សាកលវិទ្យាល័យជាតិគ្រប់គ្រង

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Message from the Rector

I would like to express my sincere appreciation to our First NUM Research Team [ក្រុមស្រាវជ្រាវគម្រោងទី១] whom have dedicated their time and effort to accomplish this research publication. The book "*NUM Research Series*" is the result of a one year undertaking. I highly appreciate the contribution of everyone who has participated in this endeavor. I would also like to thank our team of editors, Dr. Ly Sok Heng, Dr. Kang Sovannara and Mr. Stephen Paterson for their efforts to lead this pilot research project to fruition. I am so proud.

As a university fully committed to promoting a higher quality of academic life, we endeavor not only to play a crucial role in the training of researchers but also to provide a unique space for basic research in order to ensure the continuity of the research pipeline at NUM. We have also formed and developed a second research team; and the team is now in the process of finalizing their results and the next book [second volume] will be launched next year. These research teams are expected to lead in supporting, creating and driving the future of research at NUM. Going forward, I do believe that we will all benefit from the development of our research consortium.

Thank you all very much.

Sincerely,

Hor Peng, Ph.D.

Remarks from the Editors

We are very pleased to publish this first issue of the NUM Research Series (July, 2014) which will be an annual publication. The objective of the NUM Research Series is to promote research among our faculty members at the National University of Management in Phnom Penh and to publish and disseminate their research findings as part of a process of knowledge sharing with the greater society.

This first volume consists of eight articles on a wide range of topics which include: foreign direct Investment, tourism and economic development, accreditation issues, factors influencing academic major selection, gender & entrepreneurship, the impact of tax revenue on economic growth and service quality & public transportation. I do believe that these academic articles will help make NUM a real place for academic research discussion and development.

Sincerely,

Ly Sok Heng, Ph.D.

Kang Sovannara, DBA

Stephen Paterson, MA

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THE OPPORTUNITIES AND CHALLENGES FOR CAMBODIA'S FDI IN THE AEC 2015

Dr. KANG Sovannara[1]

Abstract

The objective of this paper is to review the opportunities and challenges for Cambodian FDI in the ASEAN Economic Community (AEC) 2015. The study examines the background of AEC 2015 with an emphasis on the characteristics of AEC 2015 such as ASEAN single market and production base, competitive economic region, equitable economic development, and the integration with global economy. This study relies almost on secondary data so that the analysis could have some limitations with regards to the findings. The study found that the challenges of Cambodian FDI including the quality of workforce, the ability to compete with other countries, land issues, and the ability to diversify the economy and move up the ladder of international specialization. The challenges are also concerned about lack of good governance, infrastructure gaps and certain restrictions on FDI continue to inhibit Cambodia's road to economic development. The potential opportunities for Cambodian FDI, however, could be in labor intensive investment, increasing regional trade benefits, accessing to most developed nations, strategic location for ASEAN, favorable investment climate, untapped natural resources and land, and sustainable tourism. The recommendation is also proposed for Cambodian government in order to prepare Cambodian FDI attraction in AEC 2015.

Key words: *Challenges, Opportunities, Cambodia, Foreign Direct Investment (FDI), and ASEAN Economic Community (AEC).*

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[1] Dr. KANG Sovannara, Director of the School of Graduate Studies, National University of Management

1. Introduction
1.1. Background

Over the past three decades, economic integration through trade and investment has been a major force of growth for ASEAN. At its establishment in 1967, the primary objective of ASEAN was to contribute to the political stability in the region. Today, the emphasis has shifted dramatically towards economic benefits. At the Bali Summit in October 2003, the ASEAN heads of state agreed and declared to establish the ASEAN Community by 2020. Later, in January 2007 at the Cebu Summit, ASEAN leaders agreed to expedite the integration of the ASEAN Community by 2015, especially to hasten the establishment of the ASEAN Economic Community and to transform ASEAN into a single market and production base, competitive economic region, equitable economic development, that is integrated into the global economy (Penghuy, 2011).

With regard to building the AEC to ensure it achieves its goals by 2015, leaders agreed to intensify their efforts in the areas facing challenges in implementation ASEAN has, indeed, made significant progress in AEC building. The most visible and important achievement can be observed in tariff reduction, a traditional mode of economic integration. Under the AFTA (ASEAN Free Trade Area) scheme, CEPT (Common Effective Preferential Tariff), as of 2010 tariffs were reduced to virtually zero for the original ASEAN Member States (AMS) and to 2.6% (on average) for the newer AMS. Furthermore, over the last decade, ASEAN has established itself as the indispensable hub for FTA networks in the region. In addition, ASEAN has enhanced its internal connectivity by upgrading transport networks, including the entry into force of three air transport agreements. However, a number of challenges still remain, particularly in newer AMS, namely Cambodia, Lao PDR and Myanmar (Umezaki, 2012).

Cambodia, a developing country, began the transformation from a command economy to the free market in the late 1980s. It has now integrated into the regional and world trading framework. Cambodia joined ASEAN in 1998 and in September 2004, became a member of the World Trade Organization (WTO). It has shown interest in participating in other international trading arrangements, including APEC (Cambodia, 2012). Foreign direct investment (FDI) has played a crucial role in Cambodia's economy, particularly in the garment sector. Foreign Direct Investment (FDI) has come to be widely recognized as a major potential contributor to growth and development, since it can bring capital, technology, management know-how, and access to new markets (Phnom Penh Securities, 2011).

1.2. Problem Statement

One of the major challenges facing the AEC is the diversity between the member countries, culturally, politically and economically. Although narrowing the development gap is an important motivation for the AEC, some nations have concerns that more developed economies like those of Singapore and Malaysia will benefit more from the agreement than the developing ones. There are also significant legislative hurdles to overcome in a short timeframe. New laws to harmonize customs rules need to be adopted, for example, and there is no road map in place for harmonizing value added taxes. Further, since there are no plans to harmonize domestic corporate income tax systems, concerns over double taxation and tax competition are rising (KPMG International Cooperative, 2011).

Cambodia opened more lately to external market economies, if compare with other ASEAN countries. But with less than two years before the target launch, Cambodia will have to act quickly to enact the domestic legislation needed to enable the AEC. By definition, member countries in AEC are deeply integrated, not only in free trade but also in free factor mobility. *What challenges and opportunities for Cambodia's FDI in AEC 2015?*

1.3. Objectives of Study

The main objectives of this paper:
1. To review the key characteristics of ASEAN Economic Community (AEC) 2015.
2. To examine the Opportunity for Cambodia's FDI in the AEC 2015.
3. To find out the challenges for Cambodia's FDI in the AEC 2015.
4. To propose recommendations for the Cambodian government to effectively preparation in the AEC 2015.

1.4. Methodology

This study is based almost on the secondary data, such data examined to answer the research question on what are challenges and opportunities for Cambodia's foreign direct investment in ASEAN Economic Community 2015. Those secondary data include reports, websites, research articles, power point presentations and keynote addresses from ASEAN leaders. The discussion of the research is based on secondary qualitative analysis in which the results drawing from the assessing and highlighting all key variables related to the challenges and opportunities for Cambodia's FDI in AEC 2015. Due to this study is based only on the secondary data, data may potentially lack of depth, the findings would be considered preliminary conclusion and in need of corroboration and extension by depth research in the future.

2. ASEAN Economic Community 2015
2.1. Background of AEC 2015

The ASEAN was established in August 1967 with 5 original members: Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Brunei Darussalam joined ASEAN in January 1984. Vietnam joined in July 1995, Lao PDR and Myanmar in July 1997, and Cambodia in January 1999, making up ASEAN's 10 member states. ASEAN was set up as an association for regional cooperation with the aim "to accelerate the economic growth, social progress and cultural development in the region, to promote regional peace and stability, to promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields, and to collaborate more effectively for the greater utilization of their agriculture and industries, the expansion of their trade" (ASEAN Secretariat 2009).

According to Soesastro (2008), ASEAN has been emerging as the hub of both the production networks and the trade agreement networks in East Asia. The ASEAN Economic Community (AEC), in particular, is a new and innovative initiative to deepen the degree of economic integration within the hub, while enhancing connectivity through the spokes to countries and regions outside ASEAN. With the goal of establishing the AEC by 2015, ASEAN Member States (AMSs) adopted the AEC Blueprint as a binding document in November 2007. This was a very significant step for ASEAN in the sense that the economic integration of ASEAN has moved from a *de facto* process to a *de jure* integration with clearly defined end goals and timelines.

2.2. Characteristics of AEC 2015

Looking forward, ASEAN's next step will be the creation of the ASEAN Economic Community (AEC) by 2015. This promotes regional integration through the free movement of goods, services, investment, skilled labor and the free flow of capital. This will lead to a single market and production base in ASEAN and greater integration in the global economy. The AEC agenda will bring opportunities for new and existing businesses, to enjoy greater economies of scale and flows of trade, investment and people. There will also be tremendous opportunities in several large infrastructure projects and the ASEAN Connectivity Master Plan moves off the drawing board and into reality, with road, rail, power and shipping becoming more integrated across the region (Investing in ASEAN 2012).

The AEC Blueprint is organized along AEC's four main characteristics, namely:(1) a single market and production base; (2) a highly competitive economic region; (3) a region of equitable economic development; and (4) a region fully integrated into the global economy.

2.2.1. AEC: A Single Market and Production Base

With the realization of the ASEAN Economic Community, ASEAN will become a single market and production base. The establishment of ASEAN as a single market and production base measures to strengthen the implementation of its existing economic initiatives, initiatives, accelerating regional integration in priority sectors, facilitating movement of business persons, skilled labor and talents; and strengthening the institutional mechanisms of ASEAN. The single market and production base shall comprise five core elements (ASEAN Vision 2015):

(i) *Free Flow of Goods:* This could be achieved through removal of tariffs or through removal of non-tariff barriers in some cases. Also, efforts on the following, i.e., trade facilitation; custom integration; ASEAN single window; and standards and technical barriers to trade would facilitate the realization of establishing a single market and production.

(ii) *Free Flow of Services:* This is one key element in AEC, where there will be no substantial restriction to ASEAN services suppliers in providing services and in establishing companies across national borders within the ASEAN, subject to domestic regulations.

(iii) *Free Flow of Investment:* This is the key to enhance ASEAN's competitiveness in attracting foreign direct investments (FDI) as well as intra-ASEAN investment. Sustained inflows of new investments and reinvestments will promote and ensure dynamic development of ASEAN economies. ASEAN investment cooperation is being implemented through the Framework Agreement on the ASEAN Investment Area (AIA).

(iv) *Free Flow of Capital:* This is to strengthen ASEAN capital market development and integration and to allow greater capital mobility.
(v*) Free Flow of Skilled Labor:* In allowing managed mobility or facilitated entry for the movement of natural person (MNP) engaged in goods, services and investments, in accordance to the prevailing domestic regulation, the ASEAN is working on the following: Facilitating the issuance of visas and employment passes for ASEAN professionals and skilled labor who are engaged in cross border trade and investment related activities; and facilitating towards harmonization and standardization.

Priority Integration Sectors: Twelve (12) priority sectors were identified for accelerated economic integration. These are agro-based goods, air transport, automotive products, e-ASEAN (including ICT equipment), electronics goods, fisheries, health care products, rubber-based goods, textiles and clothing, tourism, logistics, and wood-based products.

Food, Agriculture and Forestry: This is to enhance intra-and extra-ASEAN trade and long-term competitiveness of ASEAN's food, agriculture and forestry products/commodities (ASEAN Vision 2015).

2.2.2. AEC: Competitive Economic Region

The creation of a stable, prosperous, and highly competitive economic region is the goal of ASEAN economic integration. There are six core elements under the competitive economic region:

(i) *The main objective of the competition policy is to foster a culture of fair competition.* Institutions and laws related to competition policy have recently been established in some ASEAN Member Countries.

(ii) *Consumer Protection*: The building of an integrated economic region is mindful that consumers cannot be precluded in all measures taken to achieve the ASEAN integration. Consumer protection measures are already being developed in tandem with the proposed economic measures.

(iii) *Intellectual Property Rights (IPR):* IPR can serve as a powerful stimulus to (a) cultural, intellectual and artistic creativity and other commercialization; (b) efficient adoption and adaptation of more advanced technology; and continuous learning to meet the ever-rising threshold of performance expectation. This will also help incubate the culture of creativity and invention.

(iv) *Infrastructure Development*: This covers vast areas for development and cooperation. Among them are:

a. *Transport Cooperation.* Efficient, secure and an integrated transport network is vital in realizing the full potential of the ASEAN Free Trade Area. ASEAN transport is critical in linking ASEAN with the neighboring Northeast and South Asian countries. Transport cooperation includes, land transport, maritime and air transport.

b. *Information Infrastructure.* Efforts have been made to facilitate interconnectivity and technical interoperability among ICT systems, leveraging an existing national networks and evolving these into a regional information infrastructure. Equal emphasis has been given in improving trust and confidence in the use of the internet and security of electronic transactions, payment and settlements.

c. *Energy Cooperation.* Secure and reliable supply of energy including bio-fuel is crucial to support and sustain economic and industrial activities. Regional collaboration in the Trans-ASEAN Gas Pipeline (TAGP) and the ASEAN Power Grid (APG) provide opportunities. The APG involves 14 electricity interconnection projects and the TAGP, seven gas interconnection projects.

d. *Mining Cooperation.* This is aimed at enhancing trade and investment, and strengthening cooperation and capacity in geological and mineral sector for sustainable mineral development in the ASEAN region.
e. *Financing of Infrastructure Projects:* Putting in place innovative financing schemes to attract greater private sector involvement in infrastructure projects is important.

(v) *Taxation:* Complete the network of bilateral agreements on the avoidance of double taxation among all member countries by 2010, to the extent possible.

(vi) *E-Commerce:* To lay policy and legal infrastructure for electronic commerce and enable on-line trade in goods with ASEAN through the implementation of the e-ASEAN Framework Agreement based on common reference frameworks (ASEAN Vision 2015).

2.2.3. AEC: Equitable Economic Development

Under equitable economic development there are two elements: (i) Small and Medium Enterprise (SME) development and (ii) Initiative for ASEAN Integration. These initiatives move towards bridging the development divide both at the SME level and enhance economic integration of Cambodia, Lao PDR, Myanmar and Viet Nam (CLMV) to enable all Member States to move forward in a unified manner and to enhance ASEAN's competitiveness as a regional as well for all to benefit from the integration process.

(i) *SME development:* The ASEAN Policy Blueprint for SME Development (APBSD) 2004-2014 outlines the framework in the ASEAN region. Its objectives are: to accelerate the pace of SME development, optimizing the diversities of ASEAN member countries; to enhance the competitiveness and dynamism of ASEAN SMEs by facilitating access to information, market, human resource development and skills, finance and technology; to strengthen the resilience of ASEAN SMEs to better withstand adverse macroeconomic and financial difficulties; and increase the contribution of SMEs to the overall economic growth and development of ASEAN as a region.

(ii) *Initiative for ASEAN integration (IAI).* To allow ASEAN member countries to move in a unified manner, it is important that the deepening and broadening of the integration of ASEAN is accompanied by technical and development cooperation. This is to address the divide and accelerate the economic integration of the less developed ASEAN member countries so that the benefits of ASEAN integration are shared and enjoyed by all members.

The IAI was launched in November 2000 and is aimed at giving direction and sharpening the focus of collective efforts to narrow the development gap within ASEAN. The IAI currently covers the following priority areas: infrastructure, human resource development, ICT, capacity building for regional economic integration, energy, investment climate, tourism, poverty reduction and improvement in the quality of life. Meeting the AEC challenge will require the CLMV countries to develop policy to enhance economic growth, strengthen economic competitiveness, increase domestic and foreign direct investments, and to expand private sector enterprises with meeting its public goals (ASEAN Vision 2015).

2.2.4. AEC: Integration with Global Economy

ASEAN operates in an increasingly inter-connected and highly networked global environment, with interdependent markets and globalized industries. In order to enable ASEAN businesses to compete internationally, to make ASEAN a more dynamic and mainstream global supplier and to ensure that the internal market remains attractive for foreign direct investment, ASEAN has to look beyond the borders of AEC.

Two approaches taken by ASEAN in integration with the global economy are: (i) a coherent approach towards external economic relations through Free Trade Agreements (FTA) and Closer Economic Partnerships (CEP); and (ii) enhanced participation in global supply networks (AEC Factbook, 2011).

To enable ASEAN businesses to compete internationally, make it more dynamic and stronger segment of the global supply chain and to ensure that the international market remains attractive for foreign investment, it is crucial for ASEAN to look beyond the borders of AEC.

External rules and regulations must increasingly be taken into account when developing policies related to AEC.

(i) *Coherent Approach towards External Economic Relations.* All ASEAN shall work towards maintaining "ASEAN Centrality" in its external economic relations, including but not limited to its negotiations for free trade (FTAs) and comprehensive economic partnerships (CEPs) agreements. This shall be done through: (a) Review of FTAs/CEPs commitments vis-à-vis ASEAN internal integration; and (b) Establishment of a system for enhanced coordination, and possibly arriving at common approaches and/or positions in ASEAN external economic relations and in regional and multilateral fora.

(ii) *Enhanced Participation in Global Supply Networks*. This shall be done by: (a) Continuing the adoption of international best practices and standards in production and distribution, where possible; and (b) Developing a comprehensive package of technical assistance for the less developed ASEAN member countries to develop their industrial capability and production to enhance their participation in regional and global integration initiatives (Technical Education and Skills Development Authority, 2012).

2.3. Why ASEAN Economic Community 2015?

The realization of the AEC in 2015 will open up greater opportunitiesfor socio-economic growth. The benefits of AEC are:

(1) Greater choice of goods and services for consumers through increases in intra-regional trade
(2) Larger economies of scale for businesses and industries, thereby increasing productivity while reducing production costs, leading to more competitive pricing of goods
(3) Lowering of production costs can be passed onto consumers who can benefit from lower prices of goods and services
(4) Greater demand for goods and services will create jobs in various industries such as manufacturing, transport, logistics and communications, for example
(5) Increased trade and investment will promote greater entrepreneurship and innovation in products and services, thereby producing better variety, quality and efficiency, which will benefit consumers
(6) Increased economic integration will strengthen business networks across ASEAN, building growth and prosperity
(7) A higher level of employment in ASEAN would contribute towards building a larger middle class, thereby reducing the gap between the rich and the poor, which will promote social stability, apart from a consumer market with purchasing power for goods and services

The AEC aims to build partnerships for progress which will enhance the quality of lives of ASEAN citizens as regional integration is achieved through the collective efforts of our Community.

2.4. The Challenges of AEC 2015

According to ERIA Symposium (2012), ASEAN faces the challenge of meeting the AEC goals as it is acutely close to 2015. The key aspects of integration are moving well, even though AEC is an ambitious plan. It is expected that single market and production base cannot be realized in full by 2015, and there is a need to prioritize and accomplish AEC measures and policy actions as much as possible to ensure a credible AEC 2015. Integration is a continuing and evolving process and the goals have to go beyond 2015.

There is a need to prioritize the following AEC measures: elimination of tariffs and non-tariff barriers, trade facilitation, investment liberalization and facilitation, transport facilitation, services liberalization, Initiative on ASEAN Integration, SMEs development and completion of Regional Comprehensive Economic Partnership (RCEP) negotiations. The goals looking beyond 2015 should include standards and conformance, financial integration, MRAs on professional services, ICT and energy, IPR and competition policy, agriculture and taxation. There is also a need to address institutional issues in the ASEAN including the strengthening of dispute settlement mechanisms and of the ASEAN Secretariat.

There is a need to achieve narrowing of development gaps in the ASEAN integration process. The CLMV is growing fast, but there is a need for three dimensional inclusiveness in this growth namely, geographical, industrial, and societal inclusiveness. This initiative includes narrowing of *a)* regional infrastructure gap through connectivity; *b)* regional technology development and transfer; *c)* regional human resource gap; and *d)* initiative for social inclusion.

The challenge to AEC is domestic management of goals and reforms, as the gestation period for narrowing of development gaps is long. Also, Technical Barriers to Trade (TBTs) are strong inhibitors of growth in smaller countries. Resiliency too is a concern; so is connectivity, especially the monitoring of progress and implementation of the plans, including monitoring of the outcomes. Monitoring of Non-Tariff Measures (NTMs) is another important area. The purpose behind flagging these issues is to ensure that economic growth and inclusiveness can work at the same time. However, an important point to be considered by the policy makers is to ensure economic growth ahead of investing in social growth as the former is the bedrock of the success of the latter.

The ASEAN Member States (AMSs) can be categorized into several tiers in the development stage. Singapore is far more advanced in economic development than all the other nine countries, and with the 2nd highest national income in the ASEAN. Brunei's national income ranks the first in ASEAN for its uniqueness as an oil-rich economy. Malaysia, Thailand, Indonesia and Philippine are named as four-tiger in the

late 1980s and early 1990s before the financial crisis burst out in 1997, for its average growth rate of 9% during the period. The other four members, including Vietnam, Lao, Cambodia and Myanmar, are in general with communism or socialism political regime. Being lately open to the rest of the free market world, they are relatively less industrialized, and thus have much lower income (Huang et al. 2013).

It is expected that in 2030, economic aspiration of ASEAN will be met, especially in the CLMV. The quality of life too will improve. However, there are important challenges to this growth and there are differences across countries, even though some of them will be common to the region.

Some of the challenges are to overcome land and demographic constraints, increase labor productivity, improve business and investment climate, foster human capital, diversify the economy, management of natural resources, and strengthening of governance and institutions.

ASEAN has to ensure suitable enabling factors in every country to meet these challenges. There are policy options for this purpose, which include enhancing macroeconomics and financial stability, promoting economic convergence and equitable growth, creating a competitive and innovative region, sustainable management of natural resources, investment in human capital, strengthen governance and raise ASEAN's global role. Southeast Asia is characterized by global production networks, which give rise to ASEAN specific policy implications. Increase in labor productivity and decrease in the cost of services links will be crucial for these production networks in ASEAN.

Naron (2012) found that in order to build the ASEAN community as a cohesive family, living in political, security, economic and socio-cultural harmony, and is rules-based, peaceful and economically strong:

(1) Narrowing development gaps is not only a pre-condition for ensuring ASEAN competitiveness and reducing poverty of our people but also for helping ASEAN achieve real regional integration and promoting its centrality in broader regional and world affairs.
(2) ASEAN should promote trade facilitation, improve cross-border transportation, eliminate trade and non-trade barriers in intra –ASEAN transactions, improve investment climate, further liberalize trade in services, and promote capital market integration.
(3) ASEAN needs to further strengthen ASEAN connectivity by focusing on physical, institutional and people-to-people connectivity by prioritizing cross border investment in transportation, telecommunication and energy networks.
(4) Harmonization of customs and other trade facilitation is important to ensure free flow of goods and services in fundamental to achieving economic

integration of the region. Cambodia has stressed the importance of ASEAN Declaration on Human Rights which will help protect migrant workers.

(5) Promote agricultural cooperation by boosting productivity and diversification through a package of measures including crop intensification, promoting optimal use of inputs, investment in irrigation and rural infrastructure, expansion of agricultural financing, and strengthening of marketing and facilities for processing agricultural products for regional supply and export outside the region.

However, a number of challenges still remain, particularly in newer AMS, namely Cambodia, Lao PDR, Myanmar, and Vietnam (CLMV). CLMV is the poorest sub-group, which requires support from the other ASEAN Member States, dialogue partners, and development partners. So far, within the ASEAN cooperation framework, there is limited resources and even political willingness to assist CLMV. Such limitation forces CLMV to work closer with the dialogue and development partners such as China, Japan, United States, and Asian Development Bank (ADB).

In the joint statement of the 5th CLMV Summit in 2010, the leaders reasserted their commitment to promote trade and investment by effectively implementing all the existing agreements between and among the CLMV counties; further strength close coordination in using the economic corridors across the CLMV countries especially the East-West Economic Corridor, the Southern Economic Corridor; improve information sharing, joint research, and technology exchanges in the fields of agriculture, forestry, livestock and fisheries; further implement coordinated tourism policies and activities particularly the air link connecting CLMV major cities as well as cultural and natural hesitate sties and push forward cultural connectivity among the four countries; promote educational exchanges, scholarship programs, and joint training programs, and deepen closer cooperation and integration within Greater Mekong Sub-region and ASEAN frameworks (Vannarith and Yushan, 2012).

ASEAN: Selected Economic Indicators

ASEAN	Country Size (Square KM)	Population (Thousands)	GNP/Capita (Current USD)
Singapore	710	5,077	40,070
Brunei	5,765	399	31,800
Malaysia	330,252	28,401	7,760
Thailand	513,120	69,122	4,150
Indonesia	1,860,360	239,870	2,500

Philippines	300,000	93,261	2,060
Vietnam	331,051	86,928	1,160
Lao PDR	230,800	6,201	1,040
Cambodia	181,035	14,139	750
Myanmar	676,577	47,963	419

Sources: World Bank (WDI2011), ASEAN Secretariat（2012）

3.　The Opportunity and Challenges for Cambodia's FDI in AEC 2015
3.1. The Opportunity for Cambodia's FDI in AEC 2015

Foreign Direct Investment (FDI) is a key component of resource flows to ASEAN countries. Over the last decade, FDI flows into ASEAN members grew at an annual average rate of 19%. The common framework for encouraging FDI into ASEAN is found in the ASEAN Comprehensive Investment Area (ACIA). The main principles of the ACIA include:

a. Immediate opening up of all industries for investment, with some exceptions as specified in the Temporary Exclusion List (TEL) and the Sensitive List (SL), to ASEAN investors by 2010 and all other investor by 2020.
b. Granting immediate national treatment, with some exception as specified in the TEL and the SL, to ASEAN investors by 2010 and to all investors by 2020.

Full realization of the ACIA for ASEAN-4 with the removal of TEL in manufacturing agriculture, fisheries, forestry and mining, was subsequently rescheduled for 2015. Within this overall framework, each ASEAN country has adopted its own strategy to attract FDI. As in the EU, efforts to create a "level playing field" between the countries in the single market, leaves national governments with freedom to provide their own tax and other incentives to investors. In addition, to target the promotion of special industries and also to regulate the liberalization of investment in the industries which are considered important to national interest and security or to protect local business (Investing in ASEAN, 2013, one vision, one identity, one community).

Foreign Direct Investment (FDI) has come to be widely recognized as a major potential contributor to growth and development of Cambodia, since it can bring capital, technology, management know-how, and access to new markets (Phnom Penh Securities, 2011). However, Foreign Direct Investment benefits growth in recipient country via different channels. For the Host; FDI, which is usually (but not always) made by Multinational Corporations (MNCs), is highly prized because it is widely believed as a source of employment opportunities, a mean to international

market access, a contributor to capital accumulation, and a stimulator of domestic productivity (Seila, 2011).

Indeed, foreign investment has been a major driver of Cambodia's exports of garments and textiles to U.S. and European markets since 1994. Tourism, construction and agriculture have also attracted investors from abroad. This may be attributed to increasing world demand for agro-industrial products such as rubber, cassava, timber and rice, along with a generous investment policy. Due to the impact of the 2008 global financial crisis, FDI dropped sharply in 2009, although it rebounded in 2011 and is expected to increase further in 2012 (Chandra &Kinasih, 2013).

Foreign Direct Investment (FDI) has been re-shaping the economic and social landscape of Cambodia. By October 2011, investment was concentrated in the following sectors: agriculture (46.89 percent), garment factories (32 percent), tourism (5.13 percent), mining (3.52 percent) and telecommunication (0.29 percent) (Reciprocus, 2013).

Cambodia is fast emerging as a serious investment hub in Southeast Asia. FDI is pouring in from keen investors across the globe. Some economists have forecasted a 7 per cent GDP growth rate for the next five years. Spire's article on Cambodia identified the following success factors behind the influx of FDI into Cambodia: Cambodia's market economy ensures 100 per cent foreign shareholding in local enterprises. Cambodia has one of Asia's lowest cost labor forces.

Cambodia's geographic location enables it to act as an entrepot between Vietnam and Thailand. Its close proximity to India and China also provides ample trading opportunities. Cambodia's increasing integration in trade has led to membership in various trade pacts and programs. There is a large reservoir of untapped natural resources for exploration and production. Cambodia's magnificent beaches and historical sites remain a strong attraction for inbound tourism. Besides, the country is attractive to investors due to its largely dollarized economy, which removes exchange rate risk.

Cambodia is a small country of about 14.5 million people, but Cambodia is located at the heart of what has been known as the most dynamic region of the world economy for the past several decades: South-East Asia. The country borders Thailand to the west and northwest, Laos to the northeast, Vietnam to the east and southeast, and the Gulf of Thailand to the south. Moreover, Cambodia has easy access to seaports and airports (and huge potential land freight transport, especially railway, for regional countries), and is rich of natural resources and world wonders, i.e. Angkor Wat temples and Preah Vihear temple. Therefore, Cambodia is strategically located for a world-connected business operation (Penghuy, 2011).

Seeing from the progress of Cambodia, it is a good opportunity for Thai investors to step in and get involved with the infrastructure development of Cambodia and it is still in need for the field. Moreover, Cambodia also needs further development on business groups that involve energy, in order to reach global standard. The open up of AEC can also be a good chance for Thailand to develop its relationship with Cambodia. Thailand can step in to help Cambodia with educating and developing labors. Since Thailand and Cambodia are becoming one under the AEC in 2015, they will have to overcome the past territorial conflicts and start cooperating in order to move forward together (Siphana, 2013)

The changing structure of the global economy means that Cambodia will have to adapt if it is to thrive. Principally, it must diversify away from garment export to the United States and Europe as its core growth driver and develop new industries that cater to new markets. In this endeavor, Asian growth poles present new sources of demand for a variety of agricultural, industrial and service products. In particular, the import profile of China, with its huge demand potential for agricultural and intermediary products, should play a central role in informing Cambodia's economic strategy. Fostering increased regional cooperation constitutes a crucial component of Cambodia's strategy to take advantage of Asia's remarkable growth. Deep integration reduces the distance between producers and markets, reducing costs for Cambodia producers accessing ASEAN markets, and ASEAN producers accessing global markets. To this end Cambodia is well placed as Chair to strengthen regional cooperation and help realize a single ASEAN Economic Community (AEC) by 2015.

Already the Cambodian government has eliminated import tariffs on over 98 percent of goods originating in ASEAN. Cumbersome and inefficient cross-border procedures have been streamlined by developing an ASEAN Single Window (ASW) customs service. Cambodia will initiate its National Single Window (NSW) service, which will form the basis for its participation in the ASW, in the fourth quarter of 2012 (Eang Chheang, 2011).

Cambodia has a big market, low wage, free economy, and rich of wonderful couture for tourism. Big market is the function of geography, not only local market but also the market of ASEAN as a whole. Moreover, Cambodia is a country with big market in Europe and North America because it is the LDC that receives favorable conditions for these markets.

Tourism is the sector which Cambodia wants to attract investor the most. In this sector, there seems to be a very unique case. When tourism is said in the context of Cambodia, Angkor Wat temple in Siem Reap province guarantees the tourist attraction with annual growth rate of 30%. Unlike many other countries, Cambodia has a wonderful and incredible culture and labor force.

Today, investors and government recognize that Cambodian laborers are not well-trained yet but this problem could be solved in the near future. Anyway, wage in Cambodia is about half of the lowest wage class in Thailand; it shows that Cambodia will do well in this area as a good example of garment industry in the last decades. Actually, tourism in Cambodia is the most attractive sector for investment. While it is realized that most tourists love to see Ankor Wat than other places, Cambodia still has many attractive places such as white beautiful beach in Sihanouk province, beauty of Phnom Penh that is the former colonial city (Eang Chheang, 2011).

3.2. Challenges for Cambodia's FDI in AEC 2015

Implementing the AEC remains a challenge for Cambodia to address the remaining measures, particularly the ratification of AEC agreements. Thus, it is critical that Cambodia continues to engage the private sector, strengthen connectivity, address the development divide, and build stronger institutional support, better macroeconomic and policy coordination.

The ASEAN Comprehensive Investment Agreement (ACIA) – launched this year – works towards liberalization, promotion and protection of investments by ASEAN investors and ASEAN based foreign investors. Eliminating investment restrictions will attract more investment, while greater protection and well-defined transparent procedures will encourage longer-term investments in a wide range of activities. In the medium term this will encourage competition across Cambodia's sectors and increase efficiency in the country's economy.

Foreign direct investment has soared as targeted institution building has provided the assurances necessary for small and large-scale investment. However, the bulk of this investment has been limited to the garment and construction industries which, as the experience of the financial crisis shown, can be fickle and easily disappear if conditions change. Such an investment profile runs counter to the government's aim of sustained, stable growth; policy frameworks need to bring private sector and government priorities into alignment.

Cambodia's Human Development Index is one of the lowest in the ASEAN region and Cambodia's inefficient educational system increases the public and private costs of education, thus reducing the social and private returns to schooling. Many concerns have been raised about the need to improve labor skills and human capital, the quality of higher education and job seekers' lack of interest in the private sector. Other issues that have been raised by the private sector include job security, lack of information on job markets, lack of quality trainers and the mismatch between university graduates' skills and job requirements, particularly in engineering, mechanics, construction, ICT and tourism (CDRI, 2014).

According to Naron (2012), the challenges for Cambodia including promotion of inclusive growth, the quality of education and vocational training, Cambodia's

competitiveness and the ability to compete with other countries for Foreign Direct Investment, land issues, and the ability to diversify the economy and move up the ladder of international specialization.

Different levels of development between the ASEAN 6 and the CLMV have made integration difficult. In Cambodia, the ASEAN FTAs have created pressure to increase revenues from non-tariff duties over the next few years. While the AFTA could open up markets that would benefit local producers, especially SMEs, the problem so far has been their lack of access to information on these trade agreements and how they could benefit from them (CDRI, 2014).

However, corruption, infrastructure gaps and certain restrictions on FDI continue to inhibit Cambodia's road to economic development. The Cambodian government has taken action to upgrade transport connectivity, modernize sea ports and foster efficient service providers for internet and mobile phone users (Media Synopsis, 2013).

Diversification in light manufacturing such as agro-processing industry will be important to add value to Cambodia's agricultural products. However, the biggest challenge lies in improving competitiveness compared to neighboring countries. High production costs such as electricity compared to other ASEAN countries. Investments in technology and infrastructure are essential to enhancing productivity. Both the government and private sector have a role in this effort (CDRI, 2014).

The following table shows the FDI inflows by host country among ASEAN nations.

ASEAN: FDI inflow, by host country (in US$ million)

Host Countries	2003	2006	2007	2008	2009	2010st	% Share 2010st
Brunei	3,123	434	260	239	370	629	0.8
Cambodia	84	483	867	815	539	783	1.0
Indonesia	596	4,914	6,928	9,318	4,877	13,304	17.5
Lao PDR	20	187	324	224	319	333	0.4
Malaysia	2,473	6,072	8,538	7,248	1,381	9,156	12.0
Myanmar	291	428	715	976	963	450	0.6
Philippines	491	2,921	2,916	1,544	1,963	1,713	2.2
Singapore	11,941	29,349	37,033	8,589	15,279	35,520	46.6
Thailand	5,235	9,460	11,330	8,539	4,976	6,320	8.3

Vietnam	1,450	2,400	6,739	9,579	7,600	8,000	10.5
Total ASEAN	24,512	56,648	75,650	47,076	38,266	76,208	100.0
CLMV	1,845	3,498	8,645	11,597	9,421	9,565	12.6
ASEAN 6	22,667	53,149	67,006	35,478	28,845	66,643	87.4

Sources: ASEAN Community 2011

3.3. The SWOT Analysis of Cambodia's FDI in AEC 2015

Based on information discussion above, the challenges and opportunities for Cambodian FDI in AEC 2015, Can be Shown in SWOT analysis below:

Strengths:
- Good geographic location
- Sustained peace, political stability and security
- Relative abundance of natural resources
- WTO membership
- Steady inflow of foreign direct investment
- Young laborer market
- World heritage attraction
- Strong government-private sector consultation and responsiveness

Weaknesses:
- Low education/skill level of the workforces
- Land concentration and poor natural resource management
- Under developed economic infrastructure
- Diffuse corruption across sectors
- High costs (electricity/transport/port/finance)
- Lack of diversify industrial structures
- High degree of dollarization

Opportunities:
- Open market toward the global
- FDI potential Japanese, Chinese, South Korea and Vietnam
- High potential for tourism development
- Emerging private sector
- Potential oil revenues
- Higher crop yields

Threats:
- Global financial crisis
- Compete with other countries for Foreign Direct Investment
- Garment exports completion
- Decline of grant and favorite concession
- Oil curse

4. Conclusion and Recommendations
4.1. Conclusion

As the integration advances to common market, then it requires the free movements of factors, including not only the capital, labor and other production factors. For Cambodia will receive capital from other capital rich member countries, this inward FDI will fuel the growth engine. The positive externalities include mainly the spillover of the production technology from the FDI firms to firms of the host countries. In addition, there is a likely of spill-over of the marketing and management skill or know-how. The later effect conditions on the human-capital of the Cambodia, more specifically the education level or the ability of local entrepreneur to learn from FDI companies. The main challenges for Cambodia are hard to find, but the most important thing can be human resource development. The development of human resource to become expert for modern economic development has not been finished yet. Even though investors said positively about training and hardworking of Cambodian labor, again and again they affirmed that the training they have received is not enough. There are number of challenges with less threat but they are also the core problems such as lack of legal framework and institution. Here, it can be said that government is trying to fulfill the lacking of law and regulation with the concept of integrating into WTO (Hing 2005). Two things that are required to pay more attention are "problems at the border and not transparent governance." Anyway, when what have been said previously are solved, Cambodia will have open opportunities and it is the time for Cambodia to gain much benefit from FDI; it is not what is just a dream but it is obvious.

4.2. Recommendations

Based on the critical reviewing and discussing of existing information above, some suggestions should be considered for preparing going into the AEC 2015:

- Develop human capital is the first priority for Cambodian government in joining the AEC 2015. It is a bit late; however, the Ministry of Education Youth and Sport as well as Ministry of Work and Vocational Training need strongly commitment for successful implementation of the Rectangular Strategy Phase III (2014-2018).

- Improve infrastructure and energy. The focus for transport infrastructure for the rehabilitation of high-priority trunk and feeder roads and bridges, especially the regional highways linking countries in the region. The major investments must be made to improve the physical transport infrastructure linkage Cambodia with Thailand and Vietnam, as well as to improve sea and air access to international destinations, especially China. Energy, port, and airport should be promoted to meet the increasing demand of production and trade. These developments could greatly reduce transport costs and increase the competitiveness of Cambodian products on export markets.
- Diversification of industry and promotion of SMEs are very import to promote local production. Diversify new industrial structure such construction materials electronics and machinery parts, food processing and car tire from rubber, etc. Manufacturing should be diversified from garments to light industrial, including electronics, motor vehicle assembly and food processing, through trade and investment promotion, improved management of special economic zones, access to credit, more accessible and less expensive energy and investment incentives for sectors with comparative advantage.
- Government anti-corruption strategies and agencies will need to be strengthened and to demonstrate their effectiveness and objectively, with genuine regulation to minimize rent seeking and improve the effectiveness of public and private institutions.
- The Government should play an active role in supporting farmers by providing standardized certificate, credit access, and market information. The role of the government in trade promotion and trade support services is in its infancy. Assistance is needed in all aspects of creating an effective export promotion mechanism, including the elaboration of an export promotion strategy, developing and managing the necessary national and international databases, and training trade officials and staff on techniques for organizing trade fairs and other trade promotion activities.
- SMEs need to facilitate the movement of international production networks into areas like innovation and marketing, away from routine production. SMEs can play an important role in building the AEC in Cambodia.
- Cambodia needs to improve transparency and certainty for the free flow of goods, services investment and skill labor.

REFERENCES

ASEAN Secretariat (2009), Roadmap for an ASEAN Community 2009-2015. *Jakarta, Indonesia.*

ASEAN Economic Community Factbook (2011). ASEAN Secretariat, *Jakarta, Indonesia.*

Cambodia (2012), Investment Climate Statement January 2012. *photos.state.gov/libraries/Cambodia/231771/PDFs/2012*

CDRI (2014), ASEAN 2030: Growing Together for Economic Prosperity-the Challenges. Cambodia Background Paper.*Working Paper Series* No. 90. a CDRI Publication.

Chandra, C. A. &Kinasih, N. H. (2013), Services Trade Liberalization and Food Security: Exploring the links in the Association of Southeast Asian Nations (ASEAN) *The International Institute for Sustainable Development.*

EangCheangTe. (2011), Cambodia 5 Year in ASEAN: A Study on Pros and Cons.*KDI School of Public Policy and Management*, Seoul, Korea.

ERIA-Harvard Symposium. (2012), Realizing a More Integrated, Competitive, Equitable, and Resilient ASEAN Community: Outcomes and Recommendations, Phnom Penh, Cambodia.

Flower, B. C. R., and CDRI.(2012), Cambodia in 2012: Key Trends and Policy Priorities from the Cambodia Outlook Conference, Phnom Penh, Cambodia.

HewDenis (2013), ASEAN Economic Community by 2015: Transforming Vision to Reality.www.yumpu.com/.../asean-economic-community-by-2015-nccr-tradere...

Hoang, D. S., et al. (2013), Opportunity and Challenges of the ASEAN-Community for its Latecomers, *Institute of Applied Economics, National Taiwan Ocean University,* Taiwan.

KPMG International Cooperative (2013), ASEAN 2015: Global-KPMG-Research-Future Focus: Tax and Transformation in Asia Pacific's New Business Reality

LimHank (2012), Challenges for Cambodia and CLMV: Materializing the Phnom Penh, *ERIA Academic Advisory Council Meeting*, ERIA.

Media Synopsis (2013), The Establishment Post Cambodia: An Emerging ASEAN Investment Hub, Phnom Penh, Cambodia. www.spireresearch.com

Naron Hang Choun (2012), Economic Development in Cambodia: Challenges and Prospects, *Presentation for SIDA's Board Visit*, Phnom Penh, Cambodia.

Naron Hang Choun (2012), Major Issues and Challenges in Cambodia: Materializing the Phnom Penh Agenda, *Key Note Address*, Phnom Penh, Cambodia.

Penghuy Ngov (2011), ASEAN Economic Integration and Cambodia's Industrial Policies, *Nagoya University, Ritsumeikan Institutional Affairs Vo. 10.*

Phnom Penh Securities Plc., (2011), Special Report of Foreign Direct Investment in Cambodia, *Phnom Penh, Cambodia*

Reciprocus (2013), Cambodia 2013. *ASEAN Investment Flash*

Seila Net. (2011), Economic Growth in Cambodia, Vietnam, and Thailand: Has FDI Really Played an Important Role? Empirical Evidences and Policy Implications, *Nagoya University*, Japan.

Siphana Sok (2012), Cambodian Preparedness for ASEAN Economic Community 2015, *the Bar Association of the Kingdom of Cambodia.*

SoesastroHadi (2008), Implementing the ASEAN Economic Community (AEC) Blueprint, *Centre for Strategic and International Studies*

Sotharith, C. (2008), Challenges, Prospects and Strategies for CLMV: The Case of Cambodia. *Cambodian Institute for Cooperation and Peace*

Technical Education and Skills Development Authority (2012), ASEAN Economic Blueprint: Moving Towards One Vision One Identity One Community, *ASEAN Vision 2015*

Umezaki, S. (2012), Building the ASEAN Economic Community: Challenges and Opportunities for Myanmar, *In Economic Reforms in Myanmar: Pathways and Prospects*, *BRC Research Report No. 10*, Bangkok Research Center, IDE-JETRO, Bangkok, Thailand.

UNDP (2006), In Sight for Action: A SWOT Analysis of Cambodian Economy, *Discussion Paper*, In Cooperation with the Supreme National Economic Council and Harvard's John F. Kennedy School of Government.

Vannarith, C. and Yushan, W. (2012), Cambodia-Laos-Vietnam: Economic Reform and Regional Integration. *Cambodian Institute for Cooperation and Pease.*

TOURISM AS A CONTRIBUTOR TO ECONOMIC DEVELOPMENT IN CAMBODIA: HISTORICAL AND EMPIRICAL EVIDENCE

Dr. HENG Sopheap [2]

Abstract

This study attempts to examine of how the tourism sector can be an engine of economic growth in Cambodia. A general discussion follows of tourism development in Cambodia context. The study found the contribution of tourism to GDP, employment, export receipts and investment is significant, the potential of tourism growth to contribute to economic development, paying particular attention to the experience of Cambodia. An overview of trends in inbound tourism to Cambodia is presented with particular consideration being given to its number of inbound tourist arrivals. There is considerable opportunity for Cambodia to further transform tourism sector in terms of increasing market share, capturing more value-added and at the same time ensuring sustainability. Moreover in terms of the Butler curve, it is necessary to prolong the development stage or reinvent life cycle through investment before tourism reaches stagnation and decline stages. The study argues that tourism development could be used to build up skills and production capacity in the longer term. The outputs of the sector generate an important externality of the global perception of Cambodia as a high performing nation that will be important for Cambodia's enhanced participation in globalization and regionalization.

Keywords: *Tourism, export receipts, GDP, the life cycle of tourism area.*

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[2] Dr. HENG Sopheap, Vice Dean, Faculty of Tourism, National University of Management, Phnom Penh, Cambodia

1. Introduction
1.1 Background

Tourism is one of the world's significant economic success stories, in the same way as time, that has no start or end. Baker (2013) pointed that tourism is a heading industry in the service hybrid area at the worldwide (global) level and additionally a real supplier of employments and a huge generator of foreign exchange at the national level. As of late, tourism has turned into one of the biggest and quickest developing industries in the worldwide economy. Richardson (2010) had expressed that tourism is a significant economic activity regarding wage era, job creation, foreign exchange earnings, and exchange of societies and individuals. Being one of worldwide export earners, it is progressively picking up conspicuously in the civil argument over how to move towards more manageable examples of improvement. United Nations World Travel Organization (UNWTO, 2002) has indicated that tourism can assume a noteworthy part towards adjusting practical improvement, and that it might be viably bridled to create net profits for poor people. The potential of the tourism part as an improvement instrument to decidedly help economic growth and destitution lessening exudes from its few exceptional attributes including the accompanying: (i) the business speaks to an open door for economic broadening, (ii) tourism is the main export sector where the shopper heads out to the exporting nation in this manner giving open doors to the poor to become exporters through the offer of merchandise and service to foreign tourists, (iii) the sector is work concentrated and helps a various and flexible work market; and (iv) at long last, there are various indirect benefits of tourism for poor people (Makochekanwa, 2013).

Tourism has become speedier than world gross domestic product since the 1950s with consumption on tourists products and service speaking to about 8 per cent of total world export receipts and 5 per cent of world GDP (UNWTO, 2003). As noted by Wen and Tisdell (2001), this is because of climbing global income, expanding relaxation time, a growing world population, fall in real transport expenses, lessened travel time and globalization. Numerous developing nations have distinguished the conceivable commitment that this industry can make to economic development (Sharpley, 2000) and have included it as an integral part of their development strategy (Balaguer & Cantavella-Jordá, 2002).

By and large perspective, World Travel and Tourism Council (WTTC, 2003) pointed that the conceivable commitment of the tourism business is intensely affected by the world economic and political strength, as well as by terrorist threats and civil unrest in the tourist destination in question. As stated by Hichcock, King, and Parnwell (1993) there is a broad perspective around the tourism examiners that international visitors are extremely worried about their individual security and therefore this industry can just flourish under serene conditions. Cambodian, for instance, has been around those influenced by war and civil unrest.

In 1969, the prior year Cambodian governmental issues decayed into civil war, Cambodia received more tourists (and recorded a higher per capita GDP) than neighboring Thailand. Notwithstanding, all around the 1970s and 1980s, Cambodia disappeared from the international tourism market: it experienced first a wicked civil war (1970-1975); then the pulverizing endeavor by the Khmer Rouge to recast Cambodian culture in a revolutionary communist shape (1975-1978) (UNCTAD, 2007).

Tourism just initiated to resuscitate in the early 1990s. With this come back to relative soundness and a cessation to the international embargo on trade exchange, travel and investment, tourism initiated to restore. This instruction was intruded on, in any case, in mid-1997 of between gathering military clash and emulated inside a couple of months from the onset of the East Asian economic crisis, which diminished the stream of travelers from wealthier nations in the region. Notwithstanding, elections in 1998 initiated the methodology of restoring strength and economic growth, recovering solidness and investment amplification, merged by the last end to the civil war as the last enclaves of the Khmer Rouge consented to a peace arrangement with the government.

Tourism has turned in a standout amongst the most important industries helping economic advancement in Cambodia. As stated by Ministry of Tourism (2007), tourism is the third most cosmically enormous benefactor to the Cambodian economy after agriculture and garment industry and the second most massively huge income generation after the garment industry. The MOT (2005) information shows income from tourism represented 832 million US Dollars, or something like 13 percent of the Cambodian Gross Domestic Product (GDP), and it gave yearly about 200,000 occupations to the Cambodian people. In 2012, tourism caused income of 367,940 million US Dollars, about 26% of Cambodian GDP, and gave something like 1,503,500 employments. Thus, it is sheltered to verbally express that tourism is one of the fundamental supporters to Cambodian economic development (WTTC, 2013). In spite of tourism's growing significance in Cambodian economies, the part has however pulled from generally restricted consideration regarding academic examinations. In this way, this absence of an examination of the effect of tourism on economic development in Cambodia is the real inspiration of this study.

1.2 Literature Review

The issue referring the economic impact effects of tourism and its consequences for nation's economic growth is very investigated. In particular, various analysts have been included and a wide mound of methods has been connected in quantifying tourism economic impacts.

In this appreciation variety of methods, going from unadulterated mystery to complex numerical models, are utilized to gauge tourism's economic effects (Petrevska & Matlievska, 2013).
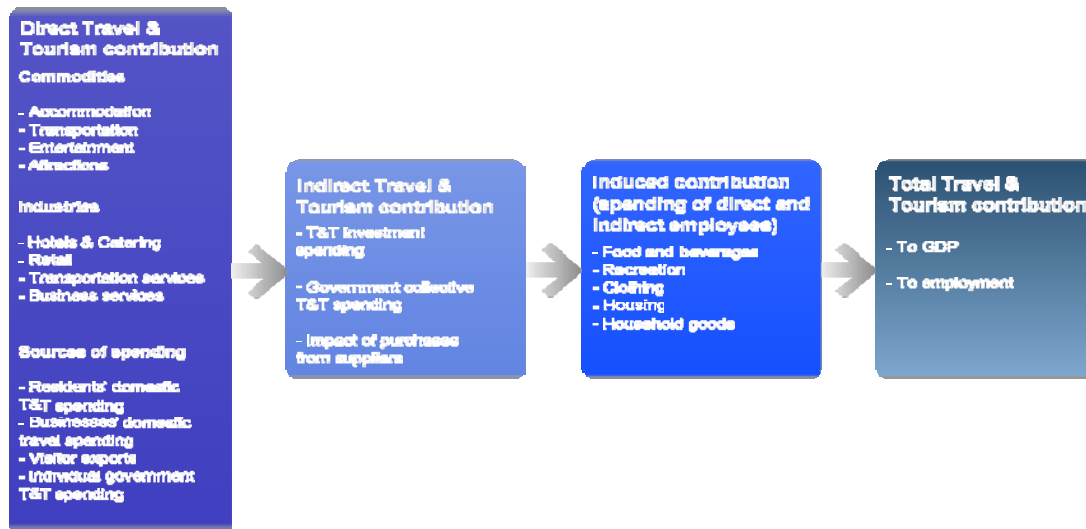
Figure 1: Effective of tourism on economy (WTTC 2011)

In any case, the economic effect dissection follows the streams of going through connected with tourism action in a region in order recognize changes in sales, tax revenues, incomes, and employments because of tourism activities.

Tourism's commitment to economic growth has been generally reported in the writing of UNWTO and WTTC (Figure 1). WTTC has recognized three significant roles of tourism sector regarding the macroeconomic execution in the world economy, as outlined in Figure 2. As stated by this the commitment of the tourism sector is essential for the macroeconomic execution of a nation.
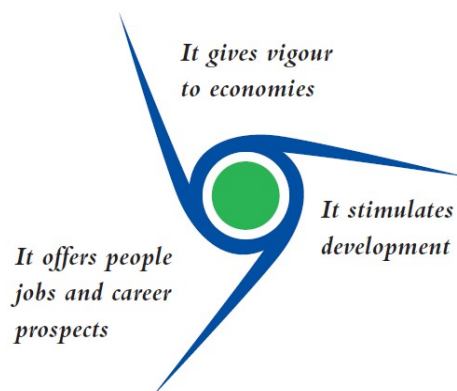
Figure 2: The role of tourism in the global economy (WTTC, 2010)

Butler (1980) adjusted the life cycle product model to the tourism industry and made the "Tourism Area Life Cycle (TALC) model", whereby offers of a product continue gradually from the start, encounter a quick rate of development, settle, and hence decline; as such, an essential asymptote bend is taken over (Figure 3). Tourists will go to a region in little numbers at first, confined by absence of access, facilities, and local knowledge. As facilities are given and mindfulness develops, tourist numbers will rise. Butler said that with marketing, information dissemination, and further facility provision, the region's fame will develop quickly.
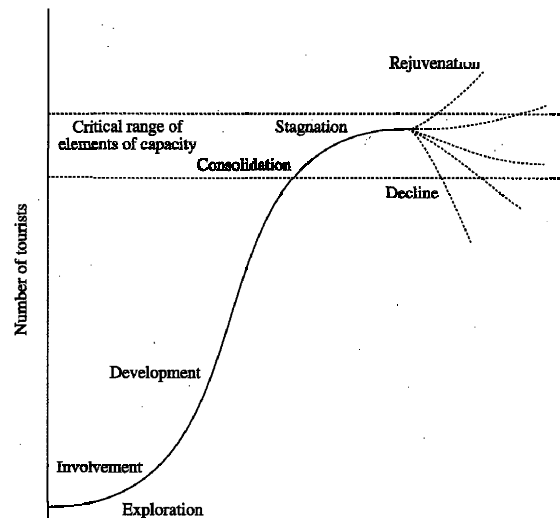
Figure 3: Tourism area (destination) life cycle (Butler, 1980)

Inevitably, nonetheless, the rate of increase in tourist numbers will decrease as levels of conveying limit are arrived at. The stages through which Butler recommended that tourist areas pass are the exploration stage, the involvement stage, the development stage, the consolidation, the stagnation stage and the decline stage (on the other rejuvenation may occur, although it is almost certain that this stage will never be reached without a complete change in the attractions on which tourism is based).

Predicated on different past studies, it might be presumed that the TALC model is a diagnostic skeleton that is very fitting in explaining correlated in elucidating the flow of the development of tourism destination, despite the fact that the general accord about the legitimacy and requisition of the model hasn't been accomplished (Lumbanraja, 2012). It could be presumed that the TALC model is exact enough to depict the phases of the development of the tourism zone in an ordinary circumstance remotely. It indicates that despite the fact that it is utilizable designates in depicting the development of tourism development, which incorporates the stages and time off and the period of development gone through by a tourism area, the precision of the TALC model mostly depends on a number of external factors, for example, such as political riot, terrorism, catastrophe, and so forth.

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1.3 Study Problem

From the general foundation and writing above, does the Cambodia tourism sector income help the Cambodia Gross Domestic Product (GDP)? What is the genuine variable that impacts the Cambodia Gross Domestic Product (GDP)? Close to that, in light of the increment of tourism sector income isa significant factor which perhaps impact the Cambodia's GDP, we require additionally to study which calculate that possibly help the tourism sector's income? In particular, the exploration inquiries are:

1. Does the tourism sector income contribute to the Cambodia Gross Domestic Product (GDP)?
2. Which factor that can contribute to the tourism sector's income?
3. What is the factor that influences the aggregate number of visitors come to Cambodia?

1.4 Objectives of the Study and Methodology
1.4.1 Objective of the study:

Because of the essentials of the tourism sector, ways ought to be found to keep up or increment the potential development of the business. To do along these lines, a superior understanding of the tourism industry must be made accessible to approach producers by fulfillment the accompanying objectives:

1. To identify and analyze the impact of some of the main factors affecting Cambodia's international tourist receipts over time.
2. To present and analyze tourist receipts in Cambodia using the data from surveys conducted by UNWTO, WTTC and MOT.
3. To present and analyze some of the statistics and trends on Cambodia's international tourism industry in aspects of the Butler's S curve Model, discussion about the future prospects and possible challenges to the Cambodian tourism industry and recommends possible strategic initiatives that tourism stakeholders can adopt and implement in an effort to buttress the potential of tourism as an engine for economic growth in Cambodia. The period of analysis is 2000 to 2012 inclusively.

1.4.2 Methodology of the study:

The paper is arriving at on distinctive sorts of dissection basically dependent upon of analysis mostly based on available sources of secondary data. Generally, comparable quantities are analyzed with descriptive statistics on economic parameters for GDP contribution, employment generation, visitor exports and capital investment. The secondary data collection involved library research on UNWTO, WTTC of materials

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related to the tourism industry in Cambodia as well as overseas countries. It also entailed compiling data from Cambodia Tourism Ministry (Ministry of Tourism).

2. Global Tourism
2.1 The global tourism

The United Nations World Tourism Organization (UNWTO) noted that the global tourism industry continues to show its resilience in dealing with the many sharply negative shocks the industry has faced since 2000, including: September 11 terrorist attacks in 2001, SARS in 2003, Global Financial Crisis (GFC) and H1N1 pandemic in 2009, Icelandic volcanic eruptions in 2010 and Japanese tsunami and nuclear plant meltdown in 2011.

Year	Arrivals (million)	Change (%)	Receipts (US$ bn)	Change (%)
2001	673	N/A	520	N/A
2002	693	3.0	512	-1.5
2003	682	-1.6	533	4.1
2004	753	10.4	634	18.9
2005	797	5.8	679	7.1
2006	842	5.6	743	9.4
2007	898	6.7	859	15.6
2008	917	2.1	942	9.7
2009	882	-3.8	853	-9.4
2010	939	6.5	928	8.8
2011	982	4.6	1030	11.0

Source: United Nations world tourism organization, *world tourism barometer*, May 2012.

The UNWTO estimates that global arrivals increased by 4.6% in 2011, and are forecast to increase by a further 3% to 4%, would be over 1.0 billion in 2012 and 2013. Total contribution represents 9% of total economy GDP in 2012, 1 in 11 jobs, 5% of total economic investment and 5% of world exports. Therefore, total Travel & Tourism employment, including those working in the industry's supply chain and supported by the spending of their employees, increased by 4.0 million jobs in 2012.

2.2 Global performance and outlook: 2012 and 2013

Economic impact of travel & tourism 2013 annual update (2012 prices)	
Travel & Tourism Direct Contribution to GDP	US$ 2.1 trillion
Travel & Tourism Total Contribution to GDP	US$ 6.6 trillion
Travel & Tourism Direct Contribution to Employment	101 million jobs
Travel & Tourism Total Contribution to Employment	260 million in jobs
Visitor Exports	US$ 1.2 trillion in exports
Capital Investment	US$ 760 billion in investment

Source: United Nations world tourism organization, *world tourism barometer*, May 2013.

Looking ahead to 2013, the slowdown in Travel & Tourism international demand growth observed in the second half of 2012 is forecast to continue. However, Global Travel & the Tourism contribution to direct GDP in 2013 is forecast to grow by 3.1%, compared to 3.2% in 2012. Travel & Tourism are again forecast to outpace growth of the total global economy (2.4%) in 2013. Visitor exports growth is forecast to slow from 4.7% in 2012 to 3.1%, with domestic Travel & Tourism spending forecast to grow by 3.2%, a marginally better attorney than 2012. Total Travel & Tourism employment is projected to expand by 4.4 million jobs in 2013.

3. Regional performance and outlook: 2012 and 2013

The year of 2012 was another year of mixed Travel & Tourism performance across the globe. At a regional level, South East Asia (7.3%) was the fastest growing in terms of Travel & Tourism's contribution to total GDP - half of the 4.0 million growths in total Travel & Tourism employment was in Asia alone. Europe was the slowest growing region, but still registered a marginally positive growth of 0.4%. Europe's performance would have been even weaker were it not for its above expectation visitor exports growth of 3.5%.

Selected tourism and economic indicators for ASEAN members, 2011

	TTCI	International tourist arrivals		International tourism receipts			Population	GDP per capita
	Rank /139	thousand	per 100 pop.	US$ million	% of GDP	US$ per capita	million	US $
Brunei D.	67	214	51.7	254	254	613.5	0.4	29,852
Cambodia	109	2,882	19.3	1,683	15.0	112.6	15.0	753
Indonesia	74	7,650	3.2	7,952	1.1	33.5	237.6	2,981
Lao PDR	—	1,670	25.9	382	6.8	59.3	6.4	1,004
Malaysia	35	24,714	87.5	18,259	7.7	646.3	28.3	8,418
Myanmar	—	391	0.6	73	0.2	1.2	61.2	742
Philippines	94	3,917	4.2	2,783	1.7	29.6	94.0	2,123
Singapore	10	10,390	200.4	17,990	7.9	3,470.3	5.2	43,865
Thailand	41	19,098	29.9	26,256	8.2	411.0	63.9	4,992
Vietnam	80	6,014	6.8	5,620	5.4	63.7	88.3	1,174
ASEAN	**—**	**76,940**	**12.8**	**68,639**	**4.6**	**114.4**	**600.2**	**3,117**

Source: World economic forum; UNWTO (2012)

In 2013, industry growth in Europe is again forecast to lag the rest of the world, with only modestly stronger growth of 0.8% in its contribution to total GDP. This compares to a much more robust growth forecast of 2.4% for North America. Asia will continue to be the strongest growing Travel & Tourism region in 2013, followed by Latin America and Sub-Saharan Africa. Indonesia, China, India and Brazil are forecast to be the strongest growing of the largest Travel & Tourism economies in

2013, with growth in Japan and South Korea set to slow following strong performance in 2012.

4. Ten-year outlook and new world order: 2013-2023

Travel & Tourism's direct contribution to world GDP is set to grow by 4.4% on average per year over the next ten years, and outpace growth in the wider economy and other industries, notably retail and public services. By 2023, Travel & Tourism's total economic contribution are forecast to rise to US$ 10.5 trillion in GDP (2012 prices), almost 340 million in jobs, over US$ 1.3 trillion in investment (2012 prices) and almost US$ 2.0 trillion in exports (2012 prices). The growing importance of Travel & Tourism in the global economy will mean that by 2023, Travel & Tourism's total contribution will account for 10.0% of GDP and 1 in 10 jobs. Total Travel & Tourism employment is forecast to increase by over 70 million jobs over the next decade, with two-thirds of the additional jobs in Asia.

Asia will continue to lead the growth of the global Travel &the Tourism industry over the next decade, with annual average growth of over 6%. Increasing wealth among its middle classes will drive Asia's growth. This will impact on the wider global industry via increased destination competition but also create opportunities to grow outbound spending. Destinations within and outside Asia will need to be prepared to invest in infrastructure suitable for these new sources of demand to achieve the clear growth potential that exists.

Africa, Latin America and the Middle East will also outperform world industry growth over the next ten years, with growth of 5.1%, 4.7% and 4.8% respectively. More mature markets in North America and the Caribbean are forecast to see annual average growth rates of 3.4% and 3.3% respectively in Travel & Tourism total contribution to GDP. Industry growth in Europe is forecast to pick up in 2014, but the overall long-term growth of Travel & Tourism's total contribution to GDP is forecast at 2.7% in Europe and 2.6% in Oceania, the weakest two regions.

As a result of these long-term regional outlooks, there will be a shift in the 'world order' of Travel & Tourism over the next decade. By 2023, China will lead the world in the total contribution that Travel & Tourism make to GDP, overtaking the current leader, USA (2012 prices). The scale of its domestic and investment Travel & Tourism spending will fuel this. China is also set to become the largest outbound Travel & Tourism market in 2023 in spending terms. However as a destination, both in terms of visitor exports and its share of global foreign arrivals, China will still be a long way behind the US in 2023. Excluding arrivals from Macau, Taiwan and Hong Kong would actually push China well down the global league table for foreign arrivals in 2023, behind mature markets such as France, Spain and Italy.

5. Patterns and Trends of Inbound Tourism in Cambodia: An Overview

In the wake of recovering freedom from France (1953), Cambodia has had a few name and experienced six real changes in its social, political and economic frameworks: The Kingdom of Cambodia (under the Race Niyum Regime from 1953 to 1970); the Khmer Republic (under the Lon Nol Regime from 1970 to 1975); the Democratic Kampuchea/Khmer Rouge Regime (under the Pol Pot Genocidal Regime from 1975 to 1979); The People's Republic of Kampuchea (1979 to 1989), which later changed names to The State of Cambodia (1989 to 1993); and the recent The Kingdom of Cambodia (1993 to present).

Tourism has been determinedly created in Cambodia since the 1960s. Nonetheless, the civil war had genuinely harmed the tourism industry in the 1970s and 1980s. The facts of the time of the 1970s and 1980s are not accessible because of records were not led throughout the time (Chheang, 2009). Lam (1998), on the other hand, notes that in the 1960s, Cambodia used to be a standout amongst the most renowned visitor destinations in Southeast Asia, with yearly visitor arrival of 50,000 to 70,000. Ministry of Tourism's Annual Report (2009) shows the visitor arrival have grown significantly from the 1993 to 2007 with a yearly build normal of about 30 percent. East Asian tourists help biggest add up to the visitor entries to Cambodia. Korea is the top and Japan is the second that record for about 25 percent of the aggregate tourist arrivals in Cambodia.

Current Cambodian investment improvement could be for the most part credited to the agricultural sector, and the textile of clothing and service commercial enterprises. Something like 85 percent of the Cambodian populace exists in rural areas and more than 75 percent of them are utilized in the farming area. From 1993 to 2005 farming helped about 25 percent of the Gross Domestic Product (GDP). The Cambodian government sees agriculture as a priority sector for the Royal government.
Tourism is the second biggest income giver to the Cambodian economy after garment industry. In 2005, income from tourism represented US$832 million, or about 13 percent of the Cambodian Gross Domestic Product (GDP), and gave something like 200,000 occupations every year to the Cambodian people. In 2006, tourism created income of US$1, 594 million, about 16 percent of GDP, and gave something like 250,000 occupations (Ministry of Tourism, 2007).

The tourism industry has become one of the main catalysts for Cambodian economic development. Cambodia's leaders have recognized the significance of tourism in their policy, as Hall and Ringer (2000) note "International tourism to Cambodia has natural appeal for both the national government, seeking additional sources of revenue and for the tourism industry looking for new opportunities and destinations".

5.1 Cambodia - International Tourism

Years	Tourist Arrivals		Average length of stay (days)	Hotel Occupancy (%)	Tourism Receipts (Million US$)
	Number	Change (%)			
1993	118,183	-----	N/A	N/A	N/A
1994	176,617	49.4	N/A	N/A	N/A
1995	219,680	24.4	8.00	37.00	100
1996	260,489	18.6	7.50	40.00	118
1997	218,843	-16.0	6.40	30.00	103
1998	286,524	30.9	5.20	40.00	166
1999	367,743	28.3	5.50	44.00	190
2000	466,365	26.8	5.50	45.00	228
2001	604,919	29.7	5.50	48.00	304
2002	786,524	30.0	5.80	50.00	379
2003	701,014	-10.9	5.50	50.00	347
2004	1,055,202	50.5	6.30	52.00	578
2005	1,421,615	34.7	6.30	52.00	832
2006	1,700,041	19.6	6.50	54.79	1,049
2007	2,015,128	18.5	6.50	54.79	1,400
2008	2,125,465	5.5	6.65	62.68	1,595
2009	2,161,577	1.7	6.45	63.57	1,561
2010	2,508,289	16.0	6.45	65.74	1,786
2011	2,881,862	14.9	6.50	66.15	1,912
2012	3,584,307	24.4	6.30	68.49	2,210

Source: Ministry of Tourism (2012)

The worth of International tourism, number of entries in Cambodia was 3,584,307 starting 2012. As the table and graph underneath shows, in the past of 20 years this marker arrived at a most extreme quality of 3,584,307 in 2012 and a base worth of 118,183 in 1993.
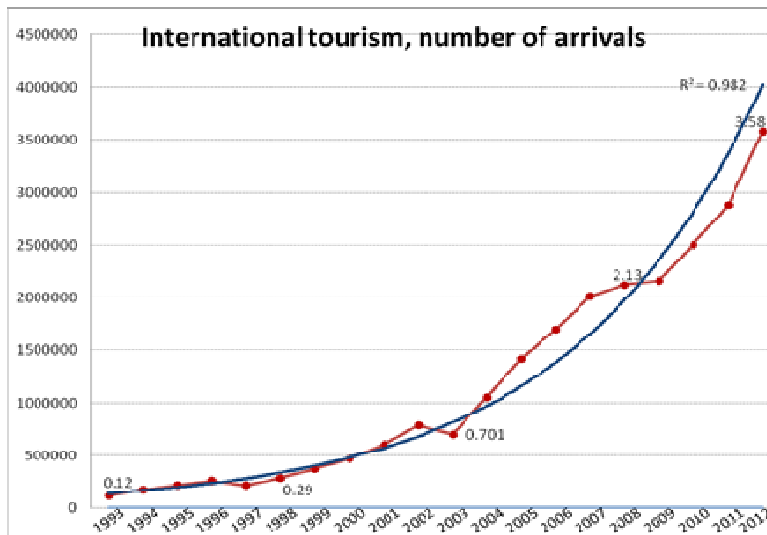
Figure 4: Stage of Cambodia tourism life cycle (1993-2012)

World Tourism Organization (2012) notes the most recent value for international tourism, receipts (current US$) in Cambodia was $1,790,000,000 starting 2011. In the past 16 years, the value of this pointer has vacillated between $1,790,000,000 in 2011 and $71,000,000 in 1995. International tourism, receipts (% of aggregate exports) in Cambodia were 24.08 starting 2011. Its highest value over the past 6 years was 26.72 percent in 2009, while its lowest value 22.10 percent in 2006. The report notes the most recent worth for global tourism, receipts for traveler transport things (current US$) in Cambodia was $174,000,000 starting 2011. Over the past 16 years, the value of this indicator has vacillated between $179,000,000 in 2008 and $18,000,000 in 1995. The most recent value of International tourism, expenditure for traveler transport items (current US$) in Cambodia was $80,000,000 as of 2011. Over the past 16 years, the value of this marker has vacillated between $83,000,000 in 2008 and $10,000,000 in 1998.

World Tourism Organization (2012) meant the most recent values for international tourism, receipts for travel items (current US$) in Cambodia was $1,616,000,000 starting 2011. Over the past 16 years, the value of this indicator has changed between $1,616,000,000 in 2011 and $53,000,000 in 1995, and the most recent value of international tourism, consumptions for travel items (current US$) in Cambodia was $253,000,000 starting 2011. Over the past 16 years, the value of this indicator has vacillated between $253,000,000 in 2011 and $8,000,000 in 1995.

World Tourism Organization (2012) additionally brought up the most recent worth for international tourism, expenditure (current US$) in Cambodia was $333,000,000 starting 2011. Over the past 16 years, the value of this indicator has vacillated between $333,000,000 in 2011 and $22,000,000 in 1995, and international tourism,

expenditure (% of aggregate imports) in Cambodia was 4.15 starting 2011. Its highest value over the past 6 was 4.16 in 2010, while its lowest value was 3.00 in 2005.

5.2 Tourism Contribution to GDP

CAMBODIA ESTIMATES AND FORECASTS (2006-2016)								
	2006				2016			
Cambodia	KHRbn	US$ mn	%of total	Growth	KHRbn	US$ mn	%of total	Growth
Personal Travel & Tourism	432.00	108.000	2.20	7.30	1,120.90	280.225	2.50	5.80
Business Travel	520.60	130.150	---	6.10	1,231.90	307.975	---	4.80
Government Expenditures	110.20	27.550	9.10	6.50	272.90	68.225	9.60	5.30
Capital Investment	941.70	235.425	16.20	6.30	2,232.30	558.075	16.30	4.80
Visitor Exports	3380.90	845.225	19.50	9.90	10,921.80	2730.450	23.20	8.10
Other Exports	490.80	122.700	2.80	3.40	1,252.60	313.150	2.70	5.60
Travel & Tourism Demand	5876.00	1469.000	---	8.20	17,032.40	4258.100	---	7.00
T&T Industry GDP	2090.30	522.575	8.50	10.00	6,537.80	1634.450	11.30	7.80
T&T Economy GDP	4831.40	1207.850	19.60	8.80	14,234.70	3558.675	24.50	7.20
T&T Industry Employment	453.40 ('000 jobs)		6.50	6.60	745.10 ('000 jobs)		8.60	5.10
T&T Economy Employment	1072.00 ('000 jobs)		15.40	5.40	1,653.50 ('000 jobs)		19.10	4.40

Source: WTTC (2006)

The commitment of inbound tourism to a nation's economy is frequently surveyed by its impact on the Gross Domesticated Product (GDP), employment and total foreign exchange earnings (Nowak, Sahli, & Cortés-Jiménez, 2007).

Then again, its economic importance can go past these relative shares. Regardless of the possibility that these are constrained, inbound tourism can even now be a crucial activity, giving the nation a particular development instrument without which it could be sentenced to stagnation. The role of tourism exports on economic growth has been considered regularly in a transient point of view through its effect on the global demand for goods and service and spending.

CAMBODIA ESTIMATES AND FORECASTS (2011-2021)								
	2011				2021			
Cambodia	KHRbn	US$ mn	%of total	Growth	KHRbn	US$ mn	%of total	Growth
Direct contribution to GDP	4,422.30	1105.575	8.40	2.60	8,263.40	2065.850	7.90	6.50
Total contribution to GDP	10,342.70	2585.675	19.70	2.80	19,697.70	4924.425	18.80	6.70
Direct contribution to employment	543.00 ('000 jobs)		7.10	-0.90	748.00 ('000 jobs)		8.00	3.30
Total contribution to employment	1,306.00 ('000 jobs)		17.10	-0.70	1,733.00 ('000 jobs)		18.50	2.90

Visitor exports	6,526.70	1631.675	23.80	3.20	11,754.10	2938.525	24.10	6.10
Domestic spending	1,095.00	273.750	2.10	2.50	2,405.70	601.425	2.30	8.20
Leisure spending	6,499.90	1624.975	12.40	3.80	11,707.60	2926.900	11.20	6.10
Business spending	1,156.20	289.050	2.20	-0.60	2,522.70	630.675	2.40	8.10
Capital investment	1,111.90	277.975	13.70	2.50	2,102.70	525.675	12.90	6.60

Source: WTTC (2011)

Generally, statistical figures from the World Travel and Tourism Council (WTTC) database indicates that the average contribute of tourism sector gross domestic product (GDP) of Cambodia at national level is developing respectively. The World Travel and Tourism Council (WTTC) assessed that foreign visitor spending in the Cambodian economy might produce 22.3% of aggregate exports in 2006, developing to 25.8% in 2016.

The 'Share of GDP' figures in the government's overall comprehensive five-year plan how that 'Lodgings and Restaurants' (a noticeably thin meaning of the tourism sector) at present records for a little more than 5% of GDP, contrasted with 23.5% of agriculture (crops) and fisheries, and 20.9% for manufacturing (mainly garments). Tourism related revenues in 2010 are expected to reach about US$1, 500 million and employment to reach 400,000 people.

The WTTC on the other hand, estimates that the 'Travel and Tourism Industry' will contribute 8.5% to GDP in 2006, rising to 11.3% by 2016. However, Cambodia represents   only a small share of the regional tourism market. According to World Tourism Organization (WTO) data, Cambodia's 2004 arrival sof 1,055,202 accounted for 2.2% of all arrivals into Southeast Asia and 0.7% of arrivals to Asia-Pacific.

CAMBODIA ESTIMATES AND FORECASTS (2011-2022)								
	2011			2012	2022			
Cambodia	KHRbn	US$ mn	%of total	Growth	KHRbn	US$ mn	%of total	Growth
Direct contribution to GDP	4,829.60	1207.400	9.50	5.50	9,137.80	2284.450	8.50	6.00
Total contribution to GDP	11,225.90	2806.475	22.10	6.70	22,074.40	5518.600	20.60	6.30
Direct contribution to employment	607.00 ('000 jobs)		8.00	2.60	839.00 ('000 jobs)		8.90	3.00
Total contribution to employment	1,450.00 ('000 jobs)		19.20	3.70	1,947.00 ('000 jobs)		20.60	2.60
Visitor exports	6,740.70	1685.175	20.20	4.70	11,993.30	2998.325	18.00	5.40
Domestic spending	1,553.60	388.400	3.10	8.80	3,611.60	902.900	3.40	7.90

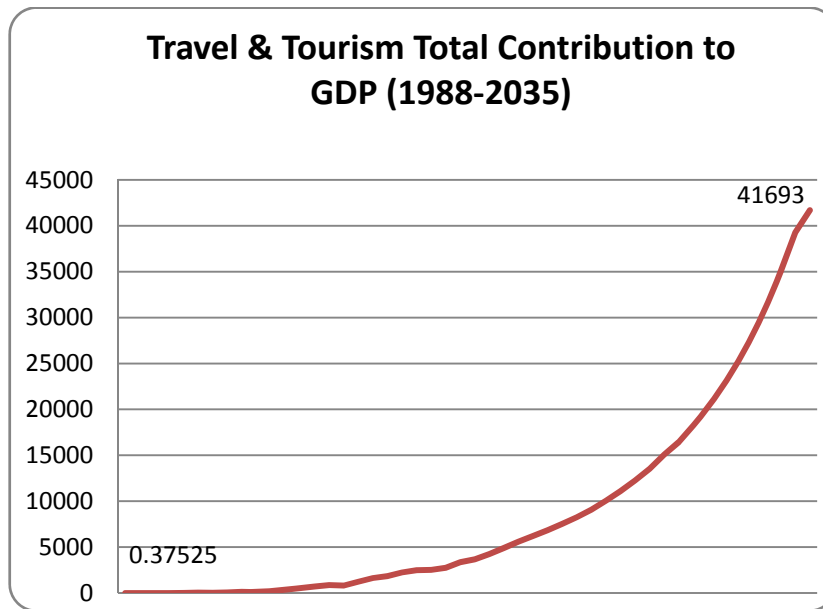|							
Leisure spending	7,448.10	1862.025	14.70	4.90	13,541.30	3385.325	12.60	5.70
Business spending	900.00	225.000	1.80	9.70	2,181.70	545.425	2.00	8.20
Capital investment	1,060.90	265.225	12.80	16.70	2,345.70	586.425	13.30	6.60

Source: WTTC (2012)

The current WTTC's Cambodia database from 2011 to 2013 shows the direct contribution of Travel &Tourism to GDP is expected to be 8.4% of total GDP in 2011, rising by 6.5% p.a. to 7.9% in 2021. The direct contribution of Travel & Tourism to GDP was 9.5% of total GDP in 2011, and is forecast to rise by 5.5% in 2012, and to rise by 6.0% pa, from 2012 to 2022.

The direct contribution of Travel & Tourism to GDP was 11.5% of total GDP in 2012, and is forecast to rise by 11.3% in 2013, and to rise by 7.0% pa from 2013 to 2023. The total contribution of Travel & Tourism to GDP, including its wider economic impacts, is forecast to rise by 6.7% p.a. (19.7% of GDP) in 2011 to 18.8% by 2021. The total contribution of Travel & Tourism to GDP was 22.1% of GDP in 2011, and is forecast to rise by 6.7% in 2012, and to rise by 6.3% pa in 2022.

CAMBODIA ESTIMATES AND FORECASTS (2012-2023)								
	2012			2013	2023			
Cambodia	KHRbn	US$ mn	%of total	Growth	KHRbn	US$ mn	%of total	Growth
Direct contribution to GDP	6,545.10	1636.275	11.50	11.30	14,286.00	3571.500	11.50	7.00
Total contribution to GDP	14,717.60	3679.400	25.80	11.50	32,756.60	8189.150	26.40	7.20
Direct contribution to employment	783.00 ('000 jobs)		9.70	6.10	1,182.00 ('000 jobs)		12.40	3.60
Total contribution to employment	1,805.00 ('000 jobs)		22.30	6.20	2,585.00 ('000 jobs)		27.00	3.00
Visitor exports	8,093.80	2023.450	26.10	12.20	17,206.00	4301.500	30.20	6.60
Domestic spending	3,170.50	792.625	5.60	8.50	7,182.00	1795.500	5.80	7.60
Leisure spending	8,734.50	2183.625	8.80	11.60	18,396.70	4599.175	8.60	6.60
Business spending	2,529.80	632.450	2.60	9.80	5,991.20	1497.800	2.80	8.00
Capital investment	1,313.40	328.350	14.40	12.00	2,775.80	693.950	14.00	6.60

Source: WTTC (2013)

Travel & Tourism Total Contribution to GDP (1988-2035)

Source: WTTC (2013), http://www.wttc.org/research/economic-data

The total contribution of Travel & Tourism to GDP was 25.8% of GDP in 2012, and is forecast to rise by 11.5% in 2013, and to rise by 7.2% pa in 2023. The total contribution of Travel & Tourism to employment, including jobs indirectly supported by the industry, is forecast to rise by 2.9% pa from 1,306,000 jobs (17.1% of total employment) in 2011 to 1,733,000 jobs (18.5%) by 2021.

In2011, the total contribution of Travel & Tourism to employment, including jobs indirectly supported by the industry, was 19.2% of total employment (1,450,000 jobs). This is expected to rise by 3.7% in 2012 to 1,503,500 jobs and rise by 2.6% pa to 1,947,000 jobs in 2022 (20.6% of total).

In 2012, the total contribution of Travel & Tourism to employment, including jobs indirectly supported by the industry, was 22.3% of total employment (1,805,500 jobs). This is expected to rise by 6.2% in 2013 to 1,917,500 jobs and rise by 3.0% pa to 2,585,000 jobs in 2023 (27.0% of total).

5.3 Tourism: Shift to Regional Arrivals

Tourism receipts represented to 14.4% of 2009 GDP, making it the third biggest single part of the Cambodian economy. Yearly entries have climbed from only 0.2 million in 1995 to 3.5 million starting 2013. So far tourism has been vigorously concentrated in Phnom Penh and Siem Reap (the site of Angkor Wat) yet there is

another outskirts for advancement in the essentially untouched islands off Sihanoukville in the medium term, and for different ends over the longer term.

	Vietnam	Korea (ROK)	China (RPC)	Lao PDR	Thailand	Japan	U.S.A	France	Australia	Malaysia
2011	614,090	342,810	247,197	128,525	116,758	161,804	153,953	117,408	105,010	102,929
2012	763,136	411,491	333,894	254,022	201,422	179,327	173,076	121,175	117,729	116,764
share (%)	21.3%	11.5%	9.3%	7.1%	5.6%	5.0%	4.8%	3.4%	3.3%	3.3%
change (%)	24.3%	20.0%	35.1%	97.6%	72.5%	10.8%	12.4%	3.2%	12.1%	13.4%
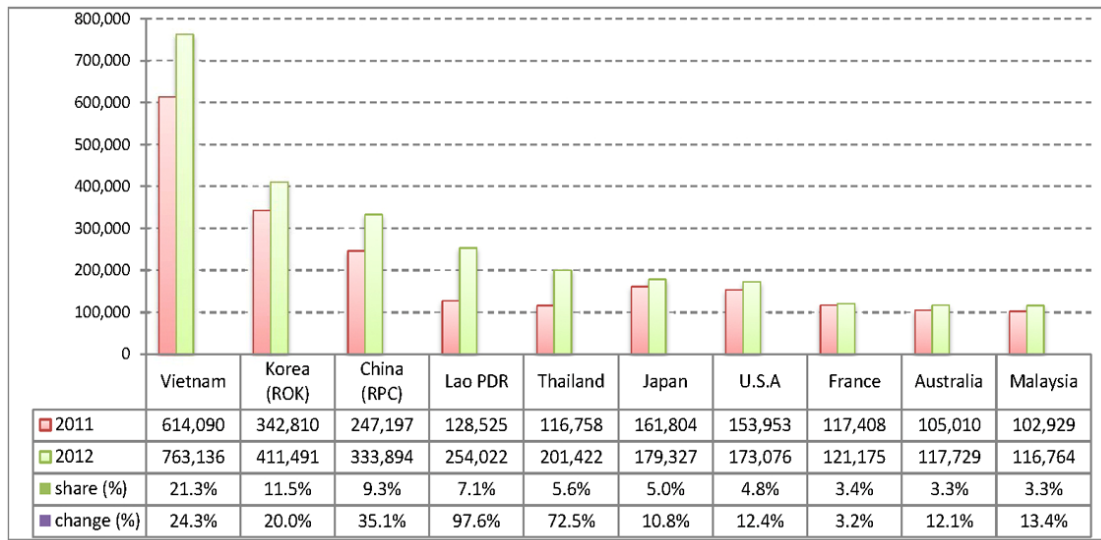
Source: Ministry of tourism (2012)

Regional arrivals are an expanding extent of the total, particularly from Vietnam, Korea and China. Nonetheless, this has prompted a decrease in income/arrival/day in genuine terms, yet this seems, by all accounts, to be balanced by the increase volume as aggregate tourism receipts have climbed.

5.3.1 Strong long term trend in visitor arrivals

After agriculture and textile, the tourism and hospitality industry is the third biggest single area of the economy. The business is still moving primarily in two urban areas as such, the capital Phnom Penh and Siem Reap, the area of the World Heritage Site Angkor Wat. Different ranges of the nation additionally have potential, including another old sanctuaries and potential eco-tourism areas, and as street framework continuously enhances travelers will all the more effortlessly get to them.

5.3.2 Surge in tourist arrivals over a last decade

Visitor entries have surged more than tenfold in Cambodia from only 0.2 million in 1995 as Cambodian started to settle politically to in excess of 3.5 million in 2013, with average growth 19.3% for every year from 1995-2013. We expect that economic grow will just keep on driving up this number, as more tourism sites of the country are all the more effectively available by visitors. Given the high number of traveler entries we see four other Southeast Asian countries (14.1 million arrivals to Thailand in 2009, 23.6 million in Malaysia and 3.8 million in Vietnam), we expect that as

Cambodia's notoriety for being a destination keeps on improving, it will have the capacity to gain share from other regional markets.

5.3.3 Shift towards regional arrivals

There has been a key movement recently in the composition of arrivals towards ASEAN countries. Arrivals from the nation's three neighbors Thailand, Vietnam and Laos alone have growth of only 9.5% of arrivals in 2006 to 24.9% of arrivals in 2010, particularly because of a surge in arrivals from Vietnam and Laos over the past few years.

We accept that this could imply that arrival figures could get to be more padded to the downside. This is on the grounds that in economic downturns, visitors from far abroad may decide to decrease their plans and travel all the more provincially. Truly Cambodia had been weighted (particularly in income terms) to tourism arrivals from more far off areas including the US, Europe and Japan. We note that with the current economic difficulty in Vietnam, and political clash with Thailand, we may see some transient back off in arrivals from neighboring countries, yet we need that the common long term pattern is for an increment from the Mekong region.

6. Discourse and Concluding Remarks

Tourism is a vital sector in Cambodia. As found by this study, tourism sector helps definitively to Cambodia economies regarding GDP, occupation, export receipts, and investment. A major strategy suggestion which radiates from this study is that Cambodia can enhance their economic development, not just by contributing on the customary wellsprings of development, for example, speculation by and large physical and human capital, exchange, and outside immediate financing, additionally by deliberately bridling the financial commitments from the tourism business regarding its commitments to, besides everything else, livelihood, foreign exchange earnings, GDP and physical capital investment.

Cambodia is rich in both socio-cultural and ecotourism destinations, be that as it may its infrastructure, management talent and workforce are still limited, as far as both amount and quality, to exploit this endowment. Cambodia's tourism industry in the previous two decades has encountered testing times. The industry unmistakably indicates flexibility notwithstanding various tests. The most empowering incidents are the national and regional political situation. This has supported the trust of the business and made new choices for creating the business and drawing in more guests. Doubtlessly tourism has an incredible potential in Cambodia and is one of the quickest developing sectors internationally. Nonetheless, the tourism business in Cambodia had been plagued with numerous issues. The amount of flights and the extent of aerial shuttles serving the nation, particularly from western nations need to

be increased. An alternate imperative officially accomplished is deficient convenience, especially at the regional level. There is an irregularity in the visitor accommodation available in the country.

The improvement of road conditions could enhance the comfort and safety of tourists and reduce travel time from one destination to another. At present the access to many tourist destinations and hotels is very poor.

The S shaped Butler curve is a commonly used model for describing and prognosticating tourist advent numbers at destinations over time at the country level (Figure 3 and 4). In terms of this model Cambodia's tourism development appears to be in the "Development" stage. According to Butler (1980), the development stage reflects a well-defined tourist market area, shaped in part by heftily ponderous advertising in tourist engendering areas. As this stage progresses, local involvement and control of development will decline rapidly.

Some locally provided facilities will have vanished, being superseded by more astronomically immense, more elaborate, and more up-to-date facilities provided by external organizations, particularly for visitor accommodation. Natural and cultural magnetizations will be developed and marketed concretely, and these pristine magnetizations will be supplemented by man-made imported facilities. Vicissitudes in the physical appearance of the area will be flamboyantly blatant, and it can be expected that not all of them will be welcomed or approved by all of the local population. Regional and national involvement in the orchestrating and provision of facilities will virtually certainly be obligatory and, again, may not be planarity in keeping with local predilections. The number of tourists at peak periods will probably equal or exceed the permanent local population. At this stage unfolds, imported labor will be utilized and auxiliary facilities for the tourist industry will make their appearance.

REFERENCES

Baker, D. M. A. (2013). Understanding the Economic Impact of Tourism in the Asian Pacific Region Using the Tourism Satellite Account (TSA). *International Journal of Business and Social Science, 4*(3), 15-22.

Balaguer, J., & Cantavella-Jordá, M. (2002). Tourism as a long-run economic growth factor: the Spanish case. *Applied Economics, 34*, 877-884.

Butler, R. W. (1980). THE CONCEPT OF A TOURIST AREA CYCLE OF EVOLUTION: IMPLICATIONS FOR MANAGEMENT OF RESOURCES. *CANADIAN GEOGRAPHER, XXIV*(1), 5-12.

Chheang, V. (2009). STATE AND TOURISM PLANNING: A CASE STUDY OF CAMBODIA. *TOURISMOS: AN INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF TOURISM, 4*(1), 63-82.

Hichcock, M., King, V. T., & Parnwell, M. J. G. (1993). Introduction, in Tourism in South East Asia. *Routledge, London, UK, M. Hichcock, V. T. King and M. J. G. Parnwell (Editors)*, 2-6.

Lam, T. (1998). Tourism in Cambodia: An overview of Cambodian international tourism and its development potential. *Pacific Tourism Review, 1*(3), 235-241.

Lumbanraja, V. (2012). TOURISM AREA LIFE CYCLE IN LAKE TOBA. *IJG, 44*(2), 150 - 160.

Makochekanwa, A. (2013). An analysis of tourism contribution to economic growth in SADC Countries. *BOJE: Botswana Journal of Economics, 11*(15), 42-56.

Michael, H. C., & Ringer, G. (2000). Chapter 13: Tourism in Cambodia, Laos and Myanmar: From Terrorism to Tourism? *Hall, C.M. & S.J. Page (eds) (2000) TOURISM IN SOUTH AND SOUTH EAST ASIA: ISSUES AND CASES, New York: Butterworth-Heinemann*, 178-194.

Nowak, J.-J., Sahli, M., & Cortés-Jiménez, I. (2007). Tourism, capital good imports and economic growth, theory and evidence for Spain. *Tourism Economics, 13*, 515–536.

Petrevska, B., & Matlievska, M. (2013). Managing economic development by tourism contribution: Empirical evidence. *Journal of Process Management - New Technologies, 1*(2 MAPRO), 35–41

Richardson, R. B. (2010). The Contribution of Tourism to Economic Growth and Food Security. *Paper prepared for USAID Mali, Office of Economic Growth*, 1-8.

Sharpley, R. (2000). The influence of the accommodation sector on tourism development: lessons from Cyprus. *International Journal of Hospitality Management, 19*(3), 275-293.

UNCTAD. (2007). E-tourism at a glance…. Cambodia. *Retrieved from The Online website: ertr.tamu.edu/files/2012/09/Cambodia_6.pdf, Document*.

UNWTO. (2002). Tourism and Poverty Alleviation. *Madrid: United Nations World Tourism Organization*.

UNWTO. (2003). World Tourism Report. *Madrid: United Nations World Tourism Organization.*

Wen, J. J., & Tisdell, C. A. (2001). Tourism and China's Development: Policies, regional Economic Growth and Ecotourism. *World Scientific, Singapore, London.*

WTTC. (2003). Tourism Highlights. *World Tourism Organization, Madrid.*

WTTC. (2010). Travel & Tourism Economic Impact 2010. *The Authority on World Travel & Tourism, ©2010 WORLD TRAVEL & TOURISM COUNCIL.*

WTTC. (2011). Travel & Tourism Economic Impact 2011. *The Authority on World Travel & Tourism*(©2011 WORLD TRAVEL & TOURISM COUNCIL).

WTTC. (2013). Travel & Tourism Economic Impact 2013 Cambodia. *The Authority on World Travel & Tourism*(©2013 WORLD TRAVEL & TOURISM COUNCIL).

A STUDY ON ASSESSMENT OUTCOMES ANALYSIS BY DISSEMINATION ON HEIs' FOUNDATION YEAR CRITERIA OF ACCREDITATION COMMITTEE OF CAMBODIA

Dr. TAN Saroeun[3]

Abstract

The study is made to analysis the results of the foundation year assessment of the Accreditation Committee of Cambodia to explore the effectiveness of transformation of HEIs' foundation year criteria course by dissemination method. The scope and limitation of the study are restricted only 30 departments of HEIs'[4] foundation year as sample sizes. Stratified sampling is designed by selecting 5 from provisional public and 25 from private HEIs foundation year. Thus, two main assessments are conducted for provisional institutions, first assessment by dissemination without maintenance and second assessment by dissemination with maintenance. The issues are tested by using a paired t - test to find the substantive deviation between both the assessment outcomes.

According to first assessment results are insufficient for IQA officials to understand about FDY criteria because many HEIs were resulted only provisional level. The study found more; the second assessment results were given majority of HEIs full accreditation because of dissemination with maintenance method, i.e. HEIs' IQA officials are linking agents, external assessors and also SAR arrangement agent. These conclusions are consistent with the modern training of Gary Dessler, (2012), as the following: As one trainer said "We sit down with management and help them identify strategic goals and objectives and the skills and knowledge needed to achieve them" and other researchers.

Key words: *Assessment result analysis based on the dissemination with and without maintaining methods.*

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[3] Dr. TAN Saroeun, Deputy Director of the School of Graduate Studies , National University of Management
[4] Higher Education Institutions

1. Background of Problem

The threats of the various crises in the society, such as poor academic output and poor performance at work in the society has been a source of concern to all the stakeholders in education, i.e. parents, teachers, government, spiritual bodies, law environment agents and society at large. The society cannot live comfortably without making mention of the school, which is the major ingredient of change. Stranded on the above reasoning, it makes us consider about dissemination roles in the society.

Cambodia has also been touched by these menaces like other developing countries. The study made by Sam Rany (2012) has highlighted that the high pace of graduate students is unemployment due to some skills being didn't link with the labour market. And some skills are not clear in training; some are over numbers for the market requirement, such as business, economics, and IT. Shown on the challenges, the Ministry of Education, Youth and Sports has set some policies and schemes to attain a more dependable quality in educational activity, especially higher education. For contributing ensuring quality accreditation, the secretariat general of the Accreditation Committee of Cambodia has established.

The Accreditation Committee of Cambodia has played significant roles in external assessment for quality accreditation of the HEIs foundation year process. This principal mission, the accreditation Committee of Cambodia had set some methods to disseminate external assessors and HIEs' IQA officers on six quality criteria courses to prepare SAR to summit ACC for external assessment. The results of the pilot and first year official assessment found that only several HEIs' foundation year departments received full accreditation. (ACC report, 2007)

In front of these challenges, ACC has changed some methods to recruit, i.e. HEIs' IQA foundation year, officials were picked out as external assessors. The dissemination was operated with maintenance to disclosure six quality criteria courses to them for external assessment implementation.

The external assessment was administered in giving a degree, provisional or full accreditation due to the effects of each institution's assessment. For provisional degree, HEIs have to submit the SAR to ACC for requesting a re - assessment again. Is there a significant difference in the effectiveness of first assessment result of dissemination without maintenance method and second assessment result of dissemination with maintenance method of provisional HEIs?

2. The Objectives of the Study

The purpose of study aims to compare the outcomes of the evaluation whether what methods of dissemination can be better achieved.
- To evaluate the effectiveness of FDY quality criteria dissemination with and without maintenance methods of provisional HEIs.
- To study the existing policies and methods of dissemination of FDY quality criteria of the Accreditation Committee of Cambodia.
- To provide conclusion and suggestions.

3. Definition

Key words are drawn around the meaning of technical terms which ACC has actually performed in their processes of arrangement in external assessment.

3.1. Dissemination

Dissemination builds on the word, cement, meaning "to set seeds." When you append The prefix *dis-*, you add the idea of separation, so to *disseminate* means to spread seeds widely (http://dictionary.reference.com/browse/disseminate).
"Dissemination means the disclosure of knowledge by any appropriate means (e.g. Publications, conferences, workshops, web-based activities). ("What is the meaning of & quote; dissemination & quot;" n.d.).

3.1.1. Dissemination without Maintenance

The process of foundation year course disclosures (by whatever appropriate means) to the topics or audiences who are removed from the general educational experience qualification (ACC, 2005, 2006, and 2007).

3.1.2. Dissemination with Maintenance

The process of foundation year course disclosures (by whatever appropriate means) to the targets or audiences who were selected from HEIs' IQA qualified officials, as external assessors, i.e. they play the both roles, IQA foundation year departments for SAR arrangement to ACC for external assessment to their own HEIs, and also external assessors for other HEIs (ACC, 2008, and 2009). [5]

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[5] 3 and 4 batches of external assessors who were selected from HEIs' IQA FDY officers.

3.1.3. Internal Quality Assurance

To assure that an institution, or program has mechanisms for making sure internal quality that its mission to execute the external standards (AUN, 2011)[6].

3.1.4. External Quality Assurance

The procedure is performed by individual, organization outside the establishment. The assessors evaluate the institution, or program to ascertain whether it meets the predetermined standards (AUN, 2011).

3.1.5. The External Assessment Process of ACC

The process of external assessment of foundation year systems of institutions which are fixed by an ACC assessor group, after the institution submits self-report to ACC. The process is set up in four stages: desktop assessment, site visit, exit meeting, and report writing (ACC activities, 2013).

3.2. Six Foundation Year Quality Criteria[7]

The Accreditation Committee of Cambodia has gone forth the six criteria for external assessment, running out of the foundation year department of higher education institutions in Cambodia. The six criteria for assessment are as the following:

3.2.1. Department of Foundation Year

The department or office in which the process of foundation year was conducted separately through staff structure, responsibilities, or responsibility to ensure a good quality production of second year students for specialization in their staff (Acc, 2010).[8]

3.2.2. Strategic Plan

The Strategic plan of Foundation Year course is a part of the strategic plan of the institution, which it covers for three years of its action plan abilities to intake at least 500 students, the both full time and part time enrolment.

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[6] Asean University Network, 2011, Asean University Network, Quality Assurance. 10330 Thailand.
[7] Based largely on six FDY quality external assessment criteria
[8] Accreditation University of Committee, 2010, Guideline on Foundation Year Course, Assessment
   Processes for Assessors, Phnom Penh, Cambodia.

3.2.3. Curriculum by Foundation Year

The Foundation Year Course is required, the specific curriculum with details of its content, structure and course outline of each course subject. The instructional management of the curriculum is implemented through teaching, learning, and research with strict measurement by measuring student learning outcome performance.

3.2.4. Teaching Staff

Teaching staff or academic staff is required to select qualified, sufficient teachers with background and experience to support the Foundation Year Course institutions.

3.2.5. Facilities

To accomplish the student learning outcomes, the qualified teachers need sufficient physical facilities; such as classroom, science lab, books, instructional materials, and other facilities; to support quality foundation year courses.

3.2.6. Student Admission

Referring to the strategic plan below, the student enrollment will be transparency by following through the student enrollment policies, procedure which based on the existing legal framework of the ministry of Education Young and Sports.

3.2.7. Provisional Accreditation

The issue of external assessment which HEI obtains under average score. In this case HEI is provided privilege to issue the FYCC to students for merely one year term and is proceeding to prepare SAR for re-assessment again.

3.2.8. Full Accreditation

The external assessment result which HEI is given from average to over score. In this case, ACC is going to privilege to issue the FYCC to the students for a three year period (ACC, 2010)[9].

4. Hypothesis

Null Hypothesis: There is no significant dispute in the intensity of the first assessment result of dissemination without maintenance and second assessment result with maintenance of provisional HEIs.

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[9] ACC (2010). Guideline on Foundation Year Course Assessment Processes for Assessors, p. 4.

5. Literature Review

This section has reviewed literature which is relevant the Accreditation of Committee for Cambodia's dissemination methods on six quality standards. The reviews aimed the theoretical and conceptual framework, interpretation model, diffusion, and management of quality performance. These reviews have enlightened internal and external assessment of ACC by using six foundation year quality criterion instruments, such as foundation department, strategic planning, Academic program, academic staff, instructional materials and facilities, student enrollment in higher education in Cambodia.

5.1. Conceptual Framework of the Study

Dissemination effectiveness needs to choose and arrange indicators of its methods orient successful target audience. Apparently, Russ Glasgow and Rodger Kessler, (2013) presented about RE-AIM at the group meeting in the North America. The display highlights the benefits of RE-AIM given of balancing home and external validity .i.e. this method provides the target audience the both sides' benefits.

The RE-AIM framework is designed to raise the quality, speed, and public health impact of attempts to transform research into practice in five steps.

Reach	The number, percent of the target audience, and representativeness of those who take part.
Effectiveness	The change in outcomes and impact on quality of life and any untoward effects.
Adoption	The number, percent, and representatives of settings and educators, target staff or institutions who take part.
Implementation	Consistency made, and the time and costs of the program and adaptations made during delivery.
Maintenance	Sustained change in outcomes and impact on quality of life and any untoward effects

Source: Russ Glasgow and Rodger Kessler, (2013)

The above dissemination method, the Accreditation Committee of Cambodia has set three phases in dissemination about the six foundation year course, such as planning, process, and outcomes. Thus, there are several methods which ACC used in public exposure, such as publishing, net pages, training, and maintenance.
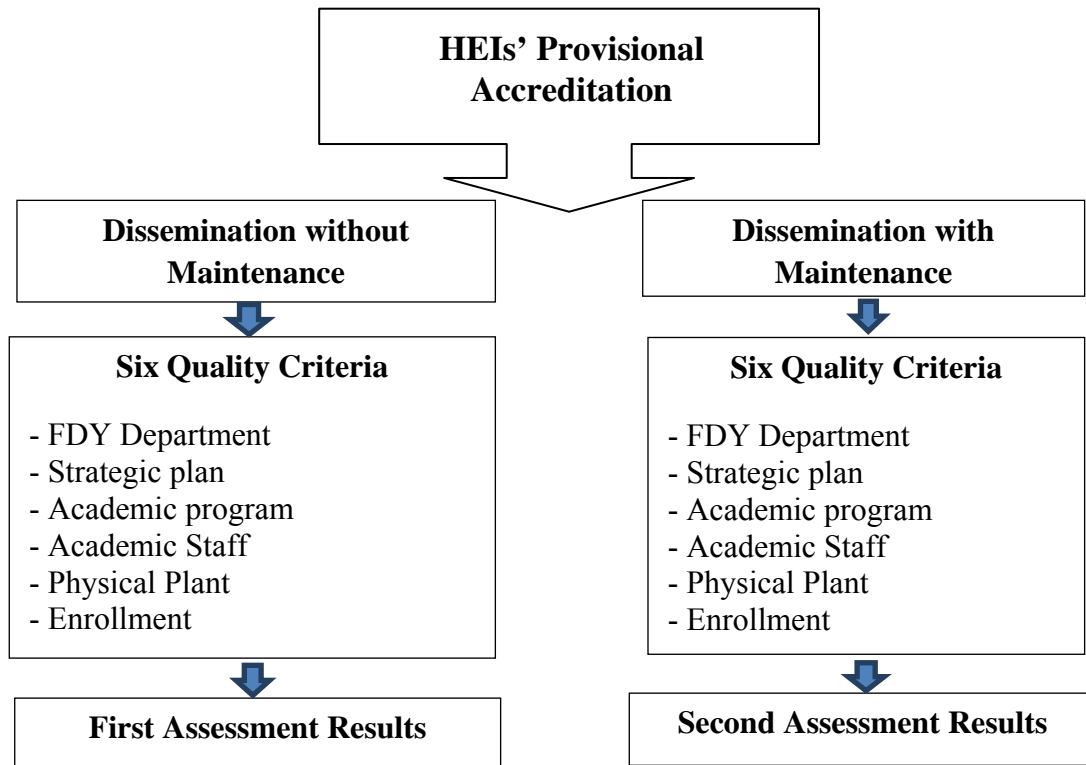
5.2. Interpretation Model

For this study made, the conceptual framework involved the effective diffusion of the foundation year external assessment course to HEIs in Cambodia; the Accreditation

Committee of Cambodia has used two levels of dissemination with and without maintenance methods to accomplish the successful targeted provisional HEIs.

The first stage, the prospects selected from at least 5 years general educational experiment qualification for disseminating as external assessors are called dissemination without maintenance. Then they operated official assessment in 2007. Many HEIs' foundation year results obtained only provisional accreditation.

Figure 5.2.1: Model of Study


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                    ┌─────────────────────────┐
                    │   HEIs' Provisional     │
                    │     Accreditation       │
                    └─────────────────────────┘

┌──────────────────────────┐        ┌──────────────────────────┐
│  Dissemination without   │        │   Dissemination with     │
│       Maintenance        │        │       Maintenance        │
└──────────────────────────┘        └──────────────────────────┘

┌──────────────────────────┐        ┌──────────────────────────┐
│    Six Quality Criteria  │        │    Six Quality Criteria  │
│                          │        │                          │
│  - FDY Department        │        │  - FDY Department        │
│  - Strategic plan        │        │  - Strategic plan        │
│  - Academic program      │        │  - Academic program      │
│  - Academic Staff        │        │  - Academic Staff        │
│  - Physical Plant        │        │  - Physical Plant        │
│  - Enrollment            │        │  - Enrollment            │
└──────────────────────────┘        └──────────────────────────┘

┌──────────────────────────┐        ┌──────────────────────────┐
│ First Assessment Results │        │ Second Assessment Results│
└──────────────────────────┘        └──────────────────────────┘
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(Based on Accreditation Committee of Cambodia, 2010)

Second Stage, the results of the assessment were given many HEIs full accreditation. The outcomes were changed, if compare to the early process in 2007.At this level, the 3rd batch of external assessors who were selected from HEIs' IQA officers is called dissemination with maintenance. This method really helps IQA officials maintain insights of six FDY quality criteria and SAR arrangement for requesting a re-assessment again.

5.3. Dissemination

"Dissemination means the disclosure of knowledge by any appropriate way (e.g. Publications, conferences, workshops, web-based activities). Each participant shall ensure that the foreground it owns is disseminated as swiftly as possible". ("What is the meaning of & quote; dissemination & quote;" n.d.)

Rogers' diffusion theory (1995) has addressed that the dissemination process can be oriented by five stages. These forms include: knowledge, persuasion, decision, implementation and confirmation. The dissemination failure can consider at any of these stages, and the dissemination process occurs over time. For Orlandi (1987), Parcel et al. (1990), Scott and Bruce (1994) have inferred that different schemes may be required to operate dissemination during each dissemination stage. Strategies may be commanded to operate dissemination during each dissemination stage. This field explores the factors which forecast dissemination results of different stages of the dissemination process. It inspects the variables which are associated with program awareness, program adoption, program maintenance or implementations.

Oxman (1995) has reviewed that health care practitioners needed more comprehensive strategies; the methods for improving knowledge utilization in conference and training are insufficient for them. The study also found that outreach visits were effective; single dissemination strategies often showed modest or no results; and cumulative strategies were significantly more effective.

Cockburn et al (1992), Kottke et al. (1994) have found that when personal facilitators was used to distribute the program in disclosure for improvement, but program execution was not widely transferred or arranged in systematic. Similar poor maintenance or implementation of programs have been described by others (Doherty et al (1988), Power et al (1989), Cockburn et al (1992), Clasper and White (1995), Walsh et al (1995). This study has explored that the impulse of different methods of dissemination (simple and intensive method) on awareness, adoption and implementation or maintenance program.

5.3.1. Training

Training is "Planned effort by a company to facilitate employees' learning of job-related competencies. These competencies include knowledge, skills, and behaviors that are critical for successful job performance. The goal of training is for employees to master the knowledge, skill, and behaviors emphasized in training programs and to apply them to their day-to-day activities" (Noe 2008, p. 32).

Referring to Cole (2002:330) has noted that "Training is a learning activity directed towards the acquisition of specific knowledge and skills for the purpose of an

occupation or task". Another study produced by Laird (1985, p. 6) has remarked that training and evolution are a subgroup of a human resource department where acquaints the people improve work performance through how to utilize the materials and technology in an approved manner to achieve organizational goals.

For Bartel (2000) suggests that investment in human resource by training can give a good reason by contribution to improve individual and organizational functioning. Still, Tan and Batra; Blundell et al., (1999) remark that between training and organizational performance is sometimes difficult in principle that is a reason for everything that goes on.

To present the training objectives to the audience, Laird (1985, p.145) has addressed that training achievement needs demonstration, that is, "A delivery method that allows scholars to do something instead of just following. The learners have things in their work force and they move those things in purposeful ways; they begin doing so at the earliest possible instant. The learners move about, they ask questions, they interact".

For the other researcher addressed on the training method, Carroll et al.'s study (1972) has also noted that the alignment of desired training objectives can be achieved, it depends on the selection of efficient training methods with a scientific and systematic operation.

The work prepared by Allen et al. (2003) has demonstrated that building and upholding the loyalty of employees towards the arrangement is the execution of effective human recourse practices. However Dessler (2012, p. 272) has remarked that training is an authority of managers, inadequate preparation can also trigger negligent training liability.

5.3.2. Workshop

"A workshop is a single, short (although short may mean anything from 45 minutes to two full days) educational program designed to teach or present to participants practical skills, techniques or ideas which they can then apply in their workplace or their everyday lives" (http://ctb.ku.edu/en/table-of-contents/structure/training and technical assistance/workshops /main).

The seminars are educational events that feature single or more subject matter expert delivering information primarily via lecture and discussion. Shops tend to be smaller and more intense than seminars. This format often involves students practicing their new skills during the outcome under the sleepless eye of the teacher. (http://www.selfgrowth.com/Articles/Definition_Seminars_and_workshops.html)

5.3.3. Linking Agents

People who serve as linking agents improve knowledge transfer by taking together two communities, such as research and practice. A linking agent serves as a connection between resource and user organizations (Jane Macoubrie, PhD, 2013, p.19).

5.3.4. Linking Networks

Utilizing the web of people and organizations is a key path to increase utilization of new information by linking agents. Yuan (2010) has addressed that "using coalitions of credible sponsors may be an important means to improve the dispersion, although this is an untested proposal".

5.4. Management of Quality Performance

The study made by Van Vught (1996) also maintained that what is needed in higher education is adequate quality management; the processes and mechanisms are instruments to help higher education institutions to perform their quality management functions.

The qualitative research indicates that this set of classroom exercises can make qualitative improvements in the academic performance of all scholars, regardless of their settings (Cohen & Hill, 2000).

In another written report made by Golub (1988); Graves & Sunstein (1992) and McLaughlin & Talbert (1993) have discovered that the qualitative research also emphasizes three additional classroom practices: individualization, collaboration and authentic assessment.

5.4.4. Conclusion

Dissemination including promotion, training, publication, and also web pages really help trainees to equip skills, experience, and avoid of risks. Moreover, the instructional materials and facilities also play significant roles to contribute in skill development. In any case, the dissemination is conducted inadequately, the third party will does harm.

6. Significance of Study

Education performance is in the state of abstract or indirect result, they seldom observe that it offers the direct result. Thus the study made seeks some evidences which General Secretarial of Accreditation Committee of Cambodia performed for eight years. This study made offers some benefits:

- To examine methods of dissemination better,
- To select the correct individual for the right duties,
- To develop external assessors more achievement,
- To provide the outcomes of assessment more effectiveness and gratification,
- To enhance a better quality of the foundation year department of public and private institutions,
- To offer external assessors and also IQA' officers more experience to step up full accreditation assessment.

7. To Study the existing policies of dissemination of ACC

Founded on the Circulation No. 02/04 ACC/ SSR, dated March 22, 2004, regarding "Criteria for Issuing Foundation Year Course". The Accreditation Committee of Cambodia has brought out some policies for public exposure of six quality measures for external foundation year assessment. The dissemination was participated from relevant educational stakeholders, including external assessors, internal quality assurance officials, and other relevant officials. The methods of dissemination are promotion, publication, training, and sustaining.

The processes of dissemination are held 23 workshops, including thrice for assessing officials training workshops, 5 times for reforming foundation year criteria workshop, and 15 times for experiment provided workshops.

7.1. Recruitment

General Secretary of Accreditation Committee of Cambodia has selected over 260 external assessors since 2005. The first, second batches were selected from the long educational experience candidates. HEIs' IQA officials who bill for foundation year was selected for 3rd and 4th batches (Ly Vuthy, 2013)[10].

Table 7.1.1: External Assessor Recruitment

Year	Batch	Target for promotion	Methods of Dissemination
2005	1st	Educational Experience	Workshop training, publication without maintenance,
2006	2nd	Educational Experience	Workshop training, publication without maintenance,
2008	3rd	FDY IQA officials	Workshop training, publication With maintenance
2010	4th	FDY IQA officials	Workshop training, publication with maintenance

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[10] Director of Administration Department of ACC

7. 2. Dissemination

The Accreditation Committee of Cambodia has set some policies for applying in foundation year quality criteria for external assessment dissemination, as such publications, website, and workshop training and promotion (Sok Khorn, 2013)[11].

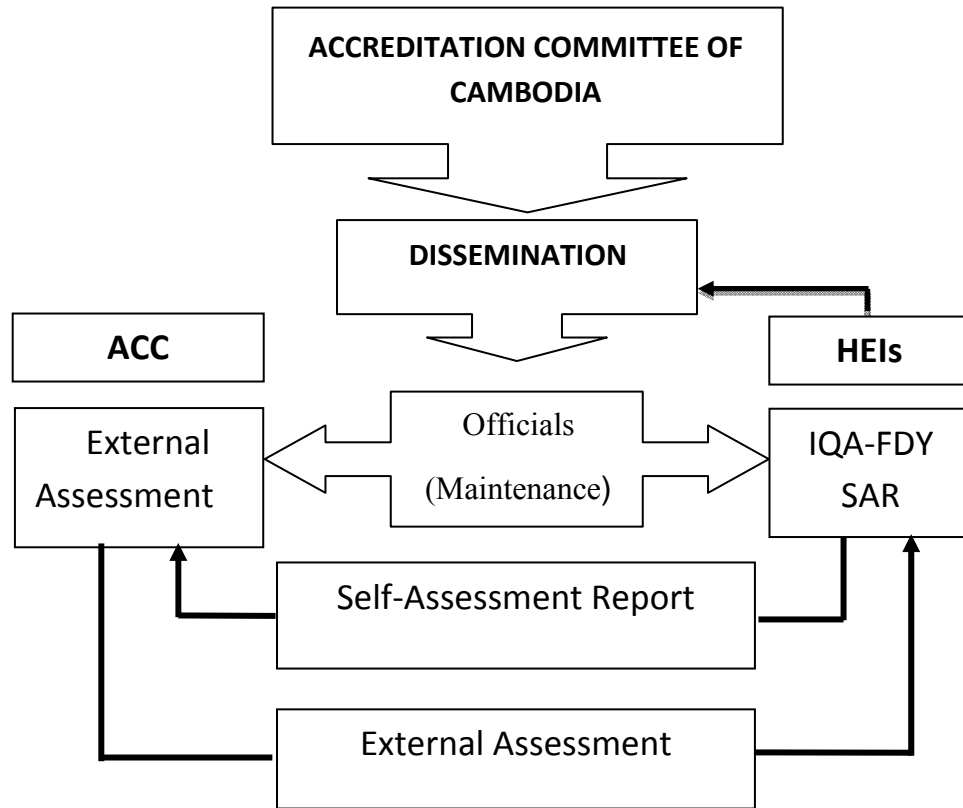## Figure 7.2.1: The process of Dissemination without maintenance
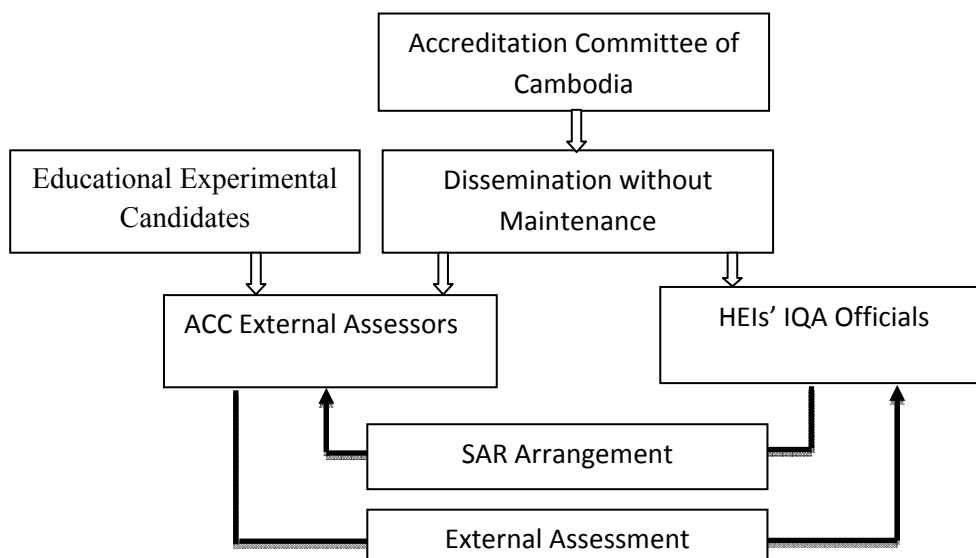
7.3. Maintenance

Another method of effective dissemination on six FDY criteria assessment course, Accreditation Committee of Cambodia has selected the candidates from IQA officials who are responsible for foundation year departments of HEIs as external assessors. The intention of this selecting, the HEIs' IQA officials have some opportunity to prepare and maintain their IQA skills when they work ACC's external assessors i.e. they can get more or less experience through desktop assessment, side visit, and exit meeting for getting their understanding to arrange SAR to request for their own HEIs' external assessment (Pen Sithol, et.al. 2013)[12].

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[11] Mr. Sok Khorn is a director of Planning and Training Department of ACC

[12] Mr. Pen Sithol is a deputy secretariat general of Accreditation Committee of Cambodia.

Figure 7.3.1: The Process of Dissemination with Maintenance


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                ACCREDITATION COMMITTEE OF
                         CAMBODIA


                      DISSEMINATION


    ACC                                          HEIs

  External            Officials              IQA-FDY
  Assessment       (Maintenance)               SAR


            Self-Assessment Report


                External Assessment
```

8. Methodology

The method is used for choosing sampling, what data and data to collect and how to study it.

8.1. Sample Design

The Kingdom of Cambodia is comprised of 93 higher education institutions, including campuses. The present study will be confined to only HEIs' foundation year departments. The sample size of the present work is limited to 30 only, 5 from public and 25 from individual HEIs. Stratified sampling for the two strata, and lottery method is adopted in selecting private HEIs respondents. Then the purposive sampling method is used in selecting public HEIs.

8.2. Sources of Data and Procedure of Collection

The information for the present work is gathered from both, primary and secondary sources. The principal data are compiled from two administrations scores of provisional HEIs foundation year assessment results.
   - First, the respondents' scores are administered from 30 HEIs of assessment results by dissemination without maintenance method in 2007-2008.
   - Second, the respondents' scores are administered from 30 HEIs of assessment results by dissemination with maintenance method in 2008-2009.

Farther, the secondary data, including published and unpublished information from various authors are gathered for the use in this work. Information pertaining to this study is gathered from Accreditation Committee of Cambodia, and other relevant conceptual and empirical books.

8.3. Statistical tools

After data collected the both administrations; the tools are computed and tabulated keeping the objective of the study in mind. The paired t - test is utilized to find a substantial difference in effectiveness between first and second assessment scores. Thus, Arithmetic Mean, Variance, and Pair t-test, and t-distribution are used in calculated to discover the answers.

9. Scopes and Limitations of Study

The following is considered as the limitations of the study.

1. The subject is limited to only provisional HEIs in Cambodia. Therefore, the geographic coverage of the survey is quite special.
2. The size of the sample only 30, including 5 from public and 25 from private HEIs are considered every bit unitary of the limitations of the survey.
3. The trouble is solved in order to ascertain the effectiveness of evaluating between first assessment results by dissemination without maintenance in 2007-2008 and second assessment results by dissemination with maintenance in 2008-2009.

Still, keeping the elbow grease, time and money constraints in mind, and the present work is a modest attempt in its desired direction.

10. Statistical Analysis

The pair T - test is used to determine two variable means which differ significantly. It is split into 4 steps:

Step 1: Arithmetic Mean Calculation ($\bar{X}$) $\bar{X}_1 = \frac{\sum X}{N}$, $\bar{X}_2 = \frac{\sum X}{N}$

Step 2: Variance Calculation $(SD)^2$ $(SD_1)^2 = \frac{\sum(X_1 - \bar{X}_1)^2}{N-1}$, $(SD_2)^2 = \frac{(X_2 - \bar{X}_2)^2}{N-1}$

Step 3: T-test Calculation $t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(SD_1)^2}{N_1} + \frac{(SD_2)^2}{N_2}}}$

Step 4: Degree of Freedom Calculation (df) $df = (N-1)$

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	RBDM	74.0130	30	9.83792	1.79615
	RBD	63.3837	30	6.38230	1.16524

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	RBDM & RBD	30	.462	.010

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	99% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	RBDM - RBD	10.62933	8.91348	1.62737	6.14367	15.11500	6.532	29	.000

10.1. Data analysis and Result

The number of degrees of freedom (DF) on the foregoing result is 29 ($df = N - 1 = 30 - 1 = 29$). For 29 degrees of freedom at.01 level of probability for 2.756 is required to be significant. The computed t-value obtained is 6.532 which are significant at.01 levels. Thus, the null hypothesis is rejected (because t-value of 6.532 is larger than t-tabulated value of 2.756).

10.2. Conclusion and Discussion

Adverting to the upshot of the base year assessment by dissemination without maintenance method and dissemination with maintenance method is truly substantial difference. The outcome of the judgment of the dissemination with maintenance method is safer than the assessment result by dissemination without maintenance method because IQA officials play significant roles as linking agents, i.e. they play the both roles, as HEIs' IQA officials and also external assessors. These determinations have been consistently found by some researchers; such as: Albert Einstein has given notice that "The significant problems we face cannot be solved by the same point of thinking that produced them."

 Broad and New Strom's (1992) have addressed that the transforming training for workplace performance makes the trainees interested influence of the stakeholders.

Some other study also established by the Inter-American Development Bank (2013) through PRODEV has reported that after the dissemination, including training, workshop, and publication; the outcomes ensure that the government officials responsible for carrying out reforms in results-based management main areas.

The same maintenance or implementation of preparation has been described by
 Gary Dessler (2012, p. 187). The study has confirmed that the new training program "we sit down with management and help them identify strategic goals and objectives and skills and knowledge needed to achieve them".

Oxman (1995) has addressed that "the study found that outreach visits were effective; single dissemination strategies often showed modest or no answers; and cumulative strategies were significantly more effective."

The same subject made by Green LW. Am J Pub Health (2006) has observed that "If we require more evidence based practice, we require more practice-based evidence."

The above implication shown the accreditation committees of Cambodia which has utilized the method of dissemination with maintenance during HEIs' foundation year external assessment has really improved how to arrange and the results are provided most of HEIs' foundation year full accreditation. These results, HEIs have not been capable to defeat the challenges in quality enhancement yet.

10.3. Suggestions

Even though the results of the care, dissemination method are effective in FDY quality enhancement, there are however some factors contributing to insure sustainable foundation year quality like the following:

- To tone up and develop assessment capacities in educational quality context, especially each assessment criteria actually.
- To control and deeply reform some FDY assessment criteria, particularly in academic functioning, such as student learning outcome orientation.
- To tone up more external assessment performance to build sure the results.

10.4. Future Research

The students read about effective results used methods of dissemination with maintenance are only in foundation year course of study. To make sure in all corners of HEIs educational quality; the other study should be earned on nine minimum standards, institutional accreditation to find whether they will impact on HEIs' quality assurance.

REFERENCES

Allen, D.G., Shore, L.M. and Griffeth, R.W. (2003), The Role of Perceived Organizational Support and Supportive Human Resource Practices in the turnover Process, *Journal of Management*, 29(1): 99–118.

Bartel, A.P. (2000), Measuring the Employer's Return on Investment in Training: Evidence from the Literature, Industrial Relations 39 (3): 502-24

Blau, P.M. (1964) *Exchange and Power in Social Life*, New York: Wiley Carroll, S., Jr., Paine, F., & Ivancevich, J. (1972).There lative effectiveness of training methods: Expert opinion and research.*PersonnelPsychology,25*(3), 495–509.

Clasper, P. and White, M. (1995) Smoking cessation interventions in pregnancy: practice andviews of midwives, GPs and obstetricians. Health Education Journal, 54, 150–162.

Cockburn, J., Ruth, D., Silagy, C., Dobbin, M., Reid, J., Scollo, M. And Nacarella, L. (1992) Randomized trial of three approaches to marketing smoking cessation programs for general practitioners*. British Medical Journal, 304, 691–694.*

Cole, G. A. (2002), *Personnel and Human Resource Management*, 5th Ed.Continuum London: York Publishers.

Dean Schillinger, MD, (2010), *an Introduction to Effectiveness, Dissemination and Implementation Research*. Community Engagement Program, Clinical & Translational Science Institute, at the University of California San Francisco.

Doherty, W. J., Becker, L. A., Burge, S. K., Whitehead, D. and Baird, I. (1988) Ecological analysis of intervention study of smoking cessation in medical practices*. Family Practice Research Journal, 8, 17–23.*

Rogers, E. (1995) *Diffusion of Innovations.* Free Press, New York. Laird, D. (1985). *Approaches to training and development: Introduction to the field of training and human resource development* (2nd Ed.) Reading, MA: Addison-Wesley.

Malhotra, N., Budhwar, P. and Prowse, P. (2007), Linking Rewards to Commitment: An Empirical Investigation of Four UK Call Centers, *International Journal of Human Resource Management, 18(12): 2095-2128.*

Noe, R. A. (2008). *Employee training and development* (4th Ed.). New York, NY: McGraw-Hill/Irwin.

Orlandi, M. (1987) Promoting health and preventing disease in health care settings. *Preventive Medicine, 16, 119–130.*

Oxman, A. D., Thomson, M. A., Davis, D. A., Haynes, B. (1995). No magic bullets: A systematic review of 102 trials of interventions to improve professional practice. *Canadian Medical Association Journal, 153 (10), 1423-1431*

Parcel, G., Perry, C. and Taylor, W. (1990). Beyond demonstration: diffusion of health promotion innovations. In Bracht, N. (ed.) *Health Promotion at Community Level.*Sage, London.

Power, F. L., Gillies, P. A., Madeley, R. J. and Abbott, M. (1989) Research in an antenatal clinic—*the experience of the Nottingham Mothers' Stop Smoking Project. Midwifery,5, 106–112.*

Rousseau, D.M. (1995) *Psychological Contracts in Organizations*. Thousand Oaks, CA: Sage Schuler, R.S. and MacMillan, I.C. (1984) Gaining Competitive Advantage through Human Resource Management Practices, *Human Resource Management, 23(3): 241-255.*

Schillinger, D. (2010). An Introduction to Effectiveness, Dissemination and implementation Research. *P. Fleisher and E. Goldstein, eds. From the Series: UCSF Clinical and Translational Science Institute (CTSI)*

Scott, S. and Bruce, R. (1994) Determinants of innovative behavior: a path model of individual innovation in the workplace. *Academy of Management Journal, 37, 580–607.*

Tan, H.W. and Batra, G. (1995), Enterprise Training in Developing Countries: Incidence, Productivity Effects and Policy Implication, *Unpublished Paper, Washington: The World Bank.*

Yuan, C. T., Nembhard, I. M., Stern, A. F., Brush, J. E. Jr., Krumholz, H. M., & Bradley, E.H. (2010). Blueprint for the dissemination of evidence-based practices in health care. *86, Pub.1399. New York: Commonwealth Fund, 1-16.*

Walsh, R. A., Redman, S., Brinsmead, M. W. and Arnold, B. (1995) Smok in cessation in pregnancy: a survey of the medical and nursing directors of public antenatal clinics in Australia. *Australia & New Zealand Journal of Gynecology, 35, 602–622.*

About Ministry of Education, Youth and Sport. (n.d.). Retrieved December 10, 2013, from http://www.moeys.gov.kh/en/about-us.htm.

"Main Section | Community Tool Box." 2013. Accessed November 18. http://ctb.ku.edu/ en/table-of-contents/structure/training-and-technical-Assistance/workshops/main.

"Disseminate | Define Disseminate at Dictionary.com." Accessed November 18, 2013. http://dictionary.reference.com/browse/disseminate.

"Training of Employees - Need and Importance of Training." Accessed November 16, 2013. http://www.managementstudyguide.com/training-of-employees.htm.

"Hypothesis Training and Development Free Essays 61 - 80." Accessed November 17, 2013. http://www.studymode.com/subjects/hypothesis-training-and-developemnt-page 4.html.

"Definition: Seminars and Workshops." 2013. Accessed November 18. http://www.selfgrowth.com/articles/Definition_Seminars_and_Workshops.html.

Untitled - 1.pdf. (n.d.). Retrieved December 1, 2013, from http://www.ijac.org.uk/ images/front Images /gallery/Vol1no7december2012/1.pdf

FACTORS CONTRIBUTE TO WORK-FAMILY CONFLICT OF CAMBODIAN WOMEN BUSINESS OWNERS

Dr. SOK Seang[13]

Abstract

1,026,084 women business owners are becoming an increasingly important force in the Cambodian economy, but many of them experience conflict between their work and home roles. This working paper seeks to identify factors that contribute to the work family conflict of Cambodian women business owners. The specific factors of interest are hours spent at work, years in business, business success, hours spent at family, family support, supportive husbands, age, marital status, educational level, and number of children. The overall research design is exploratory. Purposive sampling was chosen for data collection. A standardized questionnaire based on the literature was used to approach 192 SMEs in Phnom Penh, the Capital City of Cambodia. A total of 175 responses were usable. Regression analysis was used to analyze the data. All factors were assessed using established items scales from the literature.

The results of this study found three factors consistent with previous research. The results indicated that the number of hours spent at work, family support, and supportive husband accounts for substantial variation in the levels of work interference with family while family support and supportive husband account for substantial variation in the levels of both family interference with work and work interference with family. With the findings, this research study provides an indication of what factors contribute to the work family conflict of Cambodian women business owners in the sampled area.

Key words: *business ownership, work family conflict.*

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[13]Dr. SEANG Sok, Director of English Department, National University of Management

1. Introduction

Cambodian women contribute a tremendous effort to rebuilding the social, political and economic infrastructure of the country. The position of the Cambodian women is distinct from other Asian gender patterns due to their independence permitted in the family. The roles of Cambodian women consist of extensive authority to decide on household tasks, finance, and other matters relating to the future of their children and family budget. They are in charge of maintaining a harmonious environment in the house and are expected to take the initiative to resolve family conflicts. Women's subaltern position within Cambodian society relegates them to appreciating and accepting their role as household managers while recognizing their obligation to be loyal and to submit to the authority of their husbands (Bit, 1991).

The SME sector in Cambodia is an important contributor to the economic growth of the country. Small and medium enterprises including micro account for 99.8% of the entire establishment, consuming 73% of national employment, and 58% of national production. 505,134 enterprises were engaged by 1,676,263 persons of which 61.2% were female (EC, 2011). Women business owners cite that one of their greatest challenges, alongside issues such as access to capital and financing, is the difficulty they experience balancing the often conflicting demands of work and family (Ferguson, 1998).

Most women still spend a disproportionate amount of time attending to the needs of family members and household tasks, compared to their male counterparts (Findlay & Lawrence, 1991). The conflict between work and family responsibilities has become growing. Female business owners experience tension between their family and work responsibilities. Two American studies reported that female small business owners experience significant conflict between their work and home roles (Stoneretal.,1990; Parasuramanetal.,1996).

Work-family conflict has become an increasingly important area of research as Cambodian women have joined the work force in increasing numbers, yet have continued in their role as the main caregivers of families, resulting in the experience of conflict between these two roles. The intent of this study was to identify factors that contribute to the work family conflict of Cambodian women business owners.

2. Literature Review

This section reviews work-family conflict, including the types work-family conflict, perspectives on understanding work-family conflict, and how work-family conflict is affected by the number of hours spent in each domain, family support, and demographic variables.

2.1 Definitions
2.1.1 Business Ownership

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; Wee, Lim, & Lee, 1994). 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.

Given the lack of specificity in the literature, the current study adopted a broad definition of business ownership, to refer to all women who have financial stakes in and day-to-day management responsibilities for businesses, regardless of their type, size, or location. Home-based businesses were included in this definition, as well as those operating at one or more business locations. Farmers and resource-based operators were also included in this definition of business owners. Businesses ranged from small unincorporated proprietorships to large corporations. For the purposes of the study, the term "women business owners" was used as an umbrella under which all types of businesses and business ownership by women were included.

2.1.2 Work-Family Conflict

Work-family conflict is defined as the inter-role conflict experienced when the role pressures from the work and family domains are incompatible or conflicting (Greenhaus & Beutell, 1985; Kopelman, Greenhaus, & Connolly, 1983; Voydanoff, 1988). In the literature, the terms "job-family role strain," "inter-role conflict," "work-family interference," "work-nonwork role conflict," and "'role strain" have all been used interchangeably to refer to a person's perception of conflict between roles.

Fulfilling multiple roles has generally been associated with mental and physical health, personal fulfillment, and enrichment of experiences in both the job and family roles (Barnett & Baruch, 1985; Barnett, Breman, & Marshall, 1994; Greenhaus, 1987; Kline & Cowan, 1988; Voydanoff, 1988). On the other hand, excessive demands associated with any one or more of those roles can lead to role strain, characterized by the person feeling stressed or physically and emotionally drained (Barnett &Banich, 1985).

The demands and responsibilities of those roles, combined with perceived quality or importance of the roles, have been more strongly associated with mental and physical health than simply the number of roles (Barnett, Brennan, & Marshall, 1994). Studies have demonstrated juggling of work and family responsibilities to be a source of

moderate or high stress for working women (Amyot, 1995; Barnett & Baruch, 1985; Higgins et al., 1992). Emmons, Biemat, Tiedje, Lang, and Wortman (1990) reported that over 75 percent of their sample of professional women experienced daily conflicts between their work and their family roles.

Some researchers have differentiated between two types of work-family conflict; namely, work interference with family, and family interference with work (Gutek, Searle, & Klepa, 1991). Examples of work interference with family might include having to work on a Sunday, normally a family day, in order to meet a deadline; bringing work home from the office; or being distracted by work during a family dinner or outing. Examples of family interference with work might include receiving a call at work about a sick child, and arranging for the care of that child; getting a call at work from the child's teacher because of a conflict at school; or having to take time off work to take an elderly parent to the doctor. Some research has suggested that there tends to be a positive, reciprocal relationship between work interference with family and family interference with work (Frone, Russell, & Cooper, 1992; Gutek, Klepa, & Searle-Porter, 1989), and generally higher levels of work interference with family than family interference with work.

2.2 The Effects of the Amount of Time Worked

Researchers have examined the effect of the amount of the worked in each domain on overall levels of work-family conflict and on stress generally. Researchers have referred to work role overload as perceived time demands, that there is simply not enough time to do all the things required to be done (Greenhaus & Beutell, 1985; Greenhaus et al., 1989). Work overloads both at home and at work have been shown to be the most commonly reported of work-family stressors (Bolger, DeLongis, Lessler & Wethington,1989), and research has consistently shown that high levels of job involvement, including work overload, and high levels of parental involvement, including parental work overload, to be associated with role strain and work-family conflict (Ahrentzen, 1990; Burke, 1988; Frone et al., 19%; Greenberger & O'Neil, 1993; O'Driscoll et al., 1992; Voydan off, 1988; Winter, Puspitawati, Heck, & Stafford, 1993). Furthermore, the literature has generally shown that levels of work interference with family are greater than levels of family interference with work (Frone et al., 1992; Parasuraman et al., 1996).

Research has shown that, even in the 1990s, most women still spend a disproportionate amount of time attending to the needs of family members and household tasks, compared to their male counterparts (Findlay & Lawrence, 1991; Gunter & Gunter, 1991; Harrell, 1995; Hilton & Haldemar, 1991; Shelton, 1990; Sullivan, 1997). These researchers have suggested that even in dual-income families where both spouses work approximately the same amount of time, women's higher levels of work-family conflict can be explained by the extra amount of time and

energy they put towards maintaining the household. Time-based conflict, which occurs when there is a direct conflict in the time demands of the two roles, has also been associated with both behavior-based conflict where behaviors that are useful in one role may be dysfunctional in another, and strain based conflict, where symptoms of stress such as fatigue or irritability are transferred to the other role (Greenglass, 1985; Greenhaus & Beutell, 1985).

In seeking to understand the antecedents of work-family conflict, Gutek et al. (1989, 1991) have distinguished between two different explanatory frameworks which they refer to as "the rational view" and "the gender view." The "rational view" of work-family conflict (Gutek et al., 1989, 1991) suggested that there is a direct linear relationship between objective conditions and the amount of work-family conflict. According to the rational view, they argue that the amount of work-family conflict can be predicted by the number of hours spent performing work or family duties, and other objective characteristics of both the work and family environments, including number and ages of children. The "gender role perspective," on the other hand, suggested that the amount of conflict people perceive will vary depending on whether the objective conditions of the work and family roles are consistent with their gender-role expectations (Gutek et al., 1989). Stronger support has been found in the literature for the rational view, with findings tending to demonstrate a correspondence between the number of hours spent in one domain and the amount of work-family conflict originating in that domain (Gutek et al., 1991; Lundberg, Mardberg, & Frankenhaeuser, 1994; O'Driscoll et al., 1992; Parasuraman et al., 1996; Stoner, Hartman, & Arora, 1991). In other words, the greater the number of hours spent at work, the more likelihood of work interference with family. Similarly, the greater number of hours spent doing household and family tasks, the more likelihood of family interference with work. This study is framed within the context of the rational view because the sample is of women business owners only.

Research has suggested that the conflict associated with longer work hours may increase risk factors for both psychological or physical distress. Paden and Buehler (1995) found role overload to be associated with both negative emotional affect and physical symptom atology. Similarly, Davidson and Cooper (1986) found that women managers most at risk for psychosomatic health symptoms were those with heavy workloads and work-family conflicts. Among a group of professional women, Green glass (1990) found that the total number of hours spent at home and at work were also associated with the hard-driving, job-devoted lifestyle that has been associated with increased risk of coronary disease. Business owners have higher job demands, work longer hours, and have less leisure time than employees, yet research has shown no differences between these two groups on psychological well-being (Chay, 1993). At the same time, there tend to be more physiological risk factors among the self-employed (Lewin-Epstein & Yuchtman-Yaar, 1991). It seems intuitive that the number of years in business may have an impact on work family conflict since, as a

business is stronger and more established, it may be less demanding and therefore interfere less with family (Ferguson, 1998).

2.3 The Effects of Social and Family Support

Research on social support has generally suggested that interpersonal relationships play an important role in helping people manage the stressors in their lives (Kennedy, Kiecolt-Glaser, & Glaser, 1988; Snyder, Roghmann, & Sigal, 1992). Interpersonal relationships are a source of acceptance and intimacy, or emotional support. In addition, information, guidance, and advice, or more tangible support such as financial assistance may be provided (Greenglass, 1993). Taken together, social support provides resources that are relatively resistant to the deleterious effects of stressors. The literature has suggested that social support has a health sustaining function, reflecting a direct positive effect of social support on well-being; a stress prevention function, reflecting a direct reduction of stressors by social support; and a buffering function, reflecting a moderating effect of social support (Greenhaus & Parasuraman, 1994, cited in Burke, 1995). Research attention has begun to focus on the role of social support, especially support from family member, in reducing the stress associated with work-family conflict. Family support has been negatively associated with the amount of work-family conflict (Burke, 1995; Burley, 1989; Stoner et al., 1990). In particular, findings have suggested that a family atmosphere where the woman's work contributions are valued and where there is support for her choice to work tends to reduce work-family conflict.

It makes sense that receiving emotional, informational and tangible support from family members may be associated with fewer intrusive demands of family into the work environment. One explanation is that supportive families may spend more time than unsupportive families in becoming more knowledgeable about the women's businesses and its demands. In addition, these families may communicate more about family issues so that problems are resolved in family time, and family members may take over more of the responsibilities at home. This family support is reflected in less overload or strain on the women from their family responsibilities that may otherwise interfere with the demands of the business. Involvement and support of family members can and does alleviate, to a certain degree, the stress of work interference with family (Parasuraman et al., 1996). Deng, Hassan, and Jivan (1995) suggested that success of the business can partly be attributed to the extent of the family's emotional support for the woman running the entrepreneurial venture.

Spousal supportiveness of the woman's business venture is considered an important variable given its potential to affect women's commitments to their work (Parasuraman & Greenhaus, 1993). Spouse support appears to be particularly influential, both in enhancing personal wellbeing and in influencing women's career aspirations and commitments to their career (Kline & Cowan, 1988; Parasuraman &

Greenhaus, 1993; Suche & Barling, 1986). Furthermore, the suggestion has been made that a lack of support from women's spouses may contribute to psychosomatic health symptoms (Davidson & Cooper, 1986). Parasuraman et al. (1996) found spouse support, particularly instrumental support provided by the husband or partner, to have an impact on the amount of work-family conflict through the amount of time spent on family and household tasks.

2.4 The Effects of Demographic Variables

In addition to the number of hours spent in each of the work and family domains, and the amount of support in the family domain, several demographic variables have been show to exert an effect on work-family conflict, including marital status, presence and number of children living at home, age, and level of educational attainment. Researchers have reported that marital status and presence of children in the home are both associated with work-family conflict (Burke, 1988; Kopelman et al., 1983; Voydanoff, 1988) but not necessarily with poor health outcomes (Beatty, 1996). Davidson and Cooper (1986) reported that many women managers feel pressured by the decision whether or not to have children, and how many, and still be able to pursue active, fulfilling careers. Several researchers have found that the amount of family and household work increased as a function of the number of children living in the home (Lundberg et al., 1994; Parasuraman et al., 1996), particularly in families with three or more children. In a sample of professional women, Greenglass (1995) found that women with children at home tended to spend fewer hours at work than women with no children, yet they worked more hours overall because of the additional time commitment to child care. Among a group of women business owners, Parasuraman et al. (1996) found that parental demands associated with the number and ages of children were a significant predictor of work interference with family, but did not have as strong an effect on family interference with work. In contrast with this result, among a group of managerial women, Stoner et al. (1991) found that marital status, the number of children, and the ages of children were not related to work interference with family. Age and level of educational attainment may also impact on levels of work-family conflict. Some research have found that both work overload and role conflicts may reach a peak between about ages 35 and 39, which in at least one study (Lundberg et al., 1994) was the age where demands in both work and family domains were found to be particularly high. In terms of educational level, Burke (1988) found no relationship between the level of educational attainment and work-family conflict in a mixed sample of men and women in police work. However, among a sample of white collar workers, Lundberg (1994) demonstrated that women experienced higher levels of work-family conflict despite having the same educational level as their male counterparts. Previous research has shown that age, marital status, educational level, and number of children are associated with work-family conflict (Parasuraman et al., 1996; Voydmoff, 1988).

3. Methodology
3.1 Proposed Conceptual Model for This Study

Based on the broad literature on work-family conflict, the current research examined selected work domain, family domain, and demographic variables affecting work-family conflict among women business owners. The variables selected for the study were those that had significant effects in the literature.
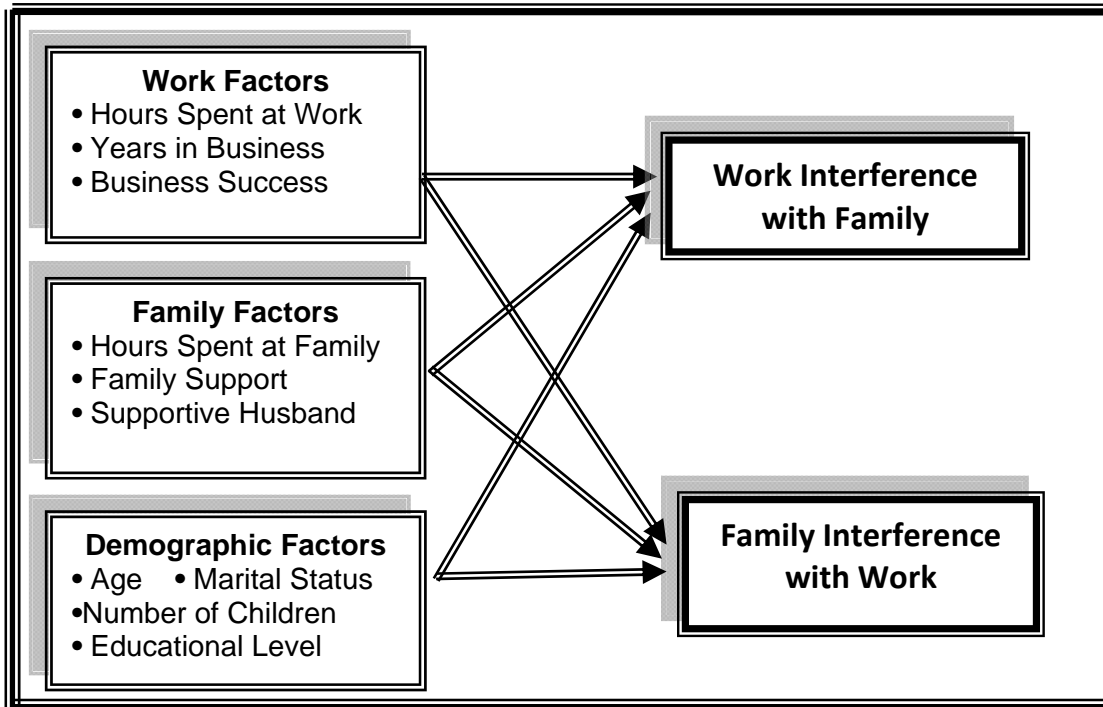
Figure 1: Proposed conceptual model developed for this study

3.2 Variable Measurement

The data were gathered using a survey questionnaire. A set of demographic questions were posed, as well as well-established measures of family support, work family conflict. The measures selected have been well-established measures pertinent to the areas of interest, and have been used in past research on work-family conflict.

3.2.1 Work Domain Variables
Hours Spent at Work

The number of hours spent at work was measured by a single question: "On average, how many hours do you work in the business each week?" Four response choices were available: under 25 hours; 26-40 hours; 41-60 hours; or over 60hours (Ferguson, 1998).

Years in Business

The number of years in business was measured by a single question: "How many years have you been in business?' Six response choices were available: less than 1 year; 1-2 years; 3-5 years; 6- 10 years; 11-20 years; and over 20 years (Ferguson, 1998).

Business Success

Perception of business success was measured *by* a single question: "On a scale of 1-7, how successful would you say that your business is?" Response choices ranged from 1 to 7, where a low of 1 was unsuccessful, 4 was moderately successful, and 7 was very successful (Ferguson, 1998).

3.2.2 Family Domain Variables
Hours Spent at Family

The number of hours attending to family and household tasks was measured by a single question, "How many hours, on average, do you spend each business day attending to household tasks and the needs of your children?" Four response choices were available: less than 1 hour per day; 2-3 hours per day; 4-5 hours per day; and more than 5 hours per day (Ferguson, 1998).

Supportive Husband

Perception of spouse supportiveness of the business was measured by a single question, "How supportive of your business is your husband or partner?" Response choices ranged from 1 to 7, where a low of 1 was not at all supportive, 4 was moderately supportive, and 7 was very supportive (Ferguson, 1998).

Family Support

Perception of family supportiveness of the business was measured *by* a single question, "How would you describe the level of support you feel from your family members for your business?" Response choices ranged from 1 to 7, where a low of 1 was not at all supportive, 4 was moderately supportive, and 7 were very supportive (Discussion and Hennessy, 2005).

3.2.3 Demographics Variables
Age

Age of business owners was measured by a single question, "In what age category do you fall?" Six response choices were available: under 25 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, and over 65 years (Ferguson, 1998).

Marital Status

Marital status was measured by a single question, "What is your marital status?" Four response choices were available: single, separated or divorced, married or cohabiting, and widowed. As noted, marital status was recoded into 2 groups: single or otherwise living alone, coded as 1, and married or cohabiting, coded as 2 (Ferguson, 1998).

Educational Level

Educational level was ascertained *by* one question, "What is the highest educational level you have achieved?" Six response choices were available: less than Grade 12, completed high school, some college, completed diploma, completed undergraduate degree, or some post graduate work or degree (Ferguson, 1998).

Number of Children

Number of children was determined by responses to a single question, "How many children are living with you?" Ten response choices were available for the number of children in different age categories, as follows: number of children under 2 years old, number of children 2-5 years old, number of children 6-10 years old, number of children 11-15 years old, number of children 16-18 years old, number of children over 18 years old, no children presently living with me, I have no children, and 1 share custody of (the number of)children who do not live with me.

The total number of children living at home was calculated by totaling the number of children in the various age categories. As noted, the number of children living at home was recorded into four groups: no children, coded as 0; one child, coded as 1 ; two children, coded as 2; and three or more children, coded as 3 (Ferguson, 1998).

3.2.4 Work Family Conflict

Work-to-family conflict and *family-to-work conflict* were measured using a validated, existing instrument that includes time and strain based components of conflict (Netemeyer, Boles, & McMurrian, 1996). The 10-item scale contained five items measuring family-to-work conflict and five items measuring work-to-family conflict. Using a 7-point Likert scale, participants were asked to indicate to what extent they agree with each item. Responses ranged from 1 (strongly disagree) to 7 (strongly agree). A sample item from the work-to-family conflict scale was, "The demands of my work interfere with my home and family life." A sample item from the family-to-work conflict scale was: "The demands of my family interfere with work-related activities." Higher scores indicate higher conflict. According to Netemeyer et al. (1996), the internal consistencies of both scales are adequate, with alpha estimates ranging from .83 to .89, and an average alpha of .88 for WFC, and of .86 for FWC across the sample.

3.3 Research Design and Data Collection

The overall research design is exploratory. Purposive sampling was chosen for data collection. Data for this research were collected by means of an interview questionnaire. Based on SMEs statistics 2012 provided by the Phnom Penh Department of SMEs, there are 3,970 SMEs in Phnom Penh. Data collection was conducted in October 2013. 182 students were trained to interview women business owners that they are familiar. A total of 182 surveys were distributed and 182 returned. Moreover, 10 surveys were conducted by the researcher. After checking data in the surveys, 17 cases were not usable: 3 had incomplete data, 8 were outside Phnom Penh, and 6 were the same companies. As a result, a sample of 175 business owners was used for data analysis in this study (a response rate of 91%). Roscoe (1975) suggests a series of general rules in determining acceptable sample sizes for research. He proposes that for any research intending on conducting multiple regression analysis, a sample size ten times that of the number of variables must be obtained. Therefore, a sample size of 175 obtained the sampling frame is considered adequate for the purposes of this study.

3.4 Data Analysis

Four standard multiple regression analyses were used to determine the effects of the independent variables on each of the two dependent variables. Tests for significance were undertaken using one-tailed probability levels because directional predictions were made, and significance levels were established at the $p < .05$ level of significance. All data analyses were carried out using the Statistical Package for the Social Sciences (SPSS 16.0).

Description of Variables	Variable Labels	Variable Measurement Scales	Authors
Dependent Variables			
Work Interference with Family	WIF	Scale	Netemeyer, Boles &McMurrian (1996)
Family Interference with Work	FIW	Scale	Netemeyer, Boles &McMurrian (1996)
Independent Variables			
Hours Spent at Work	workhrs	Interval	Ferguson (1998)
Yearsin Business	busyrs	Interval	Ferguson (1998)
Business Success	succ	Scale	Ferguson (1998)
Hours Spent at Family	famhrs	Interval	Ferguson (1998)
Family support	famsup	Scale	Discussion and Hennessy (2005)
Supportive Husband	hussup	Scale	Ferguson (1998)
Age	age	Interval	Ferguson (1998)
Number of Children	child	Numerical	Ferguson (1998)
Marital Status	marital	Numerical	Ferguson (1998)
Educational Level	edu	Numerical	Ferguson (1998)

Table 1: Description of Variables

3.5 Survey Construction

With respect to internal and external validity, the study instrument utilizes established scales and questions which have been used by many previous researchers. Pre-tested survey on business owners and research professionals were conducted. A reliability analysis was done. As a result of the data, all items had high coefficient alpha reliability, so there was no change made to the items.

Constructs	Ferguson (1998)	Netemeyer, Boles & McMurrian (1996)	Discussion and Hennessy (2005)
Work Factors	Q3, Q4, Q10		
Family Factors	Q5, Q11		Q12
Demographical Factors	Q6, Q7, Q8, Q9		
Work-Family Conflict		Q13	

Table 2: Question Items Adapted From Multi-Authors

4. Results and Discussion
4.1 Descriptive Findings
Business Sectors

Table 3 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 but, not surprisingly, 50.9% of businesses in the study sample were operating retail businesses. The second greatest industry type represented is service-related business (33.1%), followed by restaurant (7.4%), agriculture (4%), other (2.9%), wholesale (1.1%), and manufacturing (0.6%) of respondents.

Business Sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	retail	89	50.9	50.9	50.9
	wholesale	2	1.1	1.1	52.0
	agriculture	7	4.0	4.0	56.0
	manufacturing	1	.6	.6	56.6
	service	58	33.1	33.1	89.7
	restaurant	13	7.4	7.4	97.1
	other	5	2.9	2.9	100.0
	Total	175	100.0	100.0	

Table 3: Business Sectors in the Sample

Forms of Business

Table 4 demonstrates the number and percentage of legal form of business in the sample. The greatest number of respondents (87.4%) fell within the sole proprietorship category, followed by the partnership category with 12.6% of the sample.

Legal Form of Business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	sole proprietorship	153	87.4	87.4	87.4
	partnership	22	12.6	12.6	100.0
	Total	175	100.0	100.0	

Table 4: Legal Form of Business in the Sample

Hours Spent at Work

Table 5 provides the number and percentage of hours worked of business owners in the sample. There was a various range in the hours worked of the respondents from below 25 to over 60 hours. The greatest number of respondents (64%) fell within the over 60-hour category, and followed by the 41-60 hours category with 18.9% of the sample. The lowest number of respondents (2.3%) fell within the under 25-hour category.

Hours Spent at Work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	under 25 hours	4	2.3	2.3	2.3
	26-40 hours	26	14.9	14.9	17.1
	41-60 hours	33	18.9	18.9	36.0
	over 60 hours	112	64.0	64.0	100.0
	Total	175	100.0	100.0	

Table 5: Hours Spent at Work 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 (37%) fell within the 3-5 years category, followed by the 6-10 years category with 28% of the sample. The lowest number of respondents (1.7%) fell within the over 20 year's category.

Years in Business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 1 year	18	10.3	10.3	10.3
	1-2 years	23	13.1	13.1	23.4
	3-5 years	65	37.1	37.1	60.6
	6-10 years	49	28.0	28.0	88.6
	11-20 years	17	9.7	9.7	98.3
	over 20 years	3	1.7	1.7	100.0
	Total	175	100.0	100.0	

Table 6: Years in Business in the Sample

Age of Owner

Table 7 reports the number and percentage of age of business owners in the sample. There was a wide range in the ages of the respondents from 25 to over 65 years. The greatest number of respondents (45.1%) fell within the 35-44 age category, followed by the 25-34 age category with 33.1% of the sample. The lowest number of respondents (2.3%) fell within the over 65 years' categories.

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-34 years	58	33.1	33.1	33.1
	35-44 years	79	45.1	45.1	78.3
	45-54 years	26	14.9	14.9	93.1
	55-64 years	8	4.6	4.6	97.7
	over 65 years	4	2.3	2.3	100.0
	Total	175	100.0	100.0	

Table 7: Age of Owner in the Sample

Education Level

Table 8 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 (65.1%), completed high school (14.9%), some college (10.3%), completed diploma (5.1%), completed undergraduate degree (2.9), and some post graduate work (1.7%).

Educational Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than Grade 12	114	65.1	65.1	65.1
	Completed High School	26	14.9	14.9	80.0
	Some college	18	10.3	10.3	90.3
	Completed Diploma	9	5.1	5.1	95.4
	Completed undergraduate degree	5	2.9	2.9	98.3
	Some post graduate work or degree	3	1.7	1.7	100.0
	Total	175	100.0	100.0	

Table 8: Education Level in the Sample

4.2 Multiple Regression Analysis
4.2.1 Work Interference with Family Factor Run

The results of the multiple regression analysis on work interference with family are presented in Table 9. The R^2 indicated that together, the ten independent variables explained 28.3 percent of the variance in work interference with family. However, none of the variables in the run exceeded the variance inflation factor of ten, so issues related to collinearity were not a concern (Kanetkar, 2001)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.532[a]	.283	.239	.69218

a. Predictors: (Constant), Number of Children, Family Support, Marital Status, Age, Educational Level, Hours Spent at Family, Hours Spent at Work, Business Success, Years in Business, Supportive Husband

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.980	10	3.098	6.466	.000[a]
	Residual	78.575	164	.479		
	Total	109.554	174			

a. Predictors: (Constant), Number of Children, Family Support, Marital Status, Age, Educational Level, Hours Spent at Family, Hours Spent at Work, Business Success, Years in Business, Supportive Husband

b. Dependent Variable: Work Interference with Family

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	4.517	.642		7.030	.000		
	Hours Spent at Work	.154	.068	.161	2.273	.024	.871	1.148
	Years in Business	-.033	.059	-.038	-.560	.576	.932	1.073
	Business Success	.047	.040	.080	1.170	.244	.939	1.065
	Hours Spent at Family	.077	.067	.078	1.140	.256	.928	1.077
	Family Support	-.176	.034	-.355	-5.155	.000	.920	1.087
	Supportive Husband	-.084	.039	-.158	-2.161	.032	.815	1.227
	Age	.019	.053	.025	.365	.716	.947	1.056
	Educational Level	.101	.061	.113	1.660	.099	.944	1.059
	Marital Status	-.140	.211	-.045	-.666	.506	.966	1.035
	Number of Children	.088	.065	.091	1.344	.181	.945	1.058

a. Dependent Variable: Work Interference with Family

Table 9: Output of Work Interference with Family Factor Run

The table above reports three variables: hours spent at work, family support, and supportive husband emerged as the most likely predictors. Therefore, this set of factors will be more closely examined in further statistical analysis.

4.2.2 Final Regression Analysis

The results of the multiple regression analysis on work interference with family are presented in Table 10. The R^2 indicated that together, the three independent variables explained 24.7 percent of the variance in work interference with family. However, none of the variables in the run exceeded the variance inflation factor of ten, so issues related to collinearity were not a concern (Kanetkar, 2001).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.497[a]	.247	.233	.69473

a. Predictors: (Constant), Supportive Husband, Family Support, Hours Spent at Work

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.022	3	9.007	18.662	.000[a]
	Residual	82.533	171	.483		
	Total	109.554	174			

a. Predictors: (Constant), Supportive Husband, Family Support, Hours Spent at Work
b. Dependent Variable: Work Interference with Family

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	5.107	.265		19.260	.000		
Hours Spent at Work	.143	.067	.149	2.126	.035	.895	1.117
Family Support	-.181	.034	-.365	-5.340	.000	.945	1.059
Supportive Husband	-.093	.038	-.175	-2.472	.014	.879	1.138

Table 10: Output of Final Regression Equation

The findings showed that the number of hours spent at work had a significant positive effect (β=.143, ρ<.05) on the amount of work interference with family. Each standard deviation change in the number of hours spent at work represented 14.3 percent of one standard deviation change in the level of work interference with family. This finding is consistent with the results of previous research (Gutek et al., 1991; Lundberg, Mardberg & Frankenhaeuser, 1994; O'Driscoll et al., 1992; Parasuraman et al., 1996; Stoner, Hartman, & Arora, 1991). Women business owners who spent

longer hours at work were more likely to experience higher levels of work interference with family than were women who spent fewer hours at work. For examples, they have to work on a Sunday, normally a family day, in order to meet a deadline; bringing work home from the office; or being distracted by work during a family dinner or outing.

Perceived family support had a significant negative effect on the level of work interference with family (β=-.181, ρ<.01), consistent with previous research findings (Burke, 1995; Burley, 1989; Stoner et al., 1990). Women business owners who received less family support were less likely to experience higher levels of work interference with family than were women who received more family support. Family members often share the amount of effort women put into their businesses, and are more likely to provide support when it is needed, and this support reduces the amount that work interfere with families. Family support represented 18.1 percent of one standard deviation change in the level of work interference with family. As family support increased, the level of work interference with family decreased.

Perceived supportive husbands had a significant negative effect on the level of work interference with family (β=-.093, ρ<.05), consistent with the results of previous research (Davidson & Cooper, 1986). Women business owners who received less support of the business by husbands were less likely to experience higher levels of work interference with family than were women who received more support of the business by husbands. Supportive husbands are often more knowledgeable and appreciative of the amount of effort women put into their businesses, are more likely to provide support when it is needed, and this support reduces the amount that work interfere with families. Specifically, each standard deviation change in perceived supportive husbands represented 9.3 percent of one standard deviation change in the level of work interference with family. As perceived support of the business by husbands increased, the level of work interference with family decreased.

4.2.3 Family Interference with Work Factor Run

The results of the multiple regression analysis on family interference with work are presented in Table 11. The R^2 indicated that together, the ten independent variables explained 32.8 percent of the variance in family interference with work. However, none of the variables in the run exceeded the variance inflation factor of ten, so issues related to collinearity were not a concern (Kanetkar, 2001).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.573[a]	.328	.288	.67244

a. Predictors: (Constant), Number of Children, Marital Status, Family Support, Age, Business Success, Educational Level, Years in Business, Hours Spent at Work, Hours Spent at Family, Supportive Husband

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.276	10	3.628	8.022	.000[a]
	Residual	74.158	164	.452		
	Total	110.433	174			

a. Predictors: (Constant), Number of Children, Marital Status, Family Support, Age, Business Success, Educational Level, Years in Business, Hours Spent at Work, Hours Spent at Family, Supportive Husband

b. Dependent Variable: Family Interference with Work

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.465	.592		9.238	.000		
	Hours Spent at Work	.055	.064	.057	.859	.392	.928	1.078
	Years in Business	-.033	.057	-.038	-.580	.563	.939	1.065
	Business Success	.018	.039	.031	.472	.638	.944	1.060
	Family Support	-.188	.038	-.362	-4.975	.000	.774	1.293
	Supportive Husband	-.129	.036	-.260	-3.595	.000	.785	1.274
	Hours Spent at Family	-.014	.036	-.025	-.375	.708	.930	1.075
	Age	.033	.051	.043	.655	.513	.963	1.038
	Educational Level	.005	.068	.005	.075	.940	.930	1.076
	Marital Status	-.241	.206	-.077	-1.173	.242	.958	1.044
	Number of Children	.102	.059	.113	1.731	.085	.960	1.041

a. Dependent Variable: Family Interference with Work

Table 11: Output of Family Interference with Work Factor Run

The table above reports two variables: family support and supportive husband emerged as the most likely predictors. Therefore, this set of factors will be more closely examined in further statistical analysis.

4.2.4 Final Regression Analysis

The results of the multiple regression analysis on family interference with work are presented in Table 12. The R^2 indicated that together, the two independent variables

explained 30.1 percent of the variance in family interference with work. However, none of the variables in the run exceeded the variance inflation factor of ten, so issues related to collinearity were not a concern (Kanetkar, 2001).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.549[a]	.301	.293	.66989

a. Predictors: (Constant), Supportive Husband, Family Support

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.249	2	16.625	37.047	.000[a]
	Residual	77.184	172	.449		
	Total	110.433	174			

a. Predictors: (Constant), Supportive Husband, Family Support
b. Dependent Variable: Family Interference with Work

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	5.401	.151		35.721	.000		
	Family Support	-.196	.037	-.377	-5.310	.000	.805	1.242
	Supportive Husband	-.132	.035	-.266	-3.739	.000	.805	1.242

a. Dependent Variable: Family Interference with Work

Table 12: Output of Final Regression Equation

The findings showed that perceived family support had a significant negative effect on the level of family interference with work (β=-.196, ρ<.01), consistent with previous research findings (Burke, 1995; Burley, 1989; Stoner et al., 1990). Women business owners who received less family support were less likely to experience higher levels of family interference with work than were women who received more family support. Family members often share and manage household and family tasks through providing support when it is needed, and this support reduces the amount of tasks that families interfere with work. Perceived family support represented 19.6 percent of one standard deviation change in the level of family interference with work. As family support increased, the level of family interference with work decreased.

The women's perceptions of their husbands or partners supportiveness of the business had a significant negative effect on the level of family interference with work (β=-.132, $\rho<.01$), consistent with the results of previous research (Parasuraman et al., 1996). Women business owners who received less support of the business by husbands were less likely to experience higher levels of family interference with work than were women who received more support of the business by husbands or partners. Supportive husbands usually share and manage household and family tasks with their wives by providing support when needed, and this support reduces the amount of tasks that families interfere with work. Perceived supportive husband represented 13.2 percent of one standard deviation change in the level of family interference with work. As perceived support of the business by husbands increased, the level of family interference with work decreased.

4.3 Result Confirmation

A total of ten business owners were interviewed to confirm the validity of the results of the research study. As a result, all of them agreed and supported that number of hours spent at work, family support, and supportive husband do contribute to their work family conflict. They stressed the importance of their husbands or family members who support them when needed in both their work and families.

Conclusion
5.1 Conclusion

Having studied the factors contributing to work-family conflict among 175 women business owners in Phnom Penh, the results of this study found three factors: the number of hours spent at work, family support, and supportive husband.

The number of hours spent at work, family support, and supportive husband accounts for substantial variation in the levels of work interference with family while family support and supportive husband account for substantial variation in the levels of both family interference with work and work interference with family. These results are consistent with other previous research findings.
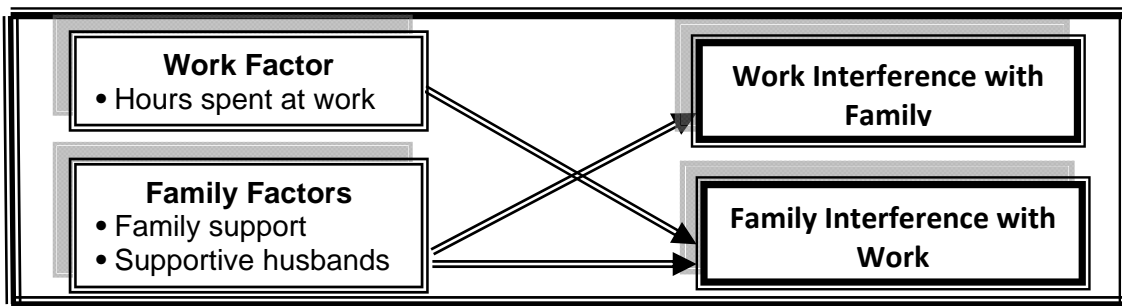

Figure 2: Revised proposed conceptual model of the research study

5.2 Implications of the Study

These findings may have important implications for counsellors, therapists, educators, policy makers in business, and women business owners themselves. To overcome work family conflict, here are some suggestions obtained from ten successful Cambodian women business owners that the researcher interviewed:

- Train a trusted lieutenant and leave him/her in charge while they are away;
- Hire professional help for bookkeeping and housemaids for household tasks;
- Build a support system, so customers don't rely solely on them;
- Scheduling both work and family appointments and activities in one place;

- Delegate household responsibilities to family members such as children to school or their activities, child care and sick days, elderly parent care;
- Try catalogue shopping and instruction of daily meals for the family;
- Keep their families informed about what they are going through;
- Keep communication lines open and positive with their families.

REFERENCES

Ahrentzen, S. B. (1990). Managing conflict by managing boundaries: How professional home-workers cope with multiple roles at home. *Environment and Behavior, 22*, 723-752.

Amyot, D. J. (1995).*Work-family conflict and home-based work.* Unpublished master's thesis, University of Manitoba, Winnipeg, Manitoba.

Barnett, R. C., & Baruch, G. K. (1985). Women's involvement in multiple roles and psychological distress. *Journal of Personality and Social Psychology, 49*, 135-145.

Barnett, R. C., Breman, R. T., & Marshall, N. L. (1994).Gender and the relationship between parent role quality and psychological distress. *Journal of Family Issues, 15*(2), 229-252.

Beatty, C.A. (1996). The stress of managerial and professional women: Is the price too high? *Journal of Organizational Behavior, 17*, 233-251.

Birley, S. (January, 1989). Female entrepreneurs: Are they really different? *Journal of Small Business Management,* 32-37.

Bit, Seanglim. *The Warrior Heritage: A Psychological Perspective of Cambodian Trauma.* El Cerrito, CA: S. Bit, 1991.

Bolger, N., De Longis, A., Kessler, R. C., & Wethington, E. (1989).The contagion of stress across multiple roles. *Journal of Marriage and the Family, 51,* 175-183.

Burke, R.J. (1988). Some antecedents and consequences of work-family conflict.In E. Goldsmith (Ed.) Work and family: Theory, research, and applications. [Special issue].*Journal of Social Behavior and Personality, 3,* 287-302.

Burke, R. J., & McKeen, C. A. (1995). Work experiences and career development and success of managerial and professional women. In N. J. Struthers (Ed.) Gender in the workplace, *Journal of Social Behavior and Personality, 10*(6).

Burley, K. (1989).*Work-family conflict and marital adjustment in dual career couples: A comparison of three time models.* Unpublished doctoral dissertation, Claremont Graduate School, CA.

Chay, Y. W. (1993). Social support, individual differences and well-being: A study of small business entrepreneurs and employees. *Journal of Occupational and Organizational Psychology, 66,* 285-302.

Cunningham, J. B., & Lischeron, J. (1 99 1). Defining entrepreneurship. *Journal of Small Business Management, 29*(1), 45 -61.

Davidson, M. J., & Cooper, C. L. (1986). Executive women under pressure. *International Review of Applied Psychology, 35,* 301-326.

Deng, S., Hassan, L., & Jivan, S. (1995). Female entrepreneurs doing business in Asia: A special investigation. *Journal of Small Business and Entrepreneurship, 12*(2).

Emmons, C., Biemat, M., Tiedje, L., Lang, E., & Wortman, C. (1990).Stress, support, and coping among women professionals with preschool children. In J. Eckenrode& S. Gore (Eds.) *Stress between work and family* (pp. 61-91). New York and London: Plenum Press.

Ferguson, E. F. (1998). *Work-family conflict: the experience of women business owners.* Published master's thesis, University of Manitoba, Winnipeg, Manitoba.

Findlay, B. M., & Lawrence, J. A. (1991). Who does what? Gender-related distribution of household tasks for couples, their families of origin and their ideals. *Australian Journal of Marriage and Family, 12*(l), 3-11.

Frone, M. R., Russell, M., & Cooper, M. L. (1992). Antecedents and outcomes of work-family conflict: Testing a mode1 of the work-family interface. *Journal of Applied Psychology, 77*, 65-78.

Gavazz, S. M. (1994). Perceived social support from family and friends in a clinical sample of adolescents. *Journal of Personality Assessment, 62*(3), 465-471.

Greenberger, E., & O'Neil, R. (1993). Spouse, parent, worker: Role commitments and role-related experiences in the construction of adults' well-being. *Developmental Psychology. 29,* 181-197.

Greenglass, E. R. (1990). Type A behavior, career aspirations, and role conflict in professional women. In M.J. Strube (Ed.), Type A behavior (Special Issue), *Journal of Social Behavior and Personality, 5*(1), 307-322.

Greenglass, E. R. (1993). The contribution of social support to coping strategies. *Applied Psychology: An International Review, 42*(4), 323-340.

Greenglass, E. R (1995). Gender, work stress and coping: Theoretical implications. *Journal of Social Behavior and Personality 10*(6), 121 - 134.

Greenhaus, J. H. (1987). Work experiences, job performance, and feelings of personal and family well-being. *Journal of Vocational Behavior, 31*(2), 200-215.

Greenhaus, J. H. (1988). The intersection of work and family roles: Individual, interpersonal, and organizational issues. *Journal of Social Behavior and Personality, 3*(4), 23-44.

Greenhaus, J., &Beutell, N. (1985). Sources of conflict between work and family roles.*Academy of Management Review, 10,* 76-88.

Greenhaus, J.H., Parasuraman, S., Granrose, C.S., Rabinowitz, S., &Beutell, N.J. (1989). Sources of work-family conflict among two-career couples.*Journal of Vocational Behavior, 34,* 133-153.

Gutek, B., Klepa, L., & Searle-Porter, S. (1989, August*). Understanding the failure to perceive work-family conflict.* Paper presented at the Academy of Management Conference, Washington, D.C.

Gutek, B., Searle, S., & Klepa, L. (1991). Rational versus gender role explanations for work-family conflict. *Journal of Applied Psychology, 26,* 560-568.

Hennessy, D. K. (2005). *Work-family conflict Self-Efficacy: A scale Validation study.* Unpublished master's thesis, University of Maryland, College Park.

Kelly, R., & Voydanoff, P. (1985). Work family role strain among employed parents. *Family Relations, 34,* 367-374.

Kline, M., & Cowan, P. A. (1988). Re-thinking the connections among 'work" and "family" and well-being. *Journal of Social Behavior and Personality, 3*(4), 61-90.

Kopelman, R., Greenhaus, J., & Connolly, T. (1983). A model of work, family and interroleconflict: A construct validation study. *Organizational Behavior and Human Performance, 32,* 198-215.

Lundberg, U., Mardberg, B., & Frankenhaeuser, M. (1994). The total workload of male and female white collar workers as related to age, occupational level, and number of children. *Scandinavian Journal of Psychology, 35,* 315-327.

National Institute of Statistics (2012). *Economic Census of Cambodia 2011.*Cambodia.

Netemeyer, R.G., Boles, J.S., & McMurrian, R. (1996). Development and validation of work – family conflict and family – work conflict scales, *Journal of Applied Psychology, 81* (4), 400-410.

O'Driscoll, M.P., Ilgen, D. R., & Hildreth, K. (1992). Time devoted to job and off-job activities, interrole confiict, and affective experiences. *Journal of Applied Psychology, 77,*272-279.

Olson, S. F., & Currie, H. M. (1992). Female entrepreneurs: Personal value systems and business strategies in a male-dominated industry. *Journal of Small Business Management, 30*(1), 49 -57.

Paden, S.L., & Buehler, C. (1995). Coping with the dual-income lifestyle. *Journal of Marriage and the Family, 57,* 101- 110.

Parasuraman, S., & Greenhaus, J.H. (1993). Personal portrait: The lifestyle of women managers. *Women in management: Trends issues and challenges* (vol. 4, pp. 186-211). Newbury Park, CA: Sage Publishers.

Parasuraman, S., Purohit YS., & Godshalk, V.M. (1996). Work and family variables, entrepreneurial career success, and psychological well-being. *Journal of Vocational Behavior, 48,* 275-300.

Phnom Penh Department of Small and Medium Enterprises (2012).*SMEs Statistics in Phnom Penh*. Cambodia.

Roscoe, J. (1975). *Fundamentals of Research Statistics for the Behaviour Sciences*. US: Holt, Rineheart and Winston.

Snyder, B. K., Roghmann, K. J., & Sigal, L. H. (1992). Stress and psychosocial factors: Effects on primary cellular immune response. *Journal of Behavioral Medicine, 16,* 143-161.

Stoner, C. R., Hartman, R. L, & Arora, R. (1990). Work-home role conflict in female owners of small businesses: An exploratory study. *Journal of Small Business Management, 28*(l), 30-38.

Stoner, C. R., Hartman, R. I., & Arora, R. (1991). Work-family conflict: A study of women in management. *Journal of Applied Business Research, 7,* 67-74.

Suchet, M., & Barling, J. (1986). Employed mothers: Interrole conflict, spouse support, and marital functioning. *Journal of Occupational Behavior, 7,* 167- 178.

Sullivan, O. (1997). The division of housework among "remarried" couples. Journal *of Family Issues, 18*(2), 205-223.

Voydanoff, P. (1988). Work and family: A review and expanded conceptualization. *Journal of Social Behavior and Personality, 3*(4), 1-22.

QUESTIONNAIRE

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

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

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

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

[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 60 hours.   □

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

1. less than 1 year □
2. 1-2 years   □
3. 3-5 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   □
2. 2-3 hours per day   □
3. 4-5 hours per day   □
4. More than 5 hours per day. □

[6] In what age category do you fall?

1. under 25 years   □
2. 25-34 years   □
3. 35-44 years   □
4. 45-54 years   □
5. 55-64 years   □
6. over 65 years   □

[7] What is your marital status?

1. Single   □

2. separated or divorced   ☐
3. married or cohabiting   ☐
4. widowed   ☐

[8]   What is the highest educational level you have achieved?"
1. less than Grade 12   ☐
2. completed high school   ☐
3. some college   ☐
4. completed diploma   ☐
5. completed undergraduate degree   ☐
6. some post graduate work or degree   ☐

[9]   How many children are living with you?
1. number of children under 2 years old   ☐
2. number of children 2-5 years old   ☐
3. number of children 6-10 years old   ☐
4. number of children 11-15 years old   ☐
5. number of children 16-1 8 years old   ☐
6. number of children over 18 years old   ☐
7. no children presently living with me   ☐
8. I have no children   ☐
9. I share custody of (the number of) children who do not live with me   ☐

[10]   How successful would you say that your business is?

uccessful   Very successful
1 ☐   2 ☐   3 ☐   4 ☐   5 ☐   6 ☐   7 ☐

[11]   HowUns supportive of your business is your husband or partner?

☐ 1   ☐ 2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7

no support   complete support

[12]   How would you describe the level of support you feel from your family members for your business?

☐ 1   ☐ 2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7

no support   complete support

[13] Work-to-Family Conflict Scale

The statements below ask about how you feel about your work and family roles. Read each statement and indicate your agreement or disagreement (Netemeyer, Boles, & McMurrian, 1996).

1 = strongly disagree
2 = disagree
3 = slightly disagree
4 = neither agree nor disagree
5 = slightly agree
6 = agree
7 = strongly agree

1. The demands of my work interfere with my home and family life.
   □ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7
2. The amount of time my job takes up makes it difficult to fulfill my family responsibilities.
   □ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7
3. Things I want to do at home do not get done because of the demands my job puts on me.
   □ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7
4. My job produces strain that makes it difficult to fulfill family duties.
   □ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7
5. Due to work-related duties, I have to make changes to my plans for family activities.
   □ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7

[14] Family-to-Work Conflict Scale

Below are five statements with which you may agree or disagree. Using the 1 – 7 scale below, indicate your agreement with each item by circling the appropriate number (Netemeyer, Boles, & McMurrian, 1996).

1 = strongly disagree
2 = disagree
3 = slightly disagree
4 = neither agree nor disagree
5 = slightly agree
6 = agree
7 = strongly agree

1. The demands of my family or spouse/partner interfere with work-related activities.
   □ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7
2. I have to put off doing things at work because of demands on my time at home.
   □ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7
3. Things I want to do at work don't get done because of the demands of my family or spouse/partner.

□ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7

4. My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.

□ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7

5. Family-related strain interferes with my ability to perform job-related duties.

□ 1   □ 2   □ 3   □ 4   □ 5   □ 6   □ 7

FACTORS INFLUENCE ACCOUNTING MAJOR SELECTION

Dr. SAU Lay[14]

Abstract

Accounting major is likely unpopular in some developed countries, but it is more likely popular in Cambodia. For example, in academic year 2012-2013, the number of accounting students was about 10,152 that accounts for 17.75 percent. It is the greatest figure in comparison with other 47 majors. The aim of the study is to investigate what factors have influenced students to choose accounting major by using the Theory of Reasoned Action (TRA) as framework and a sample size of 398 accounting students at the National University of Management. In analyzing data, structural equation modeling (SEM) technique was employed. The results of the study reveal that students who chose accounting major were based on interest in subject, job availability, job earning, and job prestige factors; meanwhile, job security, parent, professor and friends were not significantly influenced.

Key words: *Factors influence accounting students, attitude toward behavior, social norm, intention, behavioral accounting usage, measurement model, structural model and SEM.*

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[14] Dr. SAU Lay, Chair of Law Faculty at National University of Management

1. Introduction

The middle nineties has been characterized by a dramatic change in the Cambodian higher education landscape. Reforms allowed universities to expand, new institutions granted university status, and the same time, a number of students enrolled in different majors increasingly fluctuated. For example, in academic year 2012-2013, there were 57,207 first year students studying in 105 educational institutions and universities with different 47 majors in which the number of accounting students was about 10,152that is the greatest number, accounted for 17.75 percent. Conversely marketing major is the most required in labor market, and it accounts for only 1 percent or 1,010 students (HED, 2012-2013). This figure reveals that number appears to be over-educated, and it may cause skill surplus and mismatch in this country. Effects of skill surplus or mismatch will not only pose adverse impacts on individuals but also organizations, economic growth, competitiveness and innovative capacity at macroeconomic level. For societies, skill surpluses, over-education or over-qualification, and unemployment or involuntary part-time work represent a waste of valuable human resources (CEDEFOP, 2009). Thus, skill surplus or mismatch has attracted significant attention from industry, organizational labor, governments and educators around the globe from the mid-2000 (Lefebvre, Simonova, & Wang, 2012).

Main source of skill supply or surplus or mismatch is come from major selection of students in universities (Fogg & Harrington, 2009). Thousand students graduate every year, many graduate students can't find job because their skills are not suitable to labor market requirements. Other students do, but the jobs are not matched with their skills learned from their universities. These issues cause serious concern facing by policy makers (H.E.Chounnaron, 2013).

Recently the major/career selection decision has been concerned not only by public policy makers, but also educators, firms, especially students and their parents. It is an important decision that students will make in their careers that will affect their whole lives. During this decision making process, the student's environment, personality, perception, and expectation may determine how students make major/career choice. This study investigates factors affecting students' majoring in accounting major as career.

2. Research Objectives

The above figure reveals that accounting major is likely to be a popular major in Cambodia; however, it may be unpopular in some countries, such as Australia (Jackling & Keneley, 2009), and Japan (Sugahara & Boland, 2009). Therefore, the main objective research is to determine what factors influence students to choose accounting major, then use those influenced factors to predict future usage behavior

of accounting major as career by employing the Theory of Reasoned Action (TRA) as framework for investigation.

3. Significance of the Study

The findings of the current study may provide some insights into the factors influencing students' accounting major choices. Individuals can be informed of how to prepare themselves to enter into the labor market; employers may find it easier to hire suitable employees. Career counselors may also find them useful in assisting students to make an effective major choice. Likewise, universities' administrators might be well- prepared their courses offered to students. Lastly, the findings might also be used by government for its effective education policy making. As results, mismatch, resulting from skill shortages and surpluses, can be effectively reduced, and then the unemployment rate may also decrease, the competitiveness and economic growth may sustainable in long run.

2. Literature Review
2.1 Previous Studies on Factors Influences on Business Major Selection

Factors influence a student to pick a particular major has been well-researched. Most studies examines factors influenced a student's choice of major with different approaches, for example Li and Thomson (2011); Sugahara and Boland (2009), used factor analysis to investigate factors influenced accounting major selection; meanwhile, Cho, Jones, and Olsen (2008); and Crampton, Walstrom, and Schambach (2006), used t-test to determine influential factors, and then rank them from highest to lowest in order to determine the most influential factor. Other authors tried to group the studied items into different factors by using various techniques, for example Roach, McGaughey, and Downey (2011), used ANOVA and Tukey-Kramer procedure to compare those factors to see the most significant factor; meanwhile, Chen, Jones, and McIntyre (2005); and Papu (2000) used discriminant and factors analysis. Notably, recently researches have been conducted on factors influenced students to choose business majors based on the Theory of Reasoned Action (TRA) with different approaches, for example Zakaria, Fauzi, and Hasan (2012); and Jackling and Keneley (2009), used multiple regression, at the same time, Kuechler, McLeod, and Simkin (2009), used partial least square (PLS) regression. Interestingly, Downey, McGaughey, and Roach (2011) used confirmatory factor analysis (CFA) and structural equation modeling (SEM); and Zhang (2010) used partial least square (PLS) regression and SEM technique.

The results of the previous studies were seen to be largely consistent. Student's decision making to select a particular major/ career was influenced highly by interest, job availability and security, and compensation factors, whereas social factor was considered to be low significant influence. In contrast, Kuechler et al. (2009) found

that job availability, job security, job salary, curriculum difficulty, workload, personal image, were not influential factors, whereas social image, advisor, and family were significant factors. The authors concluded that "students seem aware that employment opportunities exist". Certainly true when situation of economy is healthy, there are a lot of jobs with better salary and job security in the market. So that job availability, job security, job salary are seen to be not influential factors.

Moreover, majority of decision making to select a business major appears to be required a student to weigh up all possible outcomes, taking into consideration his or her own personal preferences and the potential reactions of others to the decision. Therefore, based on the above literature review, it can be concluded that the Theory of Reasoned Action (TRA) is suitable to serve a framework to investigate factors influenced student's major/career selection, especially when it is used with Structural Equation Modeling (SEM) technique, which is like the technique employed by Downey, McGaughey and Roach (2011), and Zhang (2010) did in their studies.

2.2 The Theory of Reasoned Action

The theory of reasoned action (TRA), derived from the social psychology setting, was proposed by Ajzen and Fishbein in 1980 (as cited in en.wikipedia.org). TRA suggests that a person's behavioral intention depend on the person's attitude about the behavior and subjective norms. If a person intends to do a behavior then it is likely that the person will do it. TRA has been applied in numerous studies that have addressed the study of human actions, for example, Chin-Shan, Kee-hung, and Cheng (2007) used TRA to predict intention of shippers to use Internet services in line shipping; Muse and Stamper (2007) used TRA to investigate factors affected job performance; Kuechler et al. (2009); Zhang (2010); Downey et al. (2011), used TRA to determine factors influenced business major choice.

TRA consists of a given 1) behavior is directly influenced by 2) behavioral intentions, which are in turn can be predicted by 3) attitude toward the behavior, and 4) subjective norm regarding the behavior.

2.3 Previous Studies on Factors Influenced Major Selection Used TRA
2.3.1 Attitude

Attitude toward Behavior the degree to which performance of the behavior is positively or negatively valued. According to the expectancy--value model, attitude toward a behavior is determined by the total set of accessible *behavioral beliefs* linking the behavior to various outcomes and other attributes (Ajzen, 2006). Most previous researches on business major selection, especially accounting, decomposed behavioral beliefs into job availability, job security, job earning, major image/prestige, social prestige, genuine interest, and major difficulty. All of these

variables had positive, except major/course difficulty, influence on attitude toward a major selection, which in turn had positively influenced on major selection intention (Downey et al., 2011; Kuechler et al., 2009; Zakaria et al., 2012; Zhang, 2010).

2.3.2 Social Norm

Subjective Norm is the perceived social pressure to engage or not to engage in a behavior. It is assumed that subjective norm is determined by the total set of accessible *normative beliefs* concerning the expectations of important referents. According to the TRA *normative beliefs* determine social norm, which in turn determines intention (Ajzen, 2006).

Previous studies included several variables, such as parent's, teacher/professor's, advisor's and friend's influence, into *normative believe* factor. Most of the previous studies showed different results, for example, Zhang (2010) found that professor and family were significantly influenced on social norm, whereas Kuechler et al. (2009) found that advisors and family significantly influenced major selection, while Downey et al. (2011) found that friend and professor were significantly influenced on intention. Interestingly, most of descriptive studies showed that parent, teacher/professor, advisor and friends were all influenced on major choice at different levels (Crampton et al., 2006; Li & Thomson, 2011; Myburgh, 2005; Strasser, Ozgur, & Schroeder, 2002; Sugahara & Boland, 2009; Walmsley, Wilson, & Morgan, 2010).

2.3.3 Predicting Intention

Intentions are defined as indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior (Ajzen, 1991).There are two faces of intention: *future-directed* and *present-directed* intention, one is *actions*, another is *mental states*. For example, one do intent thing, it is *future-directed* intention, and one do thing intentionally, is *present-directed* intention (Bratman, 1984). Meanwhile, Cohen and Levesque (1990) have defined intending to do an action in a way that captures many reasonable properties, which have three important elements: *persistent goal*, *commitment* and *plan* to achieve the goal. According to TRA, the intention is based on attitude toward the behavior, and subjective norm, and perceived behavioral control, with each predictor weighted for its importance in relation to the behavior and population of interest.

Most of previous studies found that attitude toward the behavior variable appeared to be higher influenced on intention construct than social norm variable. For example, Zhang (2010) found that beta of attitude to intention was 0.55, while beta of social norm to intention was only 0.32. This result is similar to a study by Kuechler et al. (2009), 0.50 and 0.309, beta of attitude and social norm toward intention, respectively. In contrast to the result of Jackling and Keneley (2009), who

investigated factors influencing on accounting major. The authors divided attitude toward accounting construct into two sub-factors, namely intrinsic and extrinsic interest factors. Finally, the result revealed that the attitude construct appeared to be lower influence on intention variable than social influence (namely referent group) variable. Only intrinsic factor appeared to be significantly influenced on intention with a beta of -0.234, while social influence variable was considered to be strongly influenced on intention variable (beta=0.859).

2.3.4 Predicting Actual Behavior

Behavior is the manifest, observable response in a given situation with respect to a given target (Ajzen, 2006). According to the TRA, the behavioral intention can be used directly to predict behavioral achievement (Ajzen, 1991).

Most recent studies used TRA to investigate factors influencing students on selecting business majors omitted to predict usage behavior for example, Zakaria et al. (2012), Downey et al. (2011), Zhang (2010), Jackling and Keneley (2009), Kuechler et al. (2009). Not much of the works related to this field have been done in the framework of the Theory of Reasoned Action (TRA) to use *present-directed* intention to predict future behavior in recent years. However, nearly last two decades,Vincent, Peplau, and Hill (1998) employed TRA to predict future usage career of women by using longitudinal data from 105 women studied in 1973 and followed up 14 years later in 1987. The result supported TRA, women's career orientations while in college directly predicted career behavior 14 years later. Interestingly, Harrison, Thompson, and Rodgers (1985) examined robustness and sufficiency of the theory of reasoned action (TRA) applied to longitudinal data to predict educational plan of high school students. The authors used 2,077 respondents and the time between the statement of intention and the criterion behavior was 2-3 years. The results supported the measurement robustness of the theory of reasoned action, its predictive utility over a considerable length of time, and the sufficiency of the set of reasoned action constructs. Apparently, intention, attitude, and subjective norm each may contribute independently to the determination of behavior, and well may be sufficient as a whole.

3. Research Method

The dataset used in this study was collected via survey questionnaire completed by sophomore, and junior undergraduate accounting students studying at National University of Management in Cambodia. The questionnaire collected background information relating to year of study, gender, origin of high school, standard of living and factors important in the decision to major in accounting. The questionnaire sought to gauge students' views on the importance of each of a series of influences on their decision to major in accounting. A convenient sampling approach was adopted

for the current study. Five hundred questionnaires were distributed during the class at the beginning of semester one with clear instruction how to complete the survey. The questionnaires were dropped off, then instructor would collect them back on the next class, and 416 valid responses were returned for the study.
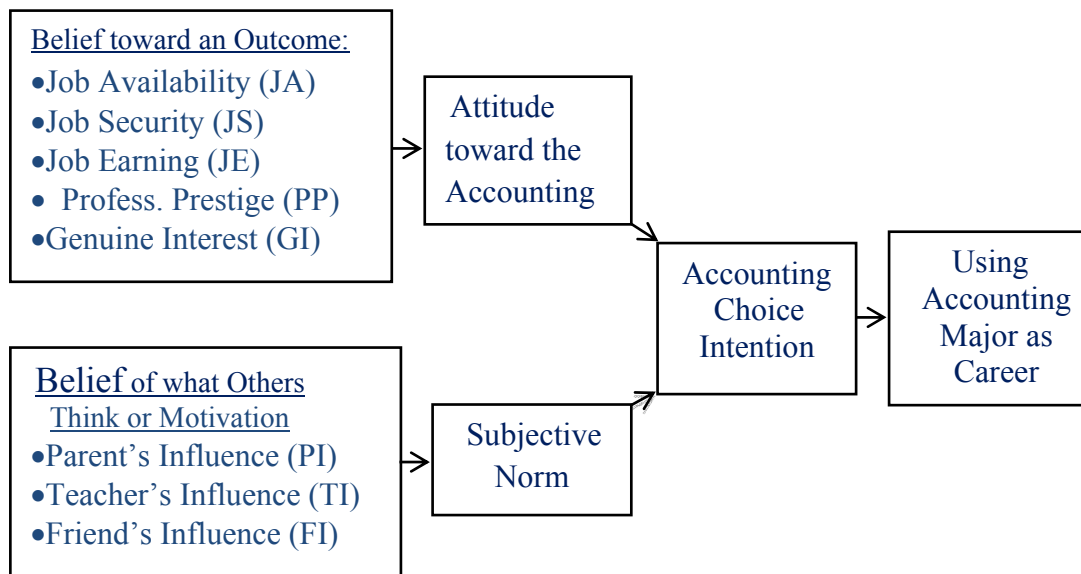
3.1 Research Framework

Figure 3.1 TRA Framework (Ajzen, 1980)

This study attempts to investigate various factors that influence students' choosing accounting major by using TRA as framework (Figure 3.1). The study used the same theory, and similar technique employed by Downey et al. (2011), and Zhang (2010). But, one thing makes the study difference from those is that the study attempts to use intention variable to predict behavioral usage variable, which the two previous studies omitted it. Most indicators of the current study are mainly adopted from Downey et al. (2011). Some indicators adapted from Tayor and Todd (1995), and some adopted from Kuechler et al. (2009), Myburgh (2005) and other indicators elicited from Cohen and Jevesque (1990). Notably indicators uses to measure future usage behavior were adapted from Harrison et al. (1985). Finally, all indicators combined from different sources were tested for its reliability and validity through confirmatory factor analysis (CFA) technique before conducting subsequent analyses.

3.2 Research Model

As indicated early, this study uses the Theory Reasoned Action (TRA) as its conceptual framework. According to TRA, as applied in this study, *attitude toward the behavior* can be decomposed into five exogenous variables: job availability, job

security, earning opportunity, and professional prestige. Social influence is decomposed into three exogenous variables: parent's influence, professor's influence, and friend's influence. Therefore, a proposed or hypothesizes model was formed as shown in Figure 3.1.
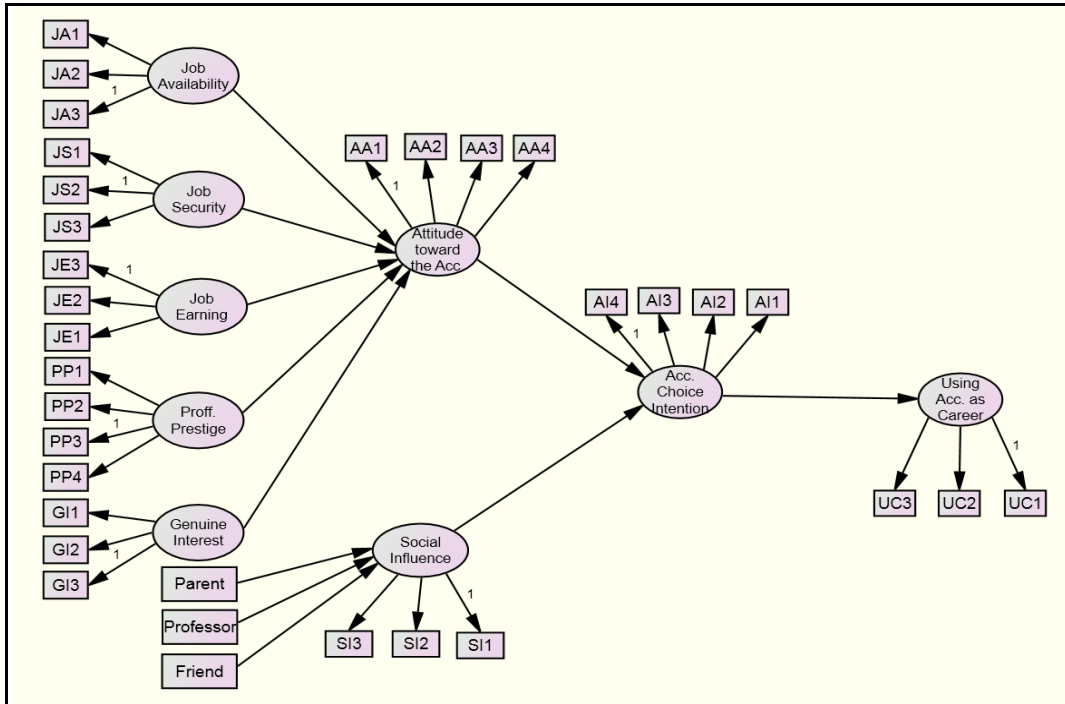

Figure 3.2 a Proposed Research Model

3.3 Hypotheses

After the research model had been proposed, hypotheses were developed. For current study, the following hypotheses had been formed:

H_1: Job Availability is positively influenced Attitude;
H_2: Job Security is positively influenced Attitude;
H_3: Job Earning Availability is positively influenced Attitude,
H_4: Professional Prestige is positively influenced Attitude;
H_5: Genuine Interest is positively influenced Attitude;
H_6: Parent is positively influenced Social Norm;
H_7: Professor(s) is positively influenced Social Norm;
H_8: Friend(s) is positively influenced Social Norm;
H_9: Attitude is positively influenced Intention;
H_{10}: Social Norm is positively influenced Intention;
H_{11}: Intention is positively influence Using Accounting Major as Career.

3.4 Operational Variable Definition

Attitude toward behavior refers to the degree of perception or belief of positive value when a student chooses accounting major. This endogenous variable has four reflective indicators, and five exogenous variables, which are:

- Job availability refers to degree of belief or expectation of job supply or opportunity of a student would have when he or she graduates. This exogenous variable consists of three reflective indicators, which include plenty of job, career flexibility or option, and starting own business;
- Job security refers to a degree of permanent in a job position of a student would have when he or she graduates; this exogenous variable has three reflective indicators that consist of great market demand, high security in position, and good relationship with top management;
- Earning opportunity refers to degree of belief or expectation of amount of compensation that a student would earn when he or she graduates. This exogenous variable has three reflective indicators, that consist of starting earning, future earning, high earning;
- Professional prestige refers to degree of respectability of other people in society or personal pride would have when he or she obtains the degree. This exogenous variable consists of four reflective indicators, which comprise of looking up to accounting professional, respect career, business world treatment, and proud of obtaining degree;
- Genuine interest refers to degree of subject interesting and student interested in the accounting subject.

Subjective norm refers to the perceived social pressure on a student engaged in a choosing accounting major. This endogenous variable consists of its own three reflective indicators, and three exogenous variables, which are:

- Parent's influence refers to degree of pressure, motivation of parent or her relative to bear in mind of student when she makes a major selection. This variable has only one indicator;
- Professor's influence refers to degree of belief in any encouragement or advice made by professor(s) to a student to select a major. This variable has a single indicator;
- Friend's influence refers to degree of belief of friends' advice, encourage, coax or persuade involved in choosing a major. This variable has only one indicator.

Accounting Choice Intention refers to a student's trying, planning, and commitment or readiness to choose an accounting major. Because all students in the sample of current study are presently on the way of study accounting major, therefore, the

intention refers to *present-directed* intention in the concept of Bratman (1984). This endogenous variable consists of four reflective indicators such as having a specific goal, commitment, planning and intentionally chosen. All of the four reflective indicators are elicited from Ajzen (2006), Cohen and Jevesque (1990), and Tayor and Todd (1995).

Using Accounting as Career refers to actions of usage the major as career in the future period. All students in the sample will complete their degree in next few years, so these actions are regarded as *future-directed* intention as indicated by Bratman (1984) in the above literature review. This endogenous variable is measured by three reflective indicators, which include future intention of use or employ, plan to develop, and loyalty to the career. Those four reflective indicators were elicited from the concept of Bratman (1984), and Harrison et al. (1985), and then those indicators were adapted to meet the requirements of this study.

3.5 Variables Measurement

Thirty six indicators or observed variables were used to measure 8 exogenous and 4 endogenous variables. All scales were measured using a 7-point Likert scale anchored with the statements 1= strongly disagree or not influence at all, 4= "neutral", and 7= strongly agree or extremely influential.

4. Data Analysis
4.1 Data screening

A multiple regression is very sensitive to *outliers*. Checking for extreme scores should be part of the initial data screening process (Pollant, 2010). Tabachnick and Fidell (2007)suggest using an alpha level of .001 for the data screening. The 416 dataset were coded and saved into SPSS version 18 and then analyzed using AMOS version 18. During the process of data screening for outliers, eighteen dataset were deleted due to Mahalanobis distance value more than the $\chi 2$ value ($\chi 2$=67.987; n=36, p<0.001) leaving 398 dataset to be subsequently analyzed. Several statistical tests were then conducted to assess the measurement model, such as construct validity (e.g., convergent and discriminant validity). Construct reliability using confirmatory factor analysis (CFA), then descriptive statistic was also conducted to describe means and standard deviation of each construct. Finally, structural equation modeling (SEM) was used to evaluate significant structural relationship between underlying constructs with AMOS 18.

4.2 Preliminary Analysis

On the sample, 64.8% sophomore students and 35.2% junior students; 23% of the subjects are male and 77% female; 13.1%, 72.1% and 14.8% of the students live in

low income, medium income and high income family respectively; and 45.5% of the students are living in Phnom Penh Capital and 54.5% , come from in provinces.

4.3 Descriptive Analysis

The research framework consists of eight exogenous in which three exogenous variables are measured by single indicator. In contrast, other five exogenous and four endogenous variables, have at least three indicators per variable. The means of eight exogenous variables range from 2.85 to 5.03. Job Availability exogenous variable has the highest score of 5.03; meanwhile Friend's Influence exogenous variable has the lowest score of 2.85.

Table 4.1 Descriptive Statistics

		Item	Mean	SD
Exo1	Job Availability	3	5.03	.75
Exo2	Job Security	3	4.74	.83
Exo3	Job Earning	3	4.83	.88
Exo4	Professional Prestige	4	4.93	.82
Exo5	Genuine Interest	3	4.91	.96
Exo6	Parent's Influence	1	4.47	1.34
Exo7	Professor's influence	1	3.43	1.47
Exo8	Friend's Influence	1	2.85	1.34
Endo1	Attitude toward the Acc.	4	5.01	.933
Endo2	Social Influence	3	4.09	.96
Endo3	Acc. Choice Intention	4	5.20	.86
Endo4	Using Acc. as Career	3	5.12	.90

4.4 Measurement Model

Structural equation modeling (SEM) is a procedure to analyze structural model containing latent variables. It can be thought of as the union of confirmatory factor analysis (CFA) and path analysis, in which CFA procedures are used in testing the (convergent) validity of the indicator variables (Meyers, Gamst, & Guarino, 2013). Once it is known that the measurement model is operating adequately, one can then

have more confidence in findings related to the assessment of the hypothesized structural model (Byrne, 2001). There are three measures to estimate convergent validity: factor loading, average variance extracted (AVE) and reliability. Factor loadings are the first thing to look at in examining the convergent validity in CFA process (Paswan, 2009). Guidelines for all loadings should be at least .5, and preferