects influencing online shopping*

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1 Introduction

The development of Information technology cause e-commerce and online shopping is growing around the world as technology improves and people are able to access the Internet not only from their computers, but also from Web TVs, Palm Pilots and mobile phones (De Swardt, 2008).

1.1 Background

Online shopping has been a growing phenomenon around the world, especially in countries where well-developed infrastructure exists for marketing activities over the Internet (Kau, Tang, & Ghose, 2003). Internet shopping presented some portion of retail sales in Cambodia, and it will increase drastically in the future. Therefore, Internet plays very vital role in changing shopping behavior upon online shopping facility in Cambodia. Although the Internet and e-commerce is growing at a very fast pace worldwide, very few studies, or even less, have examined the factors and reasons that entice Cambodian to utilize modern shopping channel; therefore, exploration and investigate consumers behavior towards online shopping and reasons for taking up online shopping facility, from a Cambodian perspective become the goal of this study.

1.2 Research problem

Because the Internet is a fast-changing environment, and consumers' attitudes and behavior toward online shopping will, likewise, change; seeing factors influencing the preference to shop online are to identify among online shoppers, and updating of online shopping sites and consumers behavior towards online shopping will continually need to be done. The other way round, without awareness of consumers' behavior towards online shopping and factors influencing it, there will be a lot of bad consequences for online shopping channel.

1.3 Research questions

This study was organized to answer two research questions as follows:

- What is the consumers' behavior towards online shopping?
- What are factors that influence people to shop online?

1.4 Research objectives

The research paper has two main objectives. Initially it was designed to **explore consumers behavior** towards online shopping i.e. to see the **regularity of online** shopping and reason for them, to identify **advantages and limitations** of online shopping facility to shopper, to find out the top five most and least online **shopping products** and to inspect **personal concerns** regarding online shopping. Another is to **diagnose factors influence people to shop online.**

1.5 Scope and limitation

The scope of this research is in area of consumers' behavior towards online shopping in Cambodia and the primary data that are collected from online purchasers but not sellers are the limitation of the study.

2 Literature Review

2.1 Shopping facility

Shopping facility can be classified as offline and online. Offline shopping facility refers to **brick-and-mortar stores** as a shopping channel which are traditional physical shopping stores and outlets (North, Mostert, & Du Plessis, 2003). However, Online shopping facility refers to **click-and-mortar stores** as a shopping channel which are virtual online shopping stores and outlets (North et al., 2003).

2.2 Internet shopping

Internet shopping refers to any form of shopping that takes place via the Internet where electronic means are used to make purchases at virtual stores, that is, shopping sites that exist on the Internet (De Swardt, 2008). Similarly, **online shopping** is defined as distance contracts, which means the trader (service provider, seller) and the consumer (natural person acting for purposes which are outside his trade, business or profession), in lack of their simultaneous, actual and physical presence enter into contract not by meeting in person (e.g. in commercial premises, market, open-air market, via trade agent etc.), but only in an electronic way (European Consumer Centre Hungary, 2014-2020). "Online shopping has become a popular shopping method ever since the internet

has declared a takeover," ships2door (2013) stated. For **how a contract concluded electronically in practice, we should go to website of** European Consumer Centre Hungary (2014-2020). In short, online shopping is defined as the process a customer takes to purchase a service or product over the internet (Jusoh & Ling, 2012).

2.3   Consumer Attitude and Behavior

Consumer Attitudes toward online shopping are defined as a consumer's positive or negative feelings related to accomplishing the purchasing behavior on the internet (Chiu, Lin, & Tang, 2005). To investigate consumers' attitudes, we need to know what characteristics of consumers typically online shopping is and what their attitude in online shopping is. In simple terms, this means there is no point having an excellent product online if the types of consumers who would buy it are unlikely to be online (Jusoh & Ling, 2012). According to (Leggatt, 2010), a quarter of U.S. adults have increased the amount of time they spend online shopping (24%) and reading product reviews (25%). Besides, buying trends and internet adoption indications have been seen as the overall electronic commerce value in Malaysia rising from US$18 million in 1998 to US$87.3 million in 1999 (Mohd Suki, Mohd Ismail, & Thyagarajan, 2006). More consumers will use the Internet in the future for shopping; they will patronize suppliers providing more benefits than deterrents in the shopping experience (Abramson & Hollingshead, 1999).

Bellman, Lohse, and Johnson (1999) investigated various predictors for whether an individual will purchase online. These authors concluded that the most important determinant of online shopping was **previous behavior** such as earlier online purchases, while demographic variables such as income, education and age have a modest impact on the decision of whether to buy online. This is consistent with Forrester Research which proved that demographic factors do not have such a high influence on technology as the consumers' attitudes do (Modahl, 2000).

2.4   Advantages or benefits of online shopping for consumer

The findings of De Swardt (2008) indicated saving time, the convenience of products, being increasingly available and accessible, and being able to make price comparisons easily are the main advantages of online shopping. And European Consumer Centre Hungary (2014-2020) state the *benefits of online shopping are **saving time and energy, reducing mobility, no limiting opening hours, broadering choice of goods, being easily compared, and tailored to the individuals needs*** with the most favorable conditions (price, quality, other discounts).

Over the years, with the development in technology, Renita (2003), a constant online shopper, has determined that *the top five benefits of online shopping.* First is *better prices* which means the vast majority of online stores set prices much lower than a physical store (Renita, 2003). Next is **convenience** in term of saving time, fuel, and energy, 24/7 availability, comparison of prices, no waiting in lines, no need too ashamed to buy, and easy to search merchandise i.e. it is more environmental friendly as consumers can just fulfill their desires just with a click of mouse from house without hurting schedule (Renita, 2003), ships 2door (2013) & (Jusoh & Ling, 2012).

Third, there are **variety** of products i.e. due to availability of products, for example, you can buy products that may not logically go together like candy canes and quilts (Renita, 2003) and (ships2door, 2013). Fourth is **fewer traps** which means that you won't feel the pressure to buy other things (Renita, 2003). Finally, **discreet shopping** means shopping online gives you privacy. For example, you can buy ornaments, sexy lingerie, adult toys, etc. without feeling embarrassed or ashamed as your online transactions are basically done privately. (Renita, 2003) and (ships2door, 2013).

2.5   The limitations or disadvantages of online shopping

There are some limitations connecting to online shopping. First, European Consumer Centre Hungary (2014-2020) state that contract is done **without personal interaction** i.e. the consumers are manifested in a twofold information deficit concerning on one hand the product to be bought and on the other hand concerning **the identity of the supplier which is** dubious whether the trader selling the product does actually exist or not, how reliable it is and whether the trader possesses all the necessary permits for carrying out business activity (European Consumer Centre Hungary, 2014-2020).

Next is **incomplete information i.e.** online stores are only showing product description and photos of the merchandise, (ships2door, 2013). Consumers only have a limited information on **a given** product of the website, so they are **lacking pieces of information of the product** (European Consumer Centre Hungary, 2014-2020).

Third, is **lacking touch & feel aspect** i.e. shoppers are unable touch, see, and test the product personally at online shopping, (ships2door, 2013). Consumers can not physically check or try the product if the characteristics are matched with their need and if its quality is the same as expected (European Consumer Centre Hungary, 2014-2020). Similarly, from the finding of De Swardt (2008), the main disadvantages online shopping were being unable to touch and feel products and absence of a salesperson.

Finally, **diminished instant satisfaction** i.e. shoppers are unable to use the product instantly after buying, which reduces instant satisfying. It requires patience to wait for the item to arrive at your door step about two to three days or even longer depending on the ordered location (ships2door, 2013).

2.6   Personal concerns on information security

Personal concerns on information security refers to the concern of securing any personal information that online shoppers make available on the Internet during online shopping (De Swardt, 2008). Participants *in the study of* De Swardt (2008) are in general not *concerned about their personal particulars* being available on the Internet. This sense of security is strengthened by the existence of advanced technology as participants talked about security certificates and data encryption levels increasing their trust of reputable websites.

2.7   Hacking into the Internet

Participants in study of De Swardt (2008) constructed hacking as stealing personal information in order to take part in fraudulent online activities. Those who have not yet experienced prior victimization are not particularly concerned about hackers. Another socially constructed perception is that hackers are mostly targeting big, corporate organizations such as banks, and are not focusing on mere individuals. Furthermore, some participants shifted the responsibility to the consumer, emphasizing the importance of ensuring that the correct software is used to ensure safety, and paying by means of cash or an electronic fund transfer (De Swardt, 2008).

2.8   Aspects influence online shopping

De Swardt (2008) said that the results in a study conducted by Webcheck (1999) concerning factors influencing South African consumers to purchase online indicated in the order of importance as follows: **security, reliability, convenience, the ease of finding the product, online speed of Internet access, price of the item, ability to make more informed purchases, and no pressure from a salesperson.**

Likewise, De Swardt (2008) concluded that five aspects concerning factors influencing choice to shop online are safety, familiarity, trust, risk-taking, and credibility. First, there is no perceived connection between online shopping and *safety* in terms of crime, as the online shopping facility is not necessarily perceived as a safer purchasing alternative compared to traditional shopping. This coincides with the results of North et al. (2003)

where the relative safety of purchasing from home was indicated as one of the least important considerations for online shoppers.

Next, ***Familiarity*** *with the Internet* can be listed as a contributing factor in terms of taking up or continuing with online shopping. It aids in participants' confidence to buy online, subsequently leads to an increased amount of online activities, even positively influences some participants towards online shopping (De Swardt, 2008). Younger people use the Internet with greater ease due to exposure at very young ages; therefore, they are more familiar with the Internet in general (De Swardt, 2008).

Third, ***trust*** *in the Internet as a shopping channel* is highlighted as interesting constructions, among advanced technology. Shoppers talked about reputable sites and software technology as aspects positively influencing their choice to take up online shopping, for they were not exposed to fraudulent activities to date. Thus, Internet **trustworthy** is an aspect positively influencing online shopping (De Swardt, 2008). As people more regularly utilized the Internet to do online shopping, their trust in the Internet as a mechanism increased. In addition, it is thought that online shopping will increase in the future (De Swardt, 2008).

Fourth, in terms of ***risk-taking*** in online shopping, participants believe this aspect to have a negative influence on online shopping, yet attitudes towards online shopping were seen not to be negatively influenced (De Swardt, 2008). Consumers' previous experiences with online purchases or lack thereof can be a significant influence of levels of risk perception by consumers and their purchasing decisions (Dillon & Reif, 2004). Negative experiences increase levels of risk perception with online purchasing and hamper not only a business likelihood of retaining customers but can make it more difficult for other online businesses to gain initial customers (Boyer & Hult, 2005).

Finally, the ***credibility*** of online shopping influenced participants in a positive manner (De Swardt, 2008). It was also listed by North et al. (2003) as one of the most important factors considered by South African online shoppers. Drawing from the results, the credibility of online shopping in general proved to be site dependent, and sites had to be in business for some time in order to be credible. This statement was further supported by the reputation of online retailers which is well known locally, and where trust can be based on the service already received offline. Another argued that credibility can be established through certification programmers, along with site recommendations. Furthermore, online shopping was perceived to be credible due to limited previous victimization. Similarly, with reference to (De Swardt, 2008) the credibility of online shopping is dependent on three major aspects. It depends on the website where one does online shopping, on whether previous victimization was experienced, and on increased future exposure in general. Previously used and trusted sites increased the

credibility of the Internet and online shopping to a positive extent. Increased exposure in the near future will result in more people shopping online, consequently increasing the credibility of online shopping.

2.9 Pattern of Online Buying Products and Dangerous products

According the study which was done by **Master Card Worldwide Insights (2008)**, the products and services most frequently bought online among Asia/Pacific online shopper are books and art (41%), home appliances and electronic products (39%), CDs/DVDs/UCDs (38%) and ladies clothing/accessories (38%). Similarly, Jusoh and Ling (2012) indicated that the types of products frequently purchased online, items most likely to result in opportunistic buying, were ladies clothing and accessories, home appliances and electronic products and CDs/DVDs/VCDs.

Buying medicines or food supplements online may entail health risks for consumers. It may happen that traders try to sell products endangering health and safety of consumers, which are withdrawn from the market or recalled from consumers, thus these products are illegally sold on the internet (European Consumer Centre Hungary, 2014-2020). The list of the dangerous products is available on the following website: http://ec.europa. eu/consumers/dyna/rapex/rapex_archives_en.cfm. Furthermore, as a result of the absence of the parties the risk of purchasing counterfeit is extremely high.

2.10 Ways to avoid risks during online purchase

As stated by European Consumer Centre Hungary (2014-2020) for strengthening the consumers' confidence related to electronic commerce and the minimization of the previously mentioned risks, we can protect ourselves from many difficulties and annoyance; moreover, we can avoid future legal disputes if we purchase on a website where detailed information is available, and we are also aware of the specific conditions of exercising the right of withdrawal from the contract. In addition, we should fully study more on the following fruitful information such as advices, tips or guidance for everyday use of the internet, **additional precautionary measures before ordering a product, E-mail address usage for online transactions, testing the reliability of the website.**

3   Research Methodology

3.1   Research Design

Qualitative research design is used. According to Neuman (1997), the researcher must at all times be honest, and participants must be able to trust the researcher. Readers of the research usually place more trust in the researcher's integrity and interpretations.

3.2   Sampling Methods

A **snowball-sampling** technique was implemented for selecting a sample of online shoppers. According to Neuman (1997), snowball sampling is often used by researchers interested in an interconnected network of people or organizations. The crucial feature is that each person is connected to another through a direct or indirect linkage. In this light, snowball sampling was adequate for selecting cases in this study, and more importantly, when a sample of online shoppers introduced researcher to other online shoppers, the research sample grew. Thus finding an adequate sample was simplified, and this method ensured cases selected were indeed online shoppers. Once current online shoppers referred other online shoppers, these individuals were contacted directly. In short, a snowball sampling method was used to identify participants fitting the predetermined sample criteria and in-depth qualitative interviews.

3.3   Data Collection Method

In-depth qualitative interviews were conducted with all participants. Punch (1998) states that interviewing is a very good way of assessing people's perceptions, meanings and definitions of situations, and constructions of reality because this method can be used for various purposes. Interviews can be used for marketing purposes or to produce data for academic analysis. Furthermore, interviews can be used to glean individual or group perspectives.

According to (Guion, Diehl, & McDonald, 2011) in-depth interviews provide the structure to ensure that conversations are both well-organized and well-suited to your purpose. It uses an open-ended, discovery-oriented method allowing the interviewer to deeply explore the respondent's feelings and perspectives on a subject. The results in rich background information can shape further questions relevant to the topic.

Individual face-to-face interviews were conducted in **a semi-structured manner.** The interviewer did ask the participants a series of pre-established questions with a limited set of response categories, but the majority of questions were open-ended providing room for variation in responses taking time ranged around 50 minutes.

Once appointments had been made with each participant, the interviews were conducted. Techniques can be varied to meet various situations, and varying one's technique is known as employing tactics. According to the traditional interviewing technique, the researcher is involved in an informal conversation with the participant, begins with more general questions and moves on to more specific ones, and should avoid getting involved in a 'real' conversation where he/she answers the questions or gives their opinions. This makes the interview more honest, morally sound and reliable as it treats the participant as an equal (Fontana & Frey, 1994). The use of language and specific terms is very important for creating a 'sharedness of meanings' in which both the interviewer and the participant understand the contextual nature of the interview. To achieve this, the aim of the research study and the contextual nature of the interview are carefully explained (Punch, 1998).

Non-verbal elements are also important in interviewing as additional information is provided to the researcher without the participant conversing. Reflections or any other remarks are noted in the margins, and then all field notes were captured in a database in Microsoft Excel. Data were edited and cleaned before entered into the database. Therefore, the data of in-depth qualitative interviews are collected by recordings what people say, including words, gestures and tones, and observing specific behaviors.

3.4 Design of Questionnaire

Designing questionnaire is vital since (Hague, 2006) said it determines what information you need to collect to be able to answer to research question, to solve research problem as well as to meet research objectives. Therefore, when designing, the questionnaire in the study of De Swardt (2008) is used as the base and some editing is, of course, done by discussing with "Handbook of Marketing Scales" written by (Bearden & Netemeyer, 1999) and "Conducting In-depth Interviews: A Guide for Designing and Conducting In-depth interviews for Evaluation Input" written by (Boyce & Neale, 2006)

3.5   Pre-Test of the Questionnaire

Pre-test of questionnaire is conducted because (Aaker, Kumar, & Day, 2004) mentioned it is able to identify whether the questionnaire is able to capture the requisite data information as expected by researcher and to find out whether our questionnaire was easily-understandable as well as whether there were any vague and confusing questions in the questionnaire.

As a result, twenty respondents were invited to answer to the questionnaire during pre-test. All the respondents reported that they had no difficulty in answering the questions. However, the general comment from respondents was received that some of the questions were a bit wordy and long and the factors influence on line shopping should be added to match with Cambodian shopping climate. Therefore, beside factors influencing online shopping behavior cited by Webcheck (1999) and De Swardt (2008), two items were added by respondents which are crime rate and speed of internet access in Cambodia. Accordingly, the content and the format of the questionnaire were subsequently modified by consulting respondents and "Handbook of Marketing Scales" written by (Bearden & Netemeyer, 1999).

3.6   Reliability and Validity

Lincoln and Guba (1985) have developed four precise criteria that are used similarly to reliability and validity or parallel with them.

- **Credibility (internal validity)**: *Indicates how truthful particular findings are.* In this research, questions were formulated in such a way that key concepts of literature review were addressed, and respondents are able to recall and answer very well about their shopping behavior because, with reference to demographic data, their last time of using online shopping facility is closer to present period that is to say 65% are in the late of year 2014; 34%, in early 2015; & and only 1%, in late 2013. Therefore, the credibility of this research finding is highly truthful.

- **Transferability (external validity):** *Indicates how applicable the research findings are to other settings or groups.* This research finding are applicable for all online products around Cambodia, for it studies about consumers behavior towards online shopping and factors that influence people to shop all online products in Cambodia.

- **Dependability (reliability):** *Indicates if the results are consistent and reproducible.* **For consistency,** the interviewer had a basic script for guidance, so that the same topics were covered in each interview; the interview started with pre-planned questions and probes until no new relevant information was forthcoming. Thus, the result of pretest and final result are **reliable** and **reproducible.**

- **Conformability (objectivity):** *Determines how neutral the findings* are in terms of whether they are reflective of the informants and the inquiry, and not a product of the researcher's biases and prejudices. The result of finding reflex the information from respondents but not researcher, for the interviewer asked the participants a series of pre-established, semi-structured key concepts questions related with **consumers behavior** towards online shopping and **factors influence people to shop online.**

3.7   Descriptive Data Analysis

The following is a set of analytical steps presented in sequence: First, **Codes** are affixed to a set of field notes obtained from observations or interviews. Second, **Reflections** or any other remarks are noted in the margins. Third **data are sorted and sifted** in order to identify similar phrases, relationships between variables, themes, patterns, distinct differences and common sequences. Fourth, these themes, patterns, differences and commonalities will be taken out or into the field gradually. Finally a small set of generalizations that cover the consistencies detected in the database will be elaborated. Those generalizations are dealt with by means of a formalized body of knowledge in the form of constructs and theories.

For items of questions with the answers of more than one choice and carries over than 50 percent, the range of top five will be used for conclusion. However, items of questions with the answers of only one choice, the range of top five most or least shopping behaviors will be used for conclusion regardless of carrying either over or lower than 50 percent. Moreover, the majority of analysis is done with words. They can be organized to allow the researcher to contrast, compare, analyze, and identify and provide patterns. Furthermore, words can be assembled, sub-clustered and broken into semiotic segments.

4 Data Analyses and Empirical Findings

4.1 Demographic Information

The following is the demographic information of respondent. Initially, 178 respondents accept the interview and they are in the rage of **ages** between 15 to 43 i.e. (19 or less), (20-29), (30-39), & (40-49) account for 8%, 77%, 15%, & 1% respectively. Among them 56% are **male**, 70% **single,** 99% use Khmer and English Language.

Next, they own the **occupation** as Student, Private business staff, Businessperson, and Governmental officer which account for 28%, 22%, 10%, & 10% respectively. The remaining 30% works differently as Instructor, Administrator, Housewife, NGO Staff, Bank Officer, Cashier, Accountant, Engineer, Pharmacist, Seller, Consultant, Receptionist, Actor, Worker, Dealer, and Designer.

Third, in term of their **education**, they earn Bachelor Degree 61%, Master, 24%, High School, 15%, and Doctor, 1%.

Fourth, regarding income, 14% of respondents **earn** less than $200; 28% earn in the range of ($200-$299); 19%, ($300-$399); 22%, ($400-$499) and the rest 17% earn ($500-$40,000).

Fifth, concerning their **last time of using online shopping facility** is that 65% are in the late of year 2014; 34%, in early 2015; & and only 1%, in late 2013; so they are able to recall very well about their consuming behavior.

Sixth, related to their regularity of using online shopping facility is that 11% employ weekly; 70%; monthly; and 100%, yearly—with this regularity of shopping online, shoppers give four reasons for online shopping i.e. 83% is individual consumptions needs; 29%, products feature; 26%, availability of products; 19%, Credit card or other facilities.

Seventh, 99% of shoppers use Khmer and English Language for shopping online and the remaining 1% use Khmer Language.

Finally, their home town is at various cities and provinces of Cambodia but they mostly live in town and city presently.

4.2   Advantages or Benefits for Online Shopping

Table 1 Advantages or benefits	Frequency	Percent
save time/energy	**134**	**75**
convenient shopping	**110**	**62**
see many selections	**101**	**57**
no sale pressure	**93**	**52**
speed of informed purchases	82	46
availability 24 hours	80	45
safely delivery	57	32
not expensive	55	31
easily compare	51	29
product feature	29	16

Initially, **Online shoppers specify the advantages or benefits of online shopping in Table 1 that** 75% is saving their time or energy; 62%, convenient shopping; 57%, seeing many selections; 52%, no sale pressure; 46%, speed of informed purchases; 45%, availability 24 hours; 32%, safely delivery; 31%, not expensive; 29%, easily to compare; and 16%, product feature.

4.3   Disadvantages, Risks or Limitations for Online Shopping

Table 2 Disadvantages, risks or limitations	Frequency	Percent
lacking touch & feel aspect	**121**	**68**
misleading advertisements	**99**	**56**
incomplete information	81	46
unsafe or risk	79	44
expensive	67	38
lack of sale assistants	47	26
technological incompatibilities	38	21
slow internet	37	21
not many selections	35	20
difficult shopping	23	13
uable to negotiate	3	2
fake product	2	1

However, in Table 2 the shoppers give many reasons for disadvantages, risks or limitations that is to say 68% indicate lacking touch and feel aspect of the products; 56%, misleading advertisements; 46%, incomplete information; 44%, unsafe or risk; 38%, expensive; 26%, lack of sale assistants; 21%, technological incompatibilities or slow internet; 20%, not many selections; 13%, difficult shopping; 2%, unable to negotiate; and 1%, fake product.

Regarding online shopping products, Table 3 shows that 74% of respondents shop clothe, bag a shoe online. The remaining, souvenir is 43%; tickets and payment services, money transfer or mobile pot up, 39%; phone/computer and its accessory, cosmetic, or food and beverage, 36%; entertained products and call tone, 29%; artificial jewelry/ diamond, 26%; educational products or appliances, 20%; and the other products such as medicines or food supplements; furniture, car, house or land; jewelry or diamond; consultant services; software and steel 35% as a whole.

Table 3 Online shopping products	Frequency	Percent
clothe bag & shoe	**132**	**74**
Souvenir	76	43
tickets	70	39
payment services, money transfer or mobile pot up	69	39
phone/computer & its accessory	64	36
cosmetic	64	36
food and beverage	64	36
entertained products & call tone	51	29
artificial jewelry/diamond	46	26
educational products	36	20
Appliances	35	20
medicines or food supplements	16	9
furniture	14	8
car, house or land	13	7
jewelry or diamond	9	5
consultant services	8	4
software	1	1
steel	1	1

Table 3.1 The most online shopping products	Frequency	Percent
clothe bag or shoe	**65**	**37**
payment services, money transfer or mobile pop up	**29**	**16**
tickets	**28**	**16**
food and beverage	**20**	**11**
entertained products or call tone	10	6
phone/computer & accessory	9	5
cosmetic	6	3
souvenir	3	2
artificial jewelry/diamond	3	2
car, house or land	2	1
consultant services	1	1
appliances	1	1
furniture	1	1
total	178	100

Furthermore, the most online shopping products in Table 3.1 is 37% for clothe, bag or shoe; 16%, payment services, money transfer or mobile pop up; 16%, tickets; 11%, food and beverage; 6%, entertained products or call tone; 5%, phone/computer and accessory; and around 10%, other products like cosmetic, souvenir, artificial jewelry/ diamond, car, house or land, consultant services, appliances, and furniture.

Reason behind their most shopping, with reference to Table 3.1.1, are save time/ energy, 36%; convenient shopping, 18%, see many selections, 11%; individual consumption needs, 7%; save cost, 6%; no sale pressure, 4%; satisfy, 4%; speed of informed purchases, 3%; modernization, 3%; availability 24 hours, 2%; free delivery, 2%; availability of products, 1%; quality product, 1%; product feature, 1%; easily compare, 1%; and absent in traditional market, 1%.

On the other hand, the least online shopping products indicated by shoppers in Table 3.2 are furniture, 35%; car, house or land, 14%; jewelry or diamond, 12%; hardware like steel, 9%; appliances, 8%; consultant services, 6%; medicines or food supplements, 4%; tickets, 4%; entertained products or call tone, 4%; payment, transfer or pot up, 2%; and educational products, 1%.

Table 3.1.1 Reason for the most shopping	Frequency	Percent
save time/energy	**64**	**36**
convenient shopping	**32**	**18**
see many selections	**19**	**11**
individual consumption needs	**12**	**7**
save cost	**10**	**6**
no sale pressure	8	4
satisfy	8	4
speed of informed purchases	6	3
modernmization	6	3
availability 24 hours	3	2
free delivery	3	2
availability of products	2	1
quality product	2	1
product feature	1	1
easily compare	1	1
absent in traditional market	1	1
total	178	100

Table 3.2 The least online shopping products	Frequency	Percent
furniture	**62**	**35**
car, house or land	**25**	**14**
jewelry or diamond	**22**	**12**
hardware like steel	**16**	**9**
appliances	**15**	**8**
consultant services	11	6
medicines or food supplements	8	4
tickets	7	4
entertained products or call tone	7	4
payment, transfer or pot up	3	2
educational products	2	1
total	178	100

Reason behind their **least shopping, with reference to Table 3.2.1,** are rarely need using the products, 21%; lacking touch and feel aspect with buying products, 17%; misleading advertisements, 13%; fake products, 9%; incomplete information, 8%; poor quality, 8%; lack of sale assistants, 7%; expensive, 5%; high cost, 3%; technological incompatibilities, 2%; difficult shopping, 2%; slow internet, 1%; feeling unsafe, 1%; products are available at retail outlet, 1%; and not many selections, 1%.

Table 3.2.1 Reason for the least shopping	Frequency	Percent
rarely need	**38**	**21**
lacking touch & feel aspect	**31**	**17**
misleading advertisements	**23**	**13**
fake products	**16**	**9**
incomplete information	**15**	**8**
poor quality	15	8
lack of sale assistants	12	7
expensive	9	5
high cost	6	3
technological incompatibilities	3	2
difficult shopping	3	2
slow internet	2	1
feeling unsafe	2	1
products are available at retail outlet	2	1
not many selections	1	1
total	178	100

In connection with Table 4, respondents normally use the following shopping facility i.e. Internet, 99%; Telephone, 80%; Facebook, 71%; Wing, 15 %; ABA and Acleda Utility, Bank.net, or other bank's facility, 19% **to buy their preference items.**

Table 4 Shopping facility	Frequency	Percent
Internet	177	99
Telephone	142	80
Facebook	127	71
Wing	27	15
Acleda Utility, ABA Bank.net, or other bank's facility	34	19

4.4 Feeling upon personal particulars

T5 Feeling upon personal particulars	Frequency	Percent
not a big concern ie pay after, never experience	121	68
afraid of leaking personal information	31	17
afraid of money being stolen	26	15
total	178	100

With regard to Table 5, when shopping online, shoppers have three different types of feeling about their personal particulars being available on the Internet. First, 68% of shoppers mention that it is not a big concern, for they pay after getting the purchasing items or they have never experience any risk. However, 17% of shoppers are being afraid of leaking personal information; that is to say; the minority of participants were concerned about marketers obtaining their personal information and even being victims of fraudulent activities. Anyway, it is site dependent since secure and reputable sites are trusted. The last one, 15% of shoppers are being afraid of money being stolen.

4.5 Aspects influencing online shopping behavior

As regards aspects influencing online shopping behavior in Table 6, respondents specify ten factors as follows:

First, online crime rate in Cambodia has negative influence on online shopping i.e. 30% is strongly negative 22%, somewhat negative and 48%, neutral. This means that 52% of respondents, which is not so materially affected, specify that online crime rate in Cambodia causes buyers to cease shopping online. Anyway, numerous of online crime rates in Cambodia are related with Wing Utilization or online foreign exchange trading; therefore, crime rate does not really negatively influence their shopping attitudes. This coincides with the results of North et al. (2003) which indicated online crime rate as one of the least important considerations for online shoppers, for purchasing from home is relative safety.

Table 6 Aspects influence online shopping behavior

		1	2	3	4	5	Total
Online crime rate in Cambodia	F	**53**	40	85			178
	P	**30**	22	48			100
Risk-taking in online shopping	F	28	107	43			178
	P	16	**60**	24			100
Hacking into the Internet	F	34	100	43	1		178
	P	19	**56**	24	1		100
Speed of Internet access	F	1	34	22	102	19	178
	P	1	19	12	**57**	11	100
Credibility of shopping channel	F		3	18	110	47	178
	P		2	10	**62**	26	100
No **sale pressure**	F	2	20	2		154	178
	P	1	11	1		**87**	100
Ability of **sale promotion and ads**	F		4	14	113	47	178
	P		2	8	**63**	26	100
Better **price**	F	13	43	30	77	15	178
	P	7	24	17	**43**	8	100
Trust in internet as shopping outlet	F		9	26	108	35	178
	P		5	15	**61**	20	100
Familiarity of Internet	F		4	21	112	41	178
	P		2	12	**63**	23	100

Note   1 strongly negative, 2 somewhat negative, 3 neutral, 4 somewhat positive,
5 strongly positive, F Frequency, and P Percent

Second, risk-taking in online shopping has negative influence on online shopping i.e. 16% is strongly negative; 60%, somewhat negative; and 24%, neutral. This means that 76% of respondents specify risk-taking cause buyers not to shop online, for a number of responses indicate that online shopping is still perceived as a risk. However, when an overall awareness of the risk involved in online shopping was known, shoppers still shop online-for example, shopping on trustworthy sites, not paying by means of credit card or paying after the product is delivered. The result also agree with (De Swardt, 2008) which risk-taking in online shopping has negative influence on online shopping, yet attitudes towards it were seen not to be negatively influenced.

Third, hacking into the Internet has more trend in negative influence on online shopping i.e. 19% is strongly negative and 56%, somewhat negative; however, only 1% is somewhat positive and 24%, neutral. This means that 75% respondents specify that hacking into the Internet, which is stealing personal information in order to take part in fraudulent online activities, causes them not to shop online. On the other hand, **with regard to Table 5,** 68% of shoppers mention that hacking into the Internet is not a big concern because most of them have never experienced and hackers are mostly targeting big, corporate organizations such as banks, but are not focusing on mere individuals. Furthermore, it is also dependent on secure and reputable sites which are trusted, the correct software used to ensure safety, and paying by means of cash or an electronic fund transfer after getting the product. Therefore, hacking into the Internet of shoppers, a factor of risk-taking in online shopping, has a negative influenced on online shopping, yet attitudes towards to it were seen not to be negatively influenced.

Fourth, speed of Internet access has more trend in positive influence on online shopping i.e. 11% is strongly positive and 57%, somewhat positive. This means that 68% of respondents specify that speed of Internet access causes people to shop online; however, 19% is somewhat negative, 1% strongly negative and 12%, neutral. This means 20% of shoppers say speed of Internet access in Cambodia still has limitation, so it doesn't encourage them to do online shopping.

Fifth, credibility of shopping channel, which is dependent on the website where one does online shopping, on whether previous victimization was experienced, and on increased future exposure in general, has more trend in positive influence on online shopping i.e. 26% is strongly positive and 62%, somewhat positive and 12%, neutral; anyway, 2% of shoppers say credibility of shopping channel has somewhat negative influence. This means that 88% respondents specify that credibility of shopping channel causes people to shop online positively.

Sixth, no sale pressure, which means online stores **set fewer traps** like posters, sales messages, colors and product placement to make shoppers buy additional items, has more trend in strongly positive influence on online shopping, for 87% of them is strongly positive, but only 11% is somewhat negative influence; 1%, strongly negative; and another 1%, neutral. This means that 87% respondents specify that setting fewer traps from online store causes people to shop online positively because they won't feel pressure to buy other things, and they have lots of time and freedom to search for their needed items.

Seventh, ability of sale promotion and ads has more trend in positive influence on online shopping i.e. 26% is strongly positive, 63%, somewhat positive; anyway, only 2% is somewhat negative and 8%, neutral. This means that 89% respondents specify that ability of sale promotion and ads from online stores is so strong that causes people to shop online positively.

Eight, better price has more trend in positive influence on online shopping i.e. 8% is strongly positive and 43%, somewhat positive; anyway, 24% negative influence and only 7% is strongly negative influence and 17%, neutral. This means that 51% of respondents, which is not so materially affected, specify that setting better or cheaper price from online store causes people to shop online positively; however, 31% of respondents think differently, for cheaper price usually expresses poor quality. Therefore, setting cheaper price doesn't cause them to shop online positively.

Ninth, trust in internet as shopping outlet has more trends in positive influence on online shopping i.e. 20% is strongly positive and 61%, somewhat positive; anyway, only 5% has somewhat negative influence and 15%, neutral. This means that 81% of respondents specify that trust in internet as shopping outlet causes people to shop online positively.

The last one, familiarity of Internet has more trend in positive influence on online shopping i.e. 23% is strongly positive and 63%, somewhat positive; anyway, only 2% has somewhat negative influence and 12%, neutral. This means that 86% of respondents specify that familiarity of Internet causes people to shop online positively because their familiarity with the Internet assisted in building their confidence regarding online activities and subsequently leading to an increased amount of online shopping, so familiarity with the Internet do influence participants positively towards online shopping, and younger people shop online with greater ease due to their exposure and more familiar with the Internet at very young ages in general.

Table 7 Recommended facility or site	Frequency	Percent
Khmer 24 h	37	21
Little fashion	25	14
Amazon	15	8
eBay	14	8
Acleda Utility	10	6
Others	77	43
Total	178	100

With reference to Table 7, **the recommended facility or site from** respondents are Khmer 24 h, 21%; Little fashion, 14%; Amazon, 8%; eBay, 8%; Acleda Utility, 6%; and others, 43% which involves Woo Foo Fashion, Wing, Alibaba, Aliexpress, Fashion Shop 168, L192, App Store, PTC Computer Shop, Pizza Company, Aliexess, New Collection, Lady Charm, Sweet Fashion Shop, T-shop Online, Pizzy Company Call Delivery, Airasia and etc.

Table 7.1 Reason for recommended facility or site	Frequency	Percent
goods availability site	137	77
well-known site	120	67
reliable site	106	60
user friendly sites	95	53
saving cost site	67	38

In addition, Table 7.1 shows that **the reason for recommended facility or site from** respondents are goods availability site,77%; well-known site, 67%; reliable site, 60%; user friendly sites, 53%; and saving cost site, 38%.

Table 8 Key motivators to shop online	Frequency	Percent
saving time	141	79
more convenient	110	62
variety of products	109	61
price comparisons	76	43
lower prices	42	24
modern	4	2
no sale pressure	1	1

Pertaining to Table 8, **the key motivators to shop online** are saving time, 79%; more convenient, 62%; variety of products, 61%; price comparisons, 43%; lower prices, 24%; modern, 2%; and no sale pressure, 1%.

5 Conclusions and Recommendations

5.1 Conclusive result on consumers behavior towards online shopping

There are five main aspects regarding consumers' behavior towards online shopping. Initially, **the advantages or benefits of online shopping specified by respondents are** 75%, saving their time or energy; 62%, convenient shopping; 57%, seeing many selections; and 52%, no sale pressure. However, its disadvantages, risks or limitations are 68%, lacking touch and feel aspect of the products and 56%, misleading advertisements.

Second, 74% of all respondents shop clothe, bag and shoe online and **the top five most online shopping products are** 37% for clothe bags or shoes; 16%, payment services, money transfer or mobile pop up; 16%, tickets; 11%, food and beverage; 6%, 6%, entertained products or call tone. In addition, the top five **reasons behind the most shopping are** saving time or energy, 36%; convenient shopping, 18%, seeing many selections, 11%; saving cost, 6%; and individual consumption needs, 7%.

On the other hand, the least online shopping products are furniture, 35%; car, house or land, 14%; jewelry or diamond, 12%; hardware like steel, 9%; and appliances, 8%. Furthermore, the top five **reasons behind the least shopping are** rarely need using the products, 21%; lacking touch & feel aspect with buying products, 17%; misleading advertisements, 13%; fake products, 9%; and either incomplete information or poor quality, 8%.

Third, when shopping online, shoppers have **three different types of feeling about their personal particulars being available on the Internet**. First, 68% of shoppers mention that it is not a big concern, for they pay after getting the purchasing items or they have never experience any risk. However, it is also site dependent, as secure and reputable sites are trusted. Anyway, the minority of participants were concerned about marketers obtaining their personal information and even being victims of fraudulent activities. That is to say 17% of shoppers are being afraid of leaking personal information; and the last one, 15% of shoppers are being afraid of money being stolen.

Fourth, the most used online shopping facilities are Internet, 99%; Telephone, 80%; Facebook, 71%. And **the recommended facility or site** are Khmer 24 h, 21%; Little fashion, 14%; Amazon, 8%; eBay, 8%; Acleda Utility, 6% and others site, 43% because shoppers think that they are the goods availability site, 77%; well-known site, 67%; reliable site, 60%; and user friendly sites, 53%.

Finally, the key motivators for customers to shop online are saving time, 79%; more convenient, 62%; and variety of products, 61%.

5.2 Conclusive result on aspects influencing online shopping behavior

There are three aspects having negative influenced on online shopping behavior, but attitudes towards to online shopping were seen not to be negatively influenced.
First, 52% of respondents, which is not so materially affected, specify that online **crime rate** in Cambodia causes buyers to cease shopping online. Anyway, numerous of online crime rates in Cambodia are related with Wing Utilization or online trading of foreign exchange; therefore, crime rate does not really negatively influenced their shopping attitudes; it is one of the least important considerations for online shoppers, for purchasing from home is relative safety.

Second, 76% of respondents specify that **risk-taking** cause buyers not to shop online, for number of responses indicate that online shopping is still perceived as a risk. However, since an overall awareness of the risk involved in online shopping was known, they still shop online-for example, shopping on trustworthy sites, not paying by means of credit card or paying after the product is delivered.

Finally, 75% respondents specify that **hacking into the Internet,** which is stealing personal information in order to take part in fraudulent online activities, causes buyers not to shop online. On the other hand, 68% of shoppers mention that it is not a big concern because most of them have never experienced and hackers are mostly targeting big, corporate organizations such as banks, but are not focusing on mere individuals. Furthermore, it is also site dependent, for secure and reputable sites are trusted. In addition, the correct software is used to ensure safety, and paying by means of cash or an electronic fund transfer after getting the product.

Conversely, there are seven aspects have more trend in positive influence on online shopping behavior. **First,** 68% of respondents specify that **speed of Internet access** causes people to shop online; however, 20% of them say speed of Internet access in Cambodia still have limitation, so it doesn't encourage them to shop online.
Second, 87% of respondents specify that **credibility of shopping channel,** which is dependent on the website where one does online shopping, on whether previous victimization was experienced, causes people to shop online.

Third, also 87% of respondents specify that **no sale pressure,** which online stores set fewer traps, causes people to shop online, for shoppers won't feel pressure to buy other or additional things, so they have lots of time and freedom to search for their needed items.

Forth, 89% of respondents specify that **ability of sale promotion and ads** from online stores so strong that causes people to shop online.

Fifth, 51% of respondents, which is not so materially affected, specify that **better price** from online stores cause people to shop online.

Sixth, 81% of respondents specify that **trust in internet as shopping outlet** causes people to shop online.

The last one, 86% of respondents specify that **familiarity of Internet** causes people to shop online i.e. their familiarity with the Internet assisted in building their confidence regarding online activities and subsequently leading to an increased amount of online shopping.

5.2 Recommendations

Base on the disadvantages and the factors having negative influences on online shopping, there are recommendations for internet providers, online shoppers, education units, online traders, government and media as follows:

Initially, to intensify customers' satisfaction, **internet providers** should improve the speed and stability of Internet so that they will not feel boring and unsecure since the speed of Internet access in Cambodia is still limited.

Next, to lower risk, **online shoppers** should get familiar with the Internet utilization before they involve in buying from online Internet shopping outlet-Doing like this will make them gain additional useful knowledge, gradually build their confidence regarding online activities, and subsequently lead to an increased amount of online shopping. Moreover, they should shop only in high credibility website where most people trust and have no experienced in term of previous victimization.

Third, to facilitate students in terms of how to use online shopping outlet instead of traditional market in order to save their study time, **educational units** should provide more e-commerce related courses.

Fourth, to get customers' loyalty, **online traders** should abide by the ecommerce law. They should stop any fake, tricky advertisements which lead to misleading information to shoppers. What is more, they must not sell fake or illegal products. In contrast, they should build trust and credibility in internet as shopping outlet because customers need to get experience from bought items and as well as shopping outlets.

Fourth, **media** should communicate unsecure web sites and give useful guidelines to shoppers in order to avoid risky shopping.

Finally, although hackers are mostly targeting big, corporate organizations, such as banks, some still focus on individuals. Hacking into the Internet, which is stealing personal information in order to take part in fraudulent online activities, causes buyers not to shop online because they are being afraid of money being stolen, so Cambodia government should draft and enforce e-commerce related law e.g. Cambodian Cybercrime Law. In addition, she should take actions i.e. block unsecure web site or illegal shopping outlet to protect people from on online crime cases, especially fraud activity via online foreign exchange trading, for nowadays those frauds are not only on upper class, but also on middle and lower class of Cambodians.

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SUSTAINABLE FISHERIES MANAGEMENT INDEX METHODOLOGICAL PROPOSAL IN THE CASE OF ASEAN

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Abstract

The sector of fisheries plays a key role in the food security and livelihood for most of the ASEAN countries and especially in Cambodia. In 2012, the royal government of Cambodia decided to give fisheries management rights to the small scale fishermen by establishing community fisheries. Cambodia is one of a few countries in the world to delegate rights to the small scale fishers to such an extent. In the other ASEAN countries the fisheries management systems are mainly licence and gear restrictions based. Considering the complexity of the fisheries sector, a possible tool to analyze the impacts of the different management system and to compare the sustainability of the fisheries resources in ASEAN is the creation of the Sustainable Fisheries Management Index (SFMI). This paper presents a methodological proposal for the creation of such an index. A round table discussion, with representatives from major stakeholders in the sector of fisheries in Cambodia, was held at the National University of Management in order to establish the theoretical framework of the composite index as well as to weight and to select the individual indicators which will be included in SFMI. Furthermore, the indicators that we have managed to collect so far are listed. The final results of this study will be published in the next volume of the scientific journal of the National University of Management, "NUM Research Series".

Keyword: *Fisheries, ASEAN, Composite Index, Fisheries Management, Sustainability, Adaptivity, Performance.*

Introduction

The sector of fisheries plays an important role in food security and nutrition, economic growth, poverty eradication, equitable development and sustainable resource utilization. The link between the pro-poor growth and the natural resources was proven in many studies of applied research[30]. T. Bostock (2009) has shown the major role of fisheries and aquaculture in the pro-poor growth. According to FAO, a fishery is a complex system that includes the people involved, species or type of fish, area of water or seabed, method of fishing, class of boat, purpose of the activities, or a combination of the aforementioned features. Fisheries are harvested for their commercial, recreational or subsistence value. They can be saltwater or freshwater, wild or farmed (aquaculture). Since the 1950s, along with population growth, the consumption of fish has significantly increased. In 2012, the world fish consumption per capita was 19.2 kilos (SOFIA, 2014). Moreover, according to UNEP, half of the world's population lives within 60 km of the sea, and three-quarters of all large cities are located on the coast. Most fish is captured in marine areas, around 80%. Since the 1990s, there has been a stable level of fish captures due to the fact that some of the fisheries were overexploited and many governments applied different fisheries management systems. The highest production of fish was in 1999. During this year around 95 million tons of fish were captured. In Europe, the peak of production was in 1988, in America it was in 1994, while in Africa and Asia it was respectively in 2012 and 2013 (FAO, 2014). The constant yield of wild fish capture, the improvement of technologies and gears have let to inefficient and unsustainable fishing. Many countries tried to adopt different management system in order to regulate the fishing industry. In 1994, the United Nations Convention on the Law of the Sea established the Economic Exclusive Zone (EEZ). It states that within the area of 200 nautical miles (370 km; 230 miles), every coastal country has sole exploitation rights over all natural resources. Many countries have adopted different tenure rights systems such as Individual Transferable Quotas (ITQ), Total Allowable Catch (TAC), Territorial Use Rights for Fisheries (TURF), Community Rights, Fishing Gear restrictions and others. Appendix 1 shows a simple SWAT analysis for different types of fisheries management systems. These SWAT analyses were made during the international conference organized by the Fisheries Administration and FAO "Tenure & Fishing Rights 2015: a forum on rights-based approaches for fisheries (UserRights2015)" in Siem Reap. Every right-based approach for fisheries has its positive and negative impacts. The need of regulating the industry is a consequence of the collapse of many fisheries around the world, the over-capitalization, the improvement of the technology of fishing. These factors lead to economic inefficiency.

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[30] See Alofa J. P., Manlan O., Vodoundou C. (2011). Politique de croissance pro-pauvre : contraintes et défis au Bénin, Chapter 5 (2011, décembre), PNUD.

According to the famous study of the World Bank "The Sunken Billions", *"the real cumulative global loss of net benefits from inefficient global fisheries during the 1974-2008 period is estimated at 2.2 trillion USD"*. The annual opportunity costs are around 50 billion USD, which is the equivalent of the annual overseas aid to the developing countries. However, by applying different right-based systems, often a limited number of fishers have benefits and they are becoming economically efficient, while others are out of the business. Another interesting subject is how to integrate the human rights and to defend the interest of the groups such as indigenous people and small fisheries communities which are directly dependent on the fisheries resources. Therefore, the economic efficiency and the level of fish stock should be combined with social and governance factors in order to ensure the sustainability of the fishing industry.

Facing these issues, composite indicators could be useful for all decision makers involved in the fisheries management to analyze the sector. Different stakeholders will take into account different indicators in order to evaluate the sustainability of the fishing industry. A fisherman is interested in market price, catching effort, profitability, etc., while a public official could also take into account other market indicators that include some social, biological/environmental and institutional considerations. Although different methods exists to apprehend the sustainability of a given industry, one way to capture the complexity of the fisheries sector and to be able to do a country comparison is by creating composite indicators.

The current paper presents a methodological proposal of the creation of Sustainable Fisheries Management Index (SFMI). The index aims to assess how sustainable fisheries resources are in the context of ASEAN countries. Firstly, the fisheries management systems of different ASEAN countries and their main issues are observed. Secondly, the ten steps method proposed by OECD for the creation of Composite Index along with the literature review on the concept of Sustainability and the limits of the research are depicted. In the next section, the outcome of the round table with stakeholders in the fisheries sector is discussed. The work with them allowed us to determine the weighting and the selection of the indicators which will be taken into account in the creation of the SFMI. Finally, the next step of the creation of SFMI is presented.

1 Empirical analysis of the different fisheries management systems in ASEAN

Before building a Sustainable Fisheries Management Index, it is important to observe the legal fisheries' management frameworks as well as the main issues of ASEAN countries. Considering the insignificance of the fisheries sector and the small territories of Brunei and Singapore, and the fact that Laos is a land locked country, these three states will be excluded from the research.

1.1   Cambodia

The sector of fisheries is playing a key role in the food security and livelihood of a large part of the Cambodian population. Fish and aquatic resources provide 76% of animal protein intake (IFReDI, 2012). Cambodia has also one of the highest consumption of fish. According to the Fisheries Administration, it is over 60 kg per capita annually. Furthermore, according to FAO (2009), the Fishing Industry provides more than 1.5 million full-time jobs, consisting mainly of small scale fishers, and indirectly affects 4.5 million people, i.e. 45.5 % of the total population. Its contribution to the country's GDP is between 8 and 12% (FiA, 2010). 72% of fish captures is in fresh water, while marine fisheries accounts for only 15%. We should emphasize also, that regarding the expansion of the aquaculture in the neighboring countries, in Cambodia this sector accounts for a little over than 12% in 2013.

There is an increase in the small fish volume of captures. According to FAO, in 2013 the total catch of small fish was 150 000 tons, which is more than two times higher than 2009. Moreover, Appendix 2 shows that in 1940, the total catch from Tonle Sap lake was 125 000 tons (SOFIA, 2010) and consisted mainly of large and medium-sized fish, while the 1995–96 catch of 235 000 tons contained hardly any large fish and was dominated by small fish. This could indicate that, the resources were being overexploited. A look at the trophic level in the waters of Cambodia highlights such a threat (Appendix 2). Recall that an organism's trophic level expresses its position, from 0 to 5, in a food web relative to the primary producers. Overfishing tends to decrease the trophic level due to the reduction of the biomass of high trophic level composed by large fish in proportion to the biomass of the low trophic level composed by small fish and invertebrates. This leads to "fishing down marine food webs". A decrease in the trophic level may be interpreted as a decline in the abundance and diversity of fish species, which are high in the food chain. Therefore, we could conclude that somehow fish stocks are being overexploited

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30 www.fishingdown.org

and not sustainably managed[31], where fisheries, first having removed the larger fishes at the top of various food chains, must target fishes lower and lower down, and end up targeting very small fishes and plankton.

Considering the complexity of the sector and the conflicts between small and large scale fishermen, in 2000, the Royal Government of Cambodia applied the 1st Fisheries reform by establishing Community Fisheries (CFis) and in 2012 it strengthened the reform by cancelling all fishing lots and making them available for small scale fisheries by expanding CFis. The Rectangular Strategy phase III clearly states that by applying these reforms the government wants to fulfil the following objectives: better organization of fishery communities, reform of fishing lots management, conservation of flooded forests, combating illegal fishing and promotion of aquaculture. It was a shift towards bottom up approach based on user collective rights. Cambodia is one of the few countries in the world which delegates rights to the small scale fishers to such an extent.

According to FiA, in 2015 there are 516 CFi. *"Community fisheries are a group of physical persons holding Khmer citizenship who live in or near the fishing area, voluntarily established and taking the initiative to improve their own standard of living by using processing fisheries resources sustainably to contribute to economic and social development and poverty alleviation"*.[32] According to the legal framework of Cambodia, CFi should have internal regulations, management plans and maps of their community. All members of CFi have equal rights and each community have a Fisheries Committee. The members of the Fisheries Committee are selected by secret, free elections by CFi. CFi does not have the right to sell, exchange, rent, donate divide, pawn, build dams or transfer the community fishing area. The Ministry of Agriculture Forestry and Fisheries has the general jurisdiction over community fisheries management. FiA is responsible for CFis' registration, approval of fishing areas management plan, resolving conflicts, facilitating the organization, disseminating policies, convincing CFis to increase their capacity of management and other tasks.

Major Issues in the country are the illegal fishing in marine and inland area, management and the coordination between FiA and CFis as well as the construction of some big dams on the tributaries of Mekong River, which have a negative impact on fisheries resources and the communities living in the area.

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[31] www.fishingdown.org

[32] Fisheries Administration, (2014). The Compilation of legal Instrument Related
to Community Fisheries in the Kingdom of Cambodia.

1.2   Thailand

Fisheries play a major role in the life and livelihoods of the people in Thailand, especially those living in rural areas. Fish is a main source of protein, the per capita fish consumption in the Thai portion of Mekong Basin region is estimated at 30-35 kg/ year (MRC, 2007). The total fisheries capture in 2013 was more than 1.8 million tons, of which around 11% comes from Inland Fisheries. Aquaculture accounts for 57% of the total production.

The Fisheries Act is the main legislative tool dealing with the management of fisheries and the cultivation of aquatic animals. According to this act, fisheries are classified into four categories: preservation, leasable, reserved and public. In the preservation fisheries, no one is allowed to fish without permission. Leasable fisheries are fisheries in which exclusive rights are granted to a particular person by means of tendering. Everyone who is cultivating or fishing in this type of fisheries needs to have a licence. The licences should be obtained from the Director-General for Fisheries from the Department of Fisheries (DoF). The Ministry of Agriculture and Cooperatives is the main public institution in charge of the implementation of the Fisheries Act. Every province and district has a provincial Fishery Office and District Fisheries Office. The Tambol Administrative Organization Act (1994) empowers local communities, at sub-district level, to manage and conserve natural resources and the environment in their localities[33]. Another Act which makes the governance of the fisheries more decentralized is the Provincial Administrative Organization Act (2007), which makes the Provincial Administrative Organization able to formulate alone provincial strategies, coordinate with Tambol Administrative Organizations and protect and conserve the natural resources.

The Thai government has adopted the Code of Conducts standards for marine shrimp culture industry. However, many issues related to the illegal fishing and aquaculture practices exist in Thailand. In April 2015, *"the European Union threatened to impose sanctions on Thailand's seafood exports to its lucrative 28-country market if the Thai government fails to take urgent action to eradicate illegal fishing and related practices"[34]*.

1.3   Vietnam

Fisheries sector is important for the Vietnamese economy. In 2014, the nation's seafood export was around 7.6 billion USD[35]. According to FAO, the total wild fisheries capture is around 2.8 million tons of which less than 7% are in inland waters. Aquaculture

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[33] http://www.fao.org/fishery/legalframework/nalo_thailand/en

[34] http://www.nationmultimedia.com/business/EU-warning-to-Thai-fishery-30258478.html

[35] http://www.vietrade.gov.vn/en/index.php?option=com_content&id=2208:vietnams-seafood-exports-to-hit-us76-billion-in-2014-&Itemid=363

sector is playing very important role with a total production of around 3.3 million tons. According to the master plan of development of aquaculture and fisheries in Vietnam, the fisheries will be industrialized by 2020 and modernized by 2030 with respect to the quality, sustainability and environmental protection. Specific targets that have to be reached in 2020 are as follows: 7 million tons of fish captures, 11 billion USD export value, 7% average growth rate, training 50% of the fisheries labor force, rapid increase in the income and 50% reduce of post-harvest losses. Furthermore, fish is an important element for the food security of the country. Fish consumption per capita is 38.27, and it is expected to increase in the coming years.

According to the fisheries law, fisheries resources shall be subject to the ownership of the people and under the integrated management of the State. Ministry of Agriculture and Rural Development is in charge of minimum size and type of aquatic species which are allowed to be fished and fishing seasons. The ministry is also responsible for applying regulations regarding fishing methods, fishing gears, assessment of fisheries resources in specific sea areas, proclaiming fishing grounds and identifying annual allowable catch in specific areas. The ministry is collaborating with other agencies to conduct different surveys.

Provincial People's Committees are conducting practical fishing operations in their provinces. They have responsibility to issue rules of fishing grounds in rivers, lakes, lagoons and other natural waters. It also organizes and promotes the local residents to take part in monitoring, detection and prosecution of any violations committed to fisheries activities in fishing grounds. All individuals and organizations engaged in fishing operations need to have a licence except the individuals fishing by fishing vessels with tonnage smaller than 0,5 tons or not using fishing vessels.

The organization in charge of patrolling and inspecting the fishing area is the Fisheries Resources Surveillance Force (FRSF). This agency is under the Directorate of Fisheries, Ministry of Agriculture and Rural Development. According to Decree No. 102/2012/ND-CP of November 29, 2012, FRSF has the following responsibilities: to patrol, examine, control, inspect, detect and handle violations of fisheries law, to sanction administrative violations, to apply measures to prevent and stop violation of fisheries law, to propagate and disseminate Vietnamese law and international law on fisheries.

The main issue for Vietnamese fishing industry is to increase its production in a sustainable way and to improve the available technology.

1.4   Myanmar

With a coastline of nearly 3, 000 km, several large estuaries, delta systems and numerous offshore islands, Myanmar has a considerable diversity of coastal habitats, including enormous coral reefs, mangroves, sandy beaches and mudflats[36]. According to the National Oceanic and Atmospheric Administration, per capita consumption in Myanmar is 46.5 kg, which makes the fisheries sector very important for the food security and livelihood of many citizens. Around 4 million people are involved in the fishing industry. In 2013, the total fish capture was 3.8 million tons, of which 34% are from inland fisheries (FAO, 2014). In the same year 376 846 tons of seafood products were exported. Their value is estimated to be 652 840 USD (MLFRD, 2014). The aquaculture sector is not fully developed with a total production of more than 900 000 tons.

Management and development of fisheries resources is undertaken by the Department of Fishery (DoF) of the Ministry of Livestock and Fisheries and Rural Development (MLFRD). DoF responsibilities include: a) facilitating the technical needs and equipment of the marine and aquaculture sectors; b) distributing prawns breeders and assisting them with breeding techniques c) undertaking research and development activities; d) collecting taxes; e) issuing fishing licences; f) establishing model breeding centers; g) lease the lands for aquaculture for a period not exceeding ten years and at least seventy-five per cent of the leased acreage shall be excavated and worked as acreage for fisheries ponds waters.

According to the laws of aquaculture and marine fisheries, everyone who is willing to fish or to develop aquaculture needs a licence (payable) from the Office in charge of the Department of the respective Township. The Director General shall determine the following: a) type of fishery, volume of business and duties and fees; b) method of catching fish, period of fishing, species of fish permitted to catch, c) size of fish, fishing implement and fishing grounds d) licence conditions.

On a local level, the inspection of the fisheries is made by the Inspector. He is in charge of inspecting a) vessels, fishes and fisheries in his area; b) arresting and prosecuting any person who violates any of the provisions of this Law and other duties. The system of fisheries management in Myanmar is licence-based.

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[36] http://www.fao.org/fi/oldsite/FCP/en/MMR/profile.htm

According to the World Fish Center, *"Fisheries development in Myanmar faces three constraints: the lack of a comprehensive information base on fisheries, the lack of proven management approaches and technologies and the limited technical capacity to implement fisheries projects"*.

1.5.   Indonesia

Indonesia is the world's largest archipelagic State with some 17 508 islands, and 54 716 km of coastline, and the world's fourth most populous nation (247.5 million).[37] Fish Consumption is estimated to be 30.08 kg per capita. In 2013, the wild fisheries capture was 6.1 million tons, of which only 7% are in inland areas. Indonesia is the world's biggest tuna fishery. According to FAO, 6.7 million people are directly involved in the fishing industry. With more than 13 million of tons Indonesia is the world second biggest aquaculture nation after China. In 2015, more than 540, 000 boats were operating in the Indonesian waters. Marine fisheries can be grouped into two main categories, small-scale and large-scale. Small-scale fisheries consist of two major segments, artisanal and commercial, while large-scale fisheries are industrialized. Inland fisheries are mainly small-scale.

Indonesia mainly applies input control (a licensing system) for management of its fisheries. The only exception is the management of Southern Bluefin tuna fisheries for which the country applies a quota based system. Indonesia Ministry of Marine Affairs and Fisheries (MoMAF) is in charge of distributing licences for vessels larger than 30 GT, while the Provincial Governments are responsible for vessels of 20-30 GT and the Regency Governments for vessels of 5-20 GT[38]. An open access regime still applies for vessels of less than 30 GT under the jurisdiction of provincial and regency governments. According to the law on port of fishery, technical measures are applied in the form of (i) minimum mesh sizes for the cod-end of trawl nets (1 inch for shrimp trawls and 5 cm for fish trawls), (ii) minimum mesh sizes for purse seines, (iii) maximum length of gillnets (10 km), and (iv) imposition of a minimum distance between FADs of at least 10 nautical miles. Directorate General of Control and Surveillance is in charge of monitoring and it cooperates with the Marine Police and the Navy in enforcement operations.

According to the law of fishery port, the head of the port has the authority to carry out the functions of governing, controlling and overseeing activities. Every Fishery Port has the following administration activities: a) fostering services on the quality and process of fishery; b) collection data; c) place for exercising information provision

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[37] http://www.fao.org/fishery/facp/IDN/en

[38] http://www.fao.org/fishery/facp/IDN/en

d) implementation of fishery ship organizational activities; e) place for exercising supervision and control of fish resources f) monitoring; g) control of the environment.

It has been estimated that annually fish for the value of more than USD 1 billion is illegally caught and transferred abroad. There is no quota system in the country. Recent research suggests that 20% of a typical commercial long liner's catch is 'discard'. Blast fishing remains popular amongst many tuna fishermen as a means of increasing catch. *"But traditional pole and line fishing techniques – where schooling tuna are flipped en masse on to boats by fishermen using flexible rods and hooks – are far more selective, avoid by-catch and provide more jobs"* (The Guardian, 2015). President Widodo revealed that around 4860 boats every day are operating illegally in the waters of Indonesia.[39]

Indonesia is facing the following issues related to the fisheries management: a) overfishing in both marine and inland fisheries; b) low income of the people involved in the fishing industry; c) lack of financial support and credits' availability; c) insufficient capacity of the concerned authorities to conduct monitoring, surveillance and enforcement d) illegal, unreported and unregulated fishing. In order to deal with these issues, the country is collaborating with a number of foreign organization such as Regional Fisheries Management Organizations, Indian Ocean Tuna Commission and of the Commission for the Conservation of Southern Bluefin Tuna.

1.6. Malaysia

Fisheries sector in Malaysia includes two main components: marine fisheries and aquaculture. According to FAO, in 2013, the total captures were estimated to be more than 2 million tons of which 26% was from aquaculture production. Malaysia doesn't have a large inland water system, and due to industrialization and pollution, Inland fisheries captures do almost not exist, only 5806 tons in 2013. With 1.1% of contribution to the GDP, fisheries sector is playing an important role for the country's economy. In 2013, 170 821 people were involved in the fishing industry of which comprises of 144,019 fishermen working on licensed fishing vessels and 26,802 fish culturists engaging in various aquaculture systems (Department of Fisheries, 2013). Country's annual consumption of fish is around 54 kg (MIMA, 2012).

A licence-based fisheries management system is used in Malaysia. In order to conduct better management, fisheries areas are divided into four fishing zone:

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[39] http://wwf.panda.org/?240152/Blowing-up-the-bad-guys-

Will-Indonesias-new-fisheries-laws-deliver#sthash.JQ9F3m70.dpuf

- *Zone A (from the shoreline to 5 n. miles) is generally reserved for small vessels operating traditional fishing gears.*

- *Zone B (5 –12 n. miles): Commercial fishing activities (trawling & purse seining), with vessels below 24 GT, are allowed to operate in the area.*

- *Zone C1 (12 –30 n. miles) is for the operation of vessels below 43 GT. The majority of such vessels are trawlers with some purse seiners.*

- *Zone C2 (beyond 30 n. miles) is for the operation of the fleet of offshore vessels of 43 GT and above.*[40]

In 2013, 57 095 fishing boats were licensed (MAAB, 2013). Most of them were situated in Zone A (48294). The number of vessels allowed to operate in each of the Zones is based on the estimation of maximum sustainable yield (MSY). The issuance of new fishing licences for the inshore waters has been suspended. A limited number of licences are still being issued annually to offshore vessels. In order to preserve the marine fisheries, a number of marine parks have been established in the coastal waters.

The Ministry of Agriculture and Agro-Based Industry is responsible for all matters relating to fisheries, including the conservation, management and development of maritime and estuarine fishing and fisheries. The minister appoints a Director General of Fisheries as well as fisheries officers and deputy fisheries as well for implementing the Fisheries Act.

According to the Fisheries Act, *"The Director General shall prepare and keep under continual review fisheries plans based on the best scientific information available and designed to ensure optimum utilization of fishery resources, consistent with sound conservation and management principles and with the avoidance of overfishing, and in accordance with the overall national policies, development plans and programmes".* Any person who undertakes any fishing activity needs a valid license issued by the Director General. The Director General has also the authority to cancel any licence or permit.

The Ministry of Agriculture and Agro-Based Industry may establish marine parks and marine reserves. The National Advisory Council for Marine Park and Marine Reserve is in charge of the protected area. It has the following tasks: *"a) to determine the guideline for the implementation at the national level; (b) to coordinate the development of any area of a marine park or marine reserve with the Federal Government; and (c) to give technical advice to the State Government with respect to any development project on any island which is situated in a marine park or marine reserve area"* [41].

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[40] http://www.fao.org/fishery/facp/MYS/en

[41] The State Law and Order Restoration Council of Malaysia, (2006). Fisheries Act 1985.

  The Commission of Law Revision, Malaysia.

The Director General has the powers of general supervision and direction and the responsibility of co-ordination in respect of all matters relating to marine parks and marine reserves in Malaysian fisheries waters. Any fisheries officer has the power to conduct control, inspections and investigations.

1.7.   Philippines

The Philippines, with an island-dwelling population of more than 93 million and more than 7 100 islands, is a major fishing nation and the world's second largest archipelagic State.[42] The country is the third largest producer of seaweed. In 2012, the country had a fish trade surplus of 657 million USD. Large part of production is consumed locally. Per capita annual fish consumption is around 33 kg. In 2013, the value of exports of fish and fishery products was around USD 1.2 billion. Furthermore, the fishing industry contributes an estimated 1.8 percent to GDP. There are about 1 614 000 fishers involved in municipal waters and 16 500 fishers are involved in commercial fishing. Moreover, 226 000 people and are involved in various types of aquaculture activities.[42]

The Philippine fishing industry comprises marine and inland fisheries as well as aquaculture. Marine fisheries are divided into commercial and municipal fisheries. Municipal fisheries are situated in coastal waters within 15 km from the coastline. Only vessels up to 3 GT are allowed to operate in these areas. Commercial fisheries are outside municipal waters and vessels larger 3 GT are allowed to conduct fishing activities. According to the Fisheries Code, small-scale commercial fishing is under-taken by fishers utilizing vessels between 3.1 GT and 20 GT, medium-scale commercial fishing is undertaken by using vessels of 20.1 GT to 150 GT, and large-scale commercial fishing by vessels of more than 150 GT. Fish captures in municipal waters account for 51%. Inland fisheries are exclusively for small-scale fishermen.

The Department of Fisheries (DoF) is the main institution in charge of manage-ment and regulations of the Philippines fisheries. The Department has the following responsibilities: rentals of fish ponds, issuing boats' licences, fees and other fishery charges, declaring closed seasons, taking conservation and rehabilitation measures. DoF, in collaboration with other governmental agencies and private organizations is in charge of monitoring, control and surveillance of the Filipino waters.

The Secretary of the Department of Agriculture has the authority to impose quotas and other restrictions on the fish catch. The number of issued licences is based on MSY estimations and other scientific studies.

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[42] http://www.fao.org/fishery/facp/PHL/en

Fisheries and Aquatic Resources Management Councils (FARMCs) are in charge of the management, conservation, protection and sustainable development of fisheries and aquatic resources in municipal areas. FARMCs aim to institutionalize the role of fishermen (Fisheries Communities). This joint management system involves the central government (Local Government Units), the municipalities, and the fishers (through the FARMCs).

Commercial Fishing is regulated through licences for fishing and registration of the boats. The Bureau of Fisheries and Aquatic Resources (BFAR) is in charge of the implementation of the Comprehensive National Fisheries Industry Development Plan, issue licenses for the operation of commercial fishing vessels and enforce all laws, formulating all rules and regulations governing the conservation and management of fishery. The Government is applying also gear regulations and temporal restrictions such as hook size control and trawl bans, establishment of sanctuaries and area closures and seasonal closures.

Aquaculture regulations are covered in the Philippine Fisheries Code of 1998 and the Local Government Code of 1991. Some of the Fisheries Administrative Orders issued by the Bureau of Fisheries and Aquatic Resources (BFAR) concern the granting of Fishpond Lease Agreements for public lands; importation and exportation of aquatic organisms; and food safety. The Fisheries Code and Local Government Code transferred to LGUs government supervision and the licensing. *"Areas leased for fishpond purposes shall be no more than 50 hectares for individuals and 250 hectares for corporations or fisherfolk organizations".[43]*

However, a number of problems regarding the fisheries resources exist in the Philippines. According to FAO, main fish species and marine organisms are showing signs of overfishing and coastal habitats are showing signs of degradation because of multiple human activities taking place in coastal areas. Fishers have low catch and in some cases they use illegal and destructive deforestation of upland and mangrove forests, lack of soil conservation appropriate for wetlands, chemical pollution from industry and domestic sources fishing gear to improve their yields.

According to the National Wetlands Action Plan for the Philippines (2011-2016), the following challenges lie ahead: presence of settlement with resulting problems in sanitation and disposal, biological pollution (introduction of exotic species), prevalent practice of drainage for agriculture, increasing saltwater intrusion, contamination of freshwater sources.

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[43] Government of the Philippines, (1998). Republic Act No 8550: Providing for the development, management and conservation of the fisheries and aquatic resources, integrating all laws pertinent thereto, and for other purposes.

As we can see from Appendix 3, most of the fisheries management systems in ASEAN are licence-based. The only exception is Cambodia, where the communities' fisheries have the power to manage the resources. However, the regulations for issuing licences, the size of conservation and protected areas as well as the particularities of every country make country comparison not an easy task.

2 Methodological approach: construction of composite indicators

Composite indicators (CIs) are used in wide range of fields, such as environment, economy, society or technological development (OECD, 2008). They could be a useful tool in policy analysis and comparison between the countries. *A composite indicator is formed when individual indicators are compiled into a single index, on the basis of an underlying model of the multi-dimensional concept that is being measured (OECD, 2008)*. CIs allow us to see "the big picture" and the complexity of a given sector, which cannot be captured by an individual indicator. United Nations Development Program (UNDP) has created many CIs such as the Human Development Index (HDI) which allow us to compare the countries by taking into account the following dimensions: income, life expectancy and education. As we can see in Figure 1, during the last decade the social and political demand for such multidimensional measures is growing. Regarding the Fisheries and aquaculture area, the number of research articles on CIs for this sector is increasing as well (Figure 2). Nevertheless, it mainly concerns biological analysis, while socio-economics dimensions are not enough analyzed.
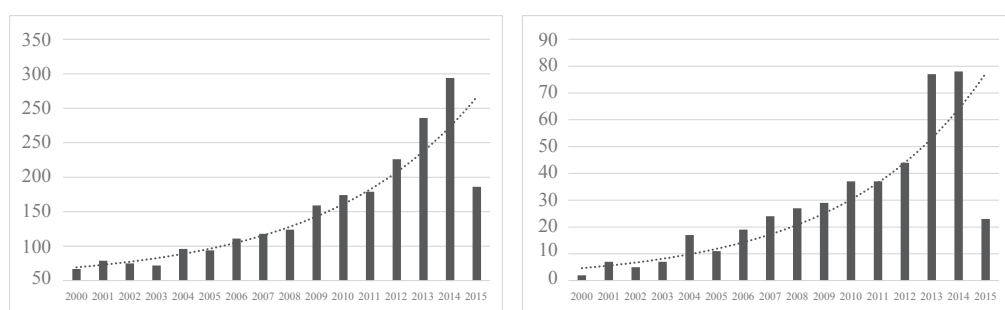

Figure 1 - Evolution of the number of research articles on "Composite Index" published in ScienceDirect between 2000 and 2015 (18/03) in all journals (left side) and in Economics, Econometrics and Finance journals (right side)
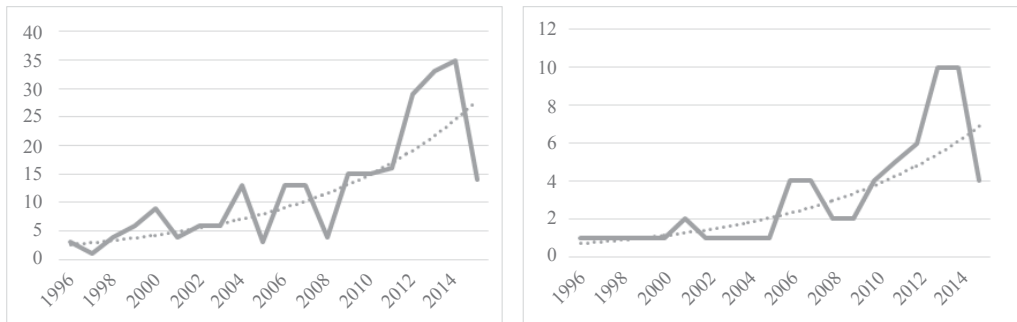
Figure 2 - Evolution of the Number of Research Articles on "Composite index" and "Fishery" (left) or "Aquaculture" (Right) Published in all Journals of Science Direct between 1996 and 2015 (18/03)

Nowadays, public policies are largely dependent on these synthetic tools. Hence, former French President, Mr. Nicolas Sarkozy, launched in 2008 a commission, named "Commission on the Measurement of Economic Performance and Social Progress" or "Commission Sitglitz-Sen-Fitoussi". The inquiry was to examine how the wealth and social progress of a nation could be measured, without relying only on GDP measure. Dialga and Le (2014) stated that the use of CIs can serve as guiding lights for a policymaker on what he needs to know about social aspirations. The same tools are indispensable for evaluating performances of the policies which can be at any scale: national, local and regional. These tools are also essential for comparing different territorial units (cf. regional HDI and regional Human Poverty Index (HPI)) or analysing a specific sector (housing, transport, energy, etc.).

2.1.   State of the art

Solid baselines for the construction of composite indicators have been developed by the Joint Research Center of the European Commission (2005) and OECD (2008). To help researchers to construct composite indicators, they propose to follow ten steps (Figure 3).
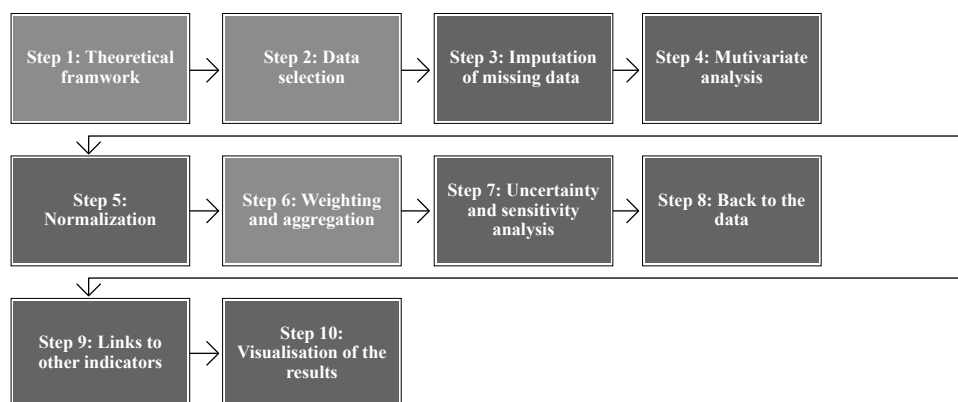
Figure 3 - Checklist for building CIs as recommended by OECD (2009)

It is required that Steps 1, 2 and 6 should be conducted in association with different stakeholders and experts. The other steps are technical and they can be done by researchers alone. The steps proposed by OECD are as follows:

• **Step 1 and 2: Theoretical framework and data selection**

These two steps are the most important because the definition and the dimensions of the phenomenon to be measured should be clarified and for the purpose relevant indicators have to be selected. The definition should be consistent with the objective and the phenomenon that it aims to represent. Firstly, the dimensions of interests should be identified and after that a list of relevant variables related to this dimensions has to be created. We may summarize steps one and two by the realization of five sub-steps (Figure 4).

Figure 4- sub-steps for steps 1 and 2

First, the "definition" of the multidimensional concept to analyze should give the reader a clear sense of what is being measured by the composite indicator. Then, the determination of sub-groups has to be conducted in order to divide the multidimensional concept into several sub-groups. A selection criteria has to be chosen and should help the stakeholders to decide whether an indicator should be included or not in the overall CI. Finally, a general discussion on the strengths and weakness of each selected individual indicator should take place. A summary table on data characteristics (e.g. availability, source, type, etc.) should be done as well.

• Step 3: Imputation of missing data and outlier detection

A crucial step in the OECD method is the estimation of the missing values. Different statistical methods exist to overcome this problem depending on the missing patterns (see OECD (2008)). There are a number of methods such as "case deletion", "simple mean imputation" and "Hot deck imputation" which allow measuring of the reliability of each imputed data. In this step the presence of outliers should also be discussed. These are extreme values which apparently do not belong to the rest of the distribution. When the min-max method is applied to normalize the raw data, the detection of outliers becomes an important issue because they could be unintended benchmarks (Saisana, 2010). The asymmetry of the distribution is also important to look into, since a skewness value greater than 1 together with a kurtosis value greater than 3.5 (both in absolute terms) could flag problematic indicators that need to be treated before the final index construction (Saisana, 2010).

• Step 4: Multivariate analysis

Multivariate analysis has to be carried out in order to verify the internal statistical consistency of the data within each pillar/dimension of the conceptual framework (JRC, 2012). Ideally, a composite indicator is structured in a way that each pillar describes a single latent component. This requires positive and high level of correlation within each pillar. There are two ways to test it: using a correlation table which includes all indicators, and by conducting classical Principal Component Analysis (PCA) as a method of dimensionality reduction. Based on the PCA results, relevant dimensions can be accepted if they adhere to the following criteria: (a) have an eigenvalue above 1 (Kaiser criterion); (b) account for at least 10% of total variance; (c) cumulatively contribute to more than 60% of total variance (OECD and JRC, 2008). Indeed, if the analysis reveals a negative correlation between two sub-indicators, both of them should not be components of the final indicator since their effects will neutralize each other and thus constitute a bias in some aggregation functions, such as arithmetic mean.

• Step 5: Normalization of data

Normalization is required prior to any data aggregation as the indicators in a data set often have different measurement units (Nardo et al. (2005)). There are different methods of normalisation of data, which will involve different ranking measures (see OCDE (2008)). The two most used approaches are the Min-Max and the Benchmark scale-ratio (Appendix 4).

• Step 6: Weighting and aggregation

This step is definitely one of the most important ones. Although the presentation of the weighting methods will be dissociated from the presentation of the aggregation's one, in practice these two are closely linked and difficult to dissociate because the chosen weighting method often implicitly imposes the aggregation method [44].

Weighting methods

There is not a commonly agreed method on how to weight the different sub-indicators. Yet, we can dissociate the existing methods in three main categories[45]: equal weights, weights based on statistics models and weights based on participation. Equal weighting is the result of either the recognition of an equal status for all indicators or the result of ignorance about the correct model to apply. It can be also the simple consequence of the lack of consensus on alternative solutions. From statistical analysis of the data, it is possible to get an appropriate set of weights. Two techniques are very popular: the Principal Component Analysis (with Factor analysis) and the Benefit of the Doubt approach. The last approach, weights based on participation, requires to involve different stakeholders in the issue and to ask them to rank the different sub-indicators. Different methodologies exist to get the final subjective ranking. First of all, one may directly ask them to directly rank the indicators from the most important to the less important. A second method, called "budget allocation process" is involved to ask the stakeholders to allocate a 'budget' of one hundred points to the indicator set, based on their experience and subjective judgment of the relative importance of the respective indicators. Finally, the Analytic Hierarchy Process (AHP) can be used. It involves building outranking matrices by asking the stakeholders to compare all the possible pairs of indicators. For each pair, they should choose which one is more important and how much more important. In AHP, weights represent the trade-off across indicators and measure the willingness to forego a given variable in exchange for another [46].

Aggregation methods

Several aggregation techniques exist. Most of them depend on the weighting method. Hence, if the weights are ranks (e.g. from 1 to N, where N is the total number of sub-indicators), one may use simple mathematics (median rank, sum of rank) or technics from social choice theory as Borda count (see Munda (2008)). When weights give you 'scores', the two well-known aggregation functions are the arithmetic mean and the geometric mean. The arithmetic mean is

simply defined by $I_c = \sum_{q=1}^{N} (w_q x_q)$ with normally $\sum_{q=1}^{N} w_q = 1$ and $0 \leq w_q \leq 1$. This is

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[44] See also table 6.12 p.84 in Nardo et al. (2005).

[45] See https://composite-indicators.jrc.ec.europa.eu/?q=content/step-6-weighting

[46] For a nice presentation of BOD, see Cohen and Saisanna (2014). For an application of AHP, see Dedeke (2013).

the most widespread method. It should be noticed that it implies perfect (and constant) substitutability between the sub-indicators. The old version of the Human Development Index (HDI) was using this aggregation function. But, because of the assumption of perfect substitutability, the arithmetic function was changed for a geometric one (see Klugman and al. (2011)).

The geometric mean is defined by $I_c = \prod_{q=1}^{N} (x_q^{w_q})$ with $\sum_{q=1}^{N} w_q = 1$ and $0 \le w_q \le 1$.

It implies imperfect substitutability and rewards improvements in the weak dimensions.

• Step 7: Uncertainty and sensitivity analysis

Composite indicator development involves stages where subjective judgments have to be made: the selection of individual indicators, the treatment of missing values, the choice of aggregation model, the weights of the indicators, etc. All these subjective choices are the bones of the composite indicator and, together with the information provided by the numbers themselves, shape the message communicated by the composite indicator (OECD, 2008). As a consequence, it is generally requested to check the robustness of the composite indicator by doing a sensitivity analysis on the different sources of uncertainty. The sensitivity analysis should not be conducted in order to legitimate the composite indicator, but should only be used to verify that the final ranking is robust to possible changes in some of the methodological assumptions. One popular method to conduct sensitivity analysis is to use Monte-Carlo experiment [47].

• STEP 8: Back to the data

When the composite indicator is built and the final ranking is done, it is important to get back to the data (i.e. to de-construct) to understand what the main reasons for the good or bad performance of a given unit are. This step is also important to identify whether the composite indicator's results are mainly dominated by few indicators or not. Furthermore, the relative importance of the sub-components of the composite indicator should be explained (OECD 2008).

• Step 9: Links to other indicators

This step should be done in order to correlate the composite indicator with other relevant measures, taking into consideration the results of sensitivity analysis, and in order to develop data-driven narratives based on the results (OECD, 2008).

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[47] See for example Garcia and Kovacevic (2011) for an application to the HDI analysis.

• Step 10: Visualization of the results

Composite indicators are technical and complex tools but the message or question behind them should be clear and simple such as: How important is the globalization? What is my environmental performance? Is my country growing sustainably? It is always true that a well-designed graph or presentation can speak louder than words. Visualization should receive a proper attention, because it can influence (or help to enhance) interpretability (Nardo et al. (2005)). The full report on the Environmental Performance Index in 2014 is a useful reference to see how a nice presentation of a composite indicator can be achieved [48].

2.2. Review of literature: Sustainability

The objective of the current paper is to create composite indexes which will allow us to assess the sustainability the fisheries in ASEAN. Sustainable development is broadly defined as being development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs. This concept seeks to incorporate environmental, economic and social considerations. As stated by OECD (2003), fishery is a renewable, but potentially depletable source.

The stable fish stocks are a necessary condition for sustainable development of fishing industry. According to Gordon (1953, 1954) and Schaeffer (1954), there is a long tradition in economics to analyze sustainability of the fisheries, by applying bioeconomic modeling (Anderson and Seijo, 2009). In these models, the (optimal) level of fish biomass is usually the level associated with the maximum sustainable yield (MSY), which does not reflect the optimal solution from a pure economic (profit) vu. Larkin et al. (2011) stated that while establishing a sustainable level of harvest is a goal with intuitive appeal, the pursuit of MSY ignores many relevant economic and social factors that are crucial for the sustainable management of a fishery. Moreover, it does not take into account institutional and social dimensions which are in the core of integrated environmental assessment. Consequently, nowadays the assessment methods of the progress towards sustainable development goals are an important issue in the fisheries sector. Even though, the use of environmental indicators is well practiced today, the construction of multi-dimensional indicators assessing the institutional and social aspects of the sustainable development is underdeveloped. However, the fisheries' sector is highly dependent on the sustainable exploitation of fish stocks. Therefore, the decision to use, or not, fish resources cannot be made without taking into account environmental, social, economic and institutional considerations.

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[48] It can be downloaded at: http://epi.yale.edu/content/2014-epi-report

On the environmental/ecological aspect, a well-known composite index is the Marine Trophic Index (MTI) that measures the complex interactions between the fisheries and marine ecosystems[49]. It has been developed by the Sea Around Us project (www.seaaroundus.org) at the UBC Fisheries Centre (www.fisheries.ubc.ca). The MTI is calculated from catch composition data collected by the Food and Agricultural Organization of the United Nations (FAO), after being spatially allocated to EEZs, LMEs or other relevant spatial ecosystem components. Although not really a composite index, Pitcher (2001) proposed a research proposal, called RapFish (http://www.rapfish.org/), that can be implemented to evaluate fisheries sustainability along different performance modalities (ecological, technological, economic, social, institutional and ethical). A recent application for the Basque tropical tuna purse-seine fleet has been published by Murrilas-Maza et al. (2014). They show that the estimated Sustainability Index for the fleet fishing in the Indian Ocean is above a critical sustainability threshold and it was improving between 1998 and 2009.

Adaptive capacity of the countries is one of the main factors of the sustainability of the fisheries resources. Following Islam et al. (2014), exposure can be defined as the nature and degree to which a system is exposed to some events (as significant climatic variations, sea-level rise, etc.), sensitivity as the degree to which a system is affected by or responsive to stimuli, and, finally, adaptive capacity as the ability or capacity of a system to adjust to some events, as climate change, to take advantage of opportunities, or to cope with the consequences. By combining these three notions in a composite index, Islam *et al.* (2014) calculate a livelihood vulnerability index. Among the results, they show that exposure to floods and cyclones, sensitivity (such as dependence on small-scale marine fisheries for livelihoods), and lack of adaptive capacity in terms of physical, natural, and financial capital and diverse livelihood strategies construe livelihood vulnerability in different ways. For example, regarding the fisheries community, it was observed that, when households are similarly exposed, higher sensitivity and lower adaptive capacity create higher vulnerability for these people.

Cambodia's fisheries communities are highly vulnerable to the effects of the climate change. By 2030, following Eastham et al. (2008), the runoff throughout the Mekong Basin is expected to increase by 21%, and the wet season flood level of the Tonle Sap Lake is expected to rise by 2.3 meters. Moreover, the climate change could bring more extreme weather events such as floods or storms. As a consequence, adaptive capacity is, obviously, an important component closely related to the sustainability of the fisheries' sector. The vulnerability of 132 national economies to potential climate change impacts on their capture fisheries was calculated by Allison *et al.* (2009) using an indicator-based approach. They calculate a composite index of adaptive capacity by aggregating indicators of health, education, governance and wealth. From their results, it appears

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[49] Main reference : http://www.bipindicators.net/mti

that the fisheries adaptive capacity of Cambodia is low, and, as a consequence, the vulnerability index of Cambodia is high.

2.3.   Limits of the Research

The current research has its limits. It should be emphasized that a composite indicator will never reflect the reality of fisheries economics because it includes a large number of interdependent variables. Another key issue is whether or not to treat capture fisheries and aquaculture together. Although aquaculture is often administratively part of the "fisheries" sector, for all practical purposes aquaculture is actually much closer to animal husbandry. It is important to find specific indicators that will allow us to differentiate large (for profit) and small-scale (often primarily food security/livelihoods) operations. This is strongly relevant for Cambodia, where most (inland) fisheries and aquaculture operations are small-scale. From development/result based management point of view, a composite index could contribute to "hide" critical issues and constraints of importance for the relatively diverse and complex fisheries "sector". There are also very few CIs related to the sustainability of the fisheries. The main problem that arises when talking about sustainability is the difficulty that different stakeholders may have in both defining and evaluation the sustainability of a fleet or a fishery. This may explain the lack of general sustainable composite indexes to evaluate fisheries sector (Murrilas-Maza et al., 2014). Another key point that should be highlighted is the reliability of the data in some ASEAN countries and the missing statistics about the small scale fishing, illegal activities and fishing by species. Considering these limits, the results that we will have should be interpreted with caution.

3 Step one, two and six of the Creation of SFMI

The challenges in developing a composite indicator are multiple: finding appropriate data, identifying how best to select the appropriate individual indicators and how to combine them, and discuss the robustness of the output before being communicated. As it was stated in the OECD (2008) handbook on the composite indicators, ''The strengths and weaknesses of composite indicators largely derive from the quality of the underlying variables''. Ideally, variables should be selected on the basis of their relevance, analytical soundness, timeliness, accessibility, etc. The data selection process is always subjective since there is no single way to define a set of indicators. We want the composite indicator to be built based on four dimensions (economic, environmental, social and institutional). The final set of individual indicators should not be driven by the availability of data.

3.1. Round Table on Fisheries Management

In order to conduct steps 1, 2 and 6 recommended by the OCED Handbook (2008), we decided to organize a round table with different stakeholders involved in the fishing sector in Cambodia. Our goal was to clarify the theoretical framework of SFMI, to discuss the particularity of the fishing sector in ASEAN, to list and select the important indicators and to weight them. Before the round table, a number of individual indicators found in the scientific literature were preselected and a list of potential indicators was made. They were classified into four dimensions: economic, social, environmental and institutional. SFMI should be able to give a clear idea about the performance, sustainability or vulnerability of the relevant sector.

The round table was held at the National University of Management (Phnom Penh) on April 17, 2015. Representatives of the following organizations took part in the workshop: European Chamber of Commerce, Fisheries Action Coalition Team, Fisheries Administration, Inland Fisheries Research and Development Institute; Japan International Cooperation Agency, Laboratory of Economics and Management in Nantes (France), The Learning Institute: People and Natural Resources, l'Observatoire Socio - Économique des Pêches et des Cultures Marines du Golfe de Gascogne (France), Ministry of Environment, National University of Management, World Fish Center and Mekong River Commission.

It should be highlighted that this meeting was within the framework of the World Bank Project of Maritime and Inland Waterway Observatory (SGA 009 NUM) in which we are involved.

The objectives of the round table were multiple. Firstly, we wanted to provide an opportunity to different stakeholders to get acquainted with the Observatory's research project. Secondly, we wanted to show the experience of a similar socioeconomic Observatory in Nantes *("l'Observatoire Socio - Économique des Pêches et des Cultures Marines du Golfe de Gascogne"*). Thirdly, we wanted to explain the methodology that will be used. Finally, we were open to delete, to modify and to include some variables in the list of preselected indicators.

3.2. Selection and ranking made by stakeholders

Some of the preselected variables were changed, others modified, with a common agreement of the participants on the round table. Finally we made a list of 39 indicators (Appendix 4). 13 indicators are in the economic, 10 in the environmental, 7 in the social and 9 in the institutional dimension. Each representative had to select 10 indicators, at

least two from each dimension. After that these indicators were ranked from most to least important (1 to 10), which allow us to attribute a set of weights for each potential indicator. The importance of each indicator is estimated by the following method:

First we attribute a set of point for every indicator which was chosen by a respondent (Table 1).

Rank	Attributed points
0	0
1	10
2	9
3	8
4	7
5	6
6	5
7	4
8	3
9	2
10	1

Table 1 Attributed points for every rank

We use the above formula to estimate the weight of each indicator.

$$x_i = \left. \Sigma\, y_{ij} \middle/ \Sigma \Sigma\, y_{ij} \right.$$

xi – relative weight of indicator i, x □ [0:1]
yij – attributed points (Table 1) for the indicator i by the respondent j, y □ [0:10]

Table 2 depicts the top 20 indicators with the highest scores. We observe that among them there are eight environmental, five from economic, three institutional and three social ones.

The environmental dimension is very important for the stakeholders involved in the fishing industry. Biodiversity has the highest score followed by water pollution, biomass evolution and specific area impact. Economic indicators such as innovation, financial independence, the survival of species, generated cash flow and productivity are the most influential within the economic dimension.

Indicators	Dimension	Total points	Relative weight
Biodiversity	Environmental	66	0.092307692
Water pollution/quality (ex: The nutrient load from fish farms)	Environmental	46	0.064335664
Biomass evolution	Environmental	46	0.064335664
Specific area impact (ex: mangrove, habitat connectivity)	Environmental	39	0.054545455
Innovation (possible new technology)	Economic	38	0.053146853
Financial independence	Economic	33	0.046153846
Survival of the species	Economic	31	0.043356643
Average annual income of the sector compare to others	Social	31	0.043356643
Existence of legal regulation (MPA, conservation areas)	Institutional	31	0.043356643
Contribution of the sector to employment	Social	29	0.040559441
Cash Flows generated by the enterprise	Economic	25	0.034965035
Quality standard/certifications/labels	Institutional	25	0.034965035
Water flow quantity (hydrology)	Environmental	24	0.033566434
Average age of existing firms	Social	22	0.030769231
Productivity : saving of time	Economic	21	0.029370629
Waste of production (liquid and/or solid !! ex: biomass discarded)	Environmental	21	0.029370629
Ecological transformation (ex: introduction of non-native species)	Environmental	20	0.027972028
Air pollution/quality (ex: with possible impact on climate change)	Environmental	19	0.026573427
Public assistance	Institutional	19	0.026573427

Table 2: The top 20 most frequently chosen and ranked indicators

The most important indicators from the social dimension are average annual income of the sector compared to others, contribution of the sector to employment and average age of existing firms. Existence of regulations, certificates and public assistance are the most selected and ranked institutional indicators.

A closer analysis of the results shows that the environmental dimension appears to be the most important, followed by the economic, social and institutional ones.
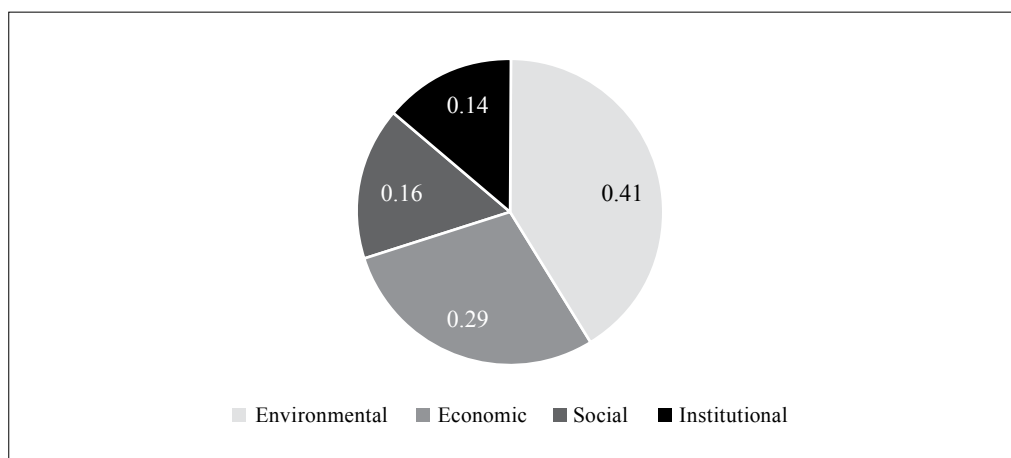
Figure 5: Relative weights of the dimensions in the construction of SFMI

According to the opinions of the experts and professionals, there are two important factors for the sustainability of the fishing industry: economic and environmental. The capacity of the institutions and social aspects seems not a primary concern.

Appendix 4 shows indicators that so far have been collected. Some of the indicators are for one year or a limited time period, others are not for all ASEAN countries. In the next part of the research, some of the indicators will be deleted and others included in the final selection.

• **Conclusion**

In the first part of the current paper were presented the different fisheries management systems in ASEAN (except Brunei, Singapore and Laos). Most of the countries are using gear restriction, certificate and licensed based systems of management. The only exception is Cambodia, where the Communities Fisheries have the full rights to manage the resources. Moreover, every country has its own particularities. For example, in Thailand and in the Philippines the fisheries communities have their place in the decision making process. In Indonesia, the vessels less than 30 GT have an open access to fish. Most of the countries are facing issues related to illegal fishing activities, which is particularly true for Cambodia, Thailand and Indonesia.

The complexities of the different management systems and fish laws make the comparison of the fisheries resources' sustainability in ASEAN countries very difficult. A possible tool to do such an analysis is the creation of a composite indicator. In the second part of the article was presented the methodology proposed by OECD that will be followed closely. However, composite indicators have their limits especially in the case of the sector of fisheries. They could hide important information and for some aspects

such as illegal fishing activities and biodiversity it is very hard to find suitable indicators. In this paper are presented step one (theoretical framework), partly step two and six (data collection and weighting and aggregation). A round table with major stakeholders in the Cambodian sectors of fisheries was held at NUM. With their help, we managed to select potential indicators that will be taken into account for the creation of SFMI as well as to weight the different dimensions. We observed that according to the participants in the round table, the most important dimension is the environmental (41%), followed by the economic one (29%), the social one (16%) and the institutional one (14%). Moreover a list of already collected variables was made (Appendix 6), which will be completed in the second part of the research.

The next step of our study will be to approach the people who attended the round table as well as other organizations involved in the fisheries sector in the ASEAN countries in order to collect variables associated to the indicators mentioned in the Appendix 5. The second part of this research will be dedicated to mostly technical work. We will follow closely the guidelines and the steps mentioned in the Handbook of Composite Indicators (OECD, 2008). The second part of the research will be published in the future volumes of NUM's scientific journal "NUM Research Series".

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Appendices

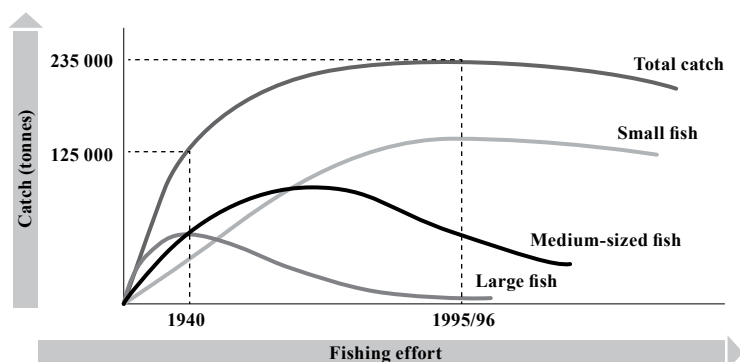## Appendix 1: SWOT analyses of different types of fisheries management systems.

	Strength	*Weaknesses*	*Opportunities*	*Threats*	*Examples*
Open access	Safety net – depends on the socioeconomic context; Livelihood and nutrition – In the context of small scale fishing	Over exploitations; Commercialization; Increase of the fishing efforts.	Competition between fishermen	Total collapse of the fishery; Less food for the local population Increasing demand for fish	Mozambique French Polynesia
Licence limitations	Number of fishermen is limited Fishermen are Identified	Competition between fishers (race to fish); Inadequate governance	Selling licences (financial opportunity) Stock can recover	Capital stuffing Illegal fishing	Canada (Alaskan salmon); Kenya (Lake Naivasha)
TURFs	Good system if the resources remain within the TURFs Good for shell fish Clear area zonation, predictability, fisher knowledge into system	Rules are not respected, industrial fishers entering others' zone (closer to the coast): enforceability Hard to apply this system in the context of migratory community; Family and friends – relationship issues.	Possibility to incorporate such system within the protected areas Opportunity to control efforts Option for systems of cooperatives across zones	Privatization Threat from Open access fishery If evolves too quickly if fish disperse to react, Turf alone doesn't guarantee protection from outside fishers – other gear types,	Pakistan ; S. Korea (Area communal concessions) Mauritania (Parc dÁrguin) Cambodia; (Cfis) Chile; Mexico (Spiny Lobster Fishery)
Total Allowable Catch	Good for protecting the ecosystem as a whole Scientific advice on setting the catch limits	Single specie allocation does not work Potentially unrecorded catch Race to fish Fisheries Community may not agree with the catch limits	Stability of the stock (Best available knowledge) Restrict TACs to certain period of the year Serving as collateral for loans	Enforcement Over capitalization Safety risk High cost	South Africa North America West Coast (Halibut Pre-ITQs)

	Strength	*Weaknesses*	*Opportunities*	*Threats*	*Examples*
ITQs	Lower operational cost No race to fish, Fish at convenient, More security for fishers	Loss of value other than fisheries Could become inequitable negative impacts on communities where social objectives are higher than economic impacts on employment Very difficult for new fishers to enter in the industry	Possibility to harvest towards the most economic efficient way Measure for social protection Livelihood diversification; Can provide for economic rationalization	Concentration of ownership, Unemployment Impacts on small scale fishermen and indigenous people	Iceland Denmark Canada New Zealand
Community Rights	Social cohesion Own boundaries, community sets the regulations – where to when to fish – community fishery licence plan	Tendency to overfishing Govt gives rights but fishers don't know how to Govt gives rights but fishers don't know how to exercise rights; self-financing a problem as need funder finance, short length of tenure Elite capture , majority not involved Traditions, Customs, and Rights of indigenous peoples not taken into consideration Consensus difficult (Politics)	Properly management, can be sustainable. Easy for new entrance New reform of govt, support from funders to develop own plans, opportunity for establishing a commercial fishery Donor / Top down driven	Environm. Degradation (gears) Easy new entrance Illegal fishing still a problem<, bigger area problem for MCS, other responsibilities, relationship issues with family friends policing system Population growth and urbanization need to be considered Who is excluded?	Lake Victoria Cambodia
Rights by fishing type or fishing gear	Control the efforts of the fleet Provide exclusive access to the fishery		Enforceable - gear units easily measured on shore & at sea Have allowed removal of some inputs Improve the profitability Changes in fishery productivity/effort creep addressed by adjusting the value of the gear unit	restricting fishery effort levels management costs (user pays) levies industry association levies	Australia (Northern Prawn Fishery)

	Strength	Weaknesses	Opportunities	Threats	Examples
Protected Areas	Protecting spawning stock, juveniles, habitat	Can increase fishing effort in areas outside but close to the MPA Can increase costs of fishing to fish in areas further away; management + MCS costs	Opportunity to improve science – fishery knowledge; potential to diversity i.e. rec fishing	Increase conflicts between fishers other users	East & West Africa Kenya Belize etc

Appendix 2: Catch Composition in the Tonle Sap, Cambodia. (SOFIA 2010 pp.188)

Catch composition in the Tonle Sap, Cambodia

Appendix 3: Fisheries Management Systems in ASEAN

Country	Management System	Particularities
Cambodia	Communities Rights	Communities Fisheries have the rights to manage the fisheries resources (bottom up approach); Around 10% of inland waters are protected areas; Most of the catches are made in inland waters; Aquaculture and Marine Fisheries are not sufficiently developed. Illegal fishing and hydropower dams' impacts are the main problems.
Thailand	Licence based system/ Community Rights	Four types of fisheries: Preservation, leasable, reserved and public; Local communities, at sub-district level have the authority to manage and conserve natural resources and the environment in their localities. Illegal fishing is a major problem.

Country	Management System	Particularities
Vietnam	Licence based system	Individual fishing by fishing vessels with tonnage smaller than 0.5 tons or not using fishing vessels don't need licences. Regulation of the length of the fishing season.
		Main issue for the country is to increase the production by sustainable way and to improve the available technology.
Myanmar	Licence based system / Gears restrictions	The Director General determines type of fishery; volume of business, duties and fees; method of catching fish, period of fishing, species of fish permitted to catch; size of fish, fishing implement and fishing grounds; licence conditions.
		Main issues are lack of information about the country's fisheries and limited technology capacity.
Indonesia	Licence based system / Gears restrictions	An open access regime still applies for vessels of less than 30 GT.
		Main issues of the country are as follows: overfishing, low income of the people involved in the fishing industry, lack of financial support and credits' availability, insufficient capacity in terms of monitoring, surveillance and enforcement, high discards of commercial fleet.
Malaysia	Licence based system	Inland Fisheries captures are almost inexistent.
		Fisheries areas are divided into four zones: Zone A (from the shoreline to 5 n. miles) for small vessels; Zone B (5 –12 n. miles): for commercial fishing activities (vessels below 24 GRT); Zone C1 (12 –30 n. miles) for vessels below 43 GRT; Zone C2 (beyond 30 n. miles) for offshore vessels of 43 GRT.
Philippines	Licence/ gear and time regulations / Quotas	Marine Fisheries are divided into Commercial and Municipal fisheries; Only vessels up to 3 GT are allowed to operate into Municipal waters; Quotas system based on MSY; Fisheries Communities has some power in the decision making process;
		The country is facing the following issues: Presence of settlement with resulting problems in sanitation and disposal, deforestation of upland and mangrove forests, lack of soil, chemical pollution, biological pollution (introduction of exotic species), Prevalent practice of drainage for agriculture Increasing saltwater intrusion, contamination of freshwater sources.

Appendix 4: Min-Max and Benchmark scale-ratio

Min-Max (Re-scaling) method: In practice, it is the most used method especially to normalise international indicators such as Human Development Index (HDI).

Algebraically we have: $I_{qc}^t = \dfrac{x_{qc}^t - \min_c(x_q^t)}{\max_c(x_q^t) - \min_c(x_q^t)}$, where x_{qc}^t is the value of indicator q

for country c at time t. By definition, the normalized indicator ranges between entre 0 and 1 and rankings of all entities are made with reference to relative positions of the indicator in this range.

Benchmark scale-ratio: This method associates scores with performances made in a field with reference to a threshold more or less arbitrarily chosen. This threshold could be the performance of a reference country at the initial year: $I_{qc}^{t} = \dfrac{x_{qc}^{t}}{x_{iqc=\bar{c}}^{t_0}}$.

The reference country may also be the average country within the group of countries considered in the analysis, or even an hypothetical country.

Appendix 5: Table of pre-selected indicators for the round table.

Indicators	Dimension
Initial Investment	Economic
Productivity : saving of time	Economic
Productivity : saving of input	Economic
Cash Flows generated by the enterprise	Economic
Profitability (net margin, return on sales)	Economic
Cost of employment	Economic
Size of the other firms	Economic
Risk (volatility of the market price, impact of climate change as sea level rise and fresh water)	Economic
Growth of the industry output	Economic
Financial independance	Economic
Possibility to sell or buy the entreprise	Economic
Survival of the species	Economic
Innovation (possible new technology)	Economic
Biodiversity	Environmental
Air pollution/quality (ex: with possible impact on climate change)	Environmental
Ecological transformation (ex: introduction of non-native species)	Environmental
Water pollution/quality (ex: The nutrient load from fish farms)	Environmental
Biomass evolution	Environmental
Specific area impact (ex: mangrove,habitat connectivity)	Environmental
Fleet capacity for fishing / Area of production for aquaculture	Environmental
Waste of production (liquid and/or solid !! ex: biomass discarded)	Environmental
Effectiveness of the technology used (ex: energy performance of boats)	Environmental
Water flow quantity (hydrology)	Environmental
Contribution of the sector to employment	Social
Average annual income of the sector compare to others	Social
Percentage of part-time employment	Social
Part of the women as workers	Social
Years of schooling of childs of family belonging to the sector	Social
Probability to bankruptcy in the sector	Social
Average age of existing firms	Social
Administrative time (customs)	Institutional
Existence of legal regulation (MPA, conservatory area)	Institutional
Quality standard/certifications/labels	Institutional
Public assistance	Institutional
Administrative tax	Institutional
Index of corruption	Institutional
Number of firms with contracts (commitment to purchase)	Institutional
Concentration index of the market	Institutional
Ease of creating firms	Institutional

Appendix 6: Collected data
(additional indicators will be included in the second part)

indicator	Measure	Time period	Countries	Source
Total Captures (including aquiculture)	Tons	1950 - 2013	ASEAN	FAO
Total Wild Captures	Tons	1950 - 2013	ASEAN	FAO
Wild Marine Captures	Tons	1950 - 2013	ASEAN	FAO
Wild Inland Fisheries Captures	Tons	1950 - 2013	ASEAN	FAO
Total Aquaculture Production	Tons	1976 - 2013	ASEAN	FAO
Freshwater Aquaculture	Tons	1984 - 2013	ASEAN	FAO
Marine Aquaculture	Tons	2001 - 2013	ASEAN	FAO
Aquaculture Value - Marine areas	USD	1993-2013	ASEAN	FAO
Aquaculture Value - Inland areas	USD	1984-2013	ASEAN	FAO
Aquaculture Value - Brackishwater	USD	1984-2013	ASEAN	FAO
Aquaculture Value by species	USD	1984-2013	ASEAN	FAO
Export of Fish (Value)	USD	1976-2013	ASEAN	FAO
Import of Fish (Value)	USD	1976-2013	ASEAN	FAO
Capture by species	Tons	1950-2013	ASEAN	FAO
Aquaculture production by species	Tons	1950-2013	ASEAN	FAO
Marine Capture by km of Coast (Productivity)	Tons	1990-2013	ASEAN	FAO & Sea Around Us project
Marine Captures by EEZ (Productivity)	Tons	1990-2013	ASEAN	FAO & Sea Around Us project
Inland Captures by Inland Waters Surface	Tons	1990-2013	ASEAN	FAO & Sea Around Us project
Freshwater Aquaculture by km2 of inland waters	Tons	1990-2013	ASEAN	FAO & Sea Around Us project
Marine Aquaculture by km of coast	Tons	1990-2013	ASEAN	FAO & Sea Around Us project
Contribution of the fishing industry to GDP	%	1990-2013	ASEAN	Multiple sources
Number of boats	Number	1990-2013	ASEAN	Multiple sources
Type of boats	Number by type		not for all countries	Multiple sources
Corruption Perception Index	Index	1995-2014	ASEAN	Transparency International
Per Capita Fish Consumption	Kg	1990-2013	ASEAN	Multiple sources

indicator	Measure	Time period	Countries	Source
Quality of Water in Mekong River			ASEAN	MRC
Carbon Emissions (Quality of Air)	tons		ASEAN	World Bank
Trophic level	Number		ASEAN	Sea Around Us
Number of people Involved in the fishing industry	Number	Not time series	ASEAN	Multiple sources
Population	Number	1980-2014	ASEAN	World Bank
Ease of for doing business Index	Index	2001-2014	ASEAN	Waorld Bank
Index of Economic Freedom	Index	1995-2014	ASEAN	The Heritage Foundation and The Wall Street Journal
Membership to International and Regional Organizations	Number	2013	ASEAN	FAO
Type of Management System	Dummy variable	2014	ASEAN	FAO
Conservation and protected zones	%/km2	2014	ASEAN	Multiple sources
Number of hydropower dams	number	not a time series	For some countries	Multiple sources
Energy produced by hydropower dams	KWT	not a time series	For some countries	Multiple sources
Hydrodata (Lower Mekong)	HH/PH	weekly	Cambodia, Thailand, Vietnam	MRC
Detected illegal fishing activities	Number	2013-2014	Cambodia	Multiple sources
Primary Production Required	Index	1950 - 2014	ASEAN	Sea Around Us
Discards	Tons	1950 - 2014	ASEAN	Sea Around Us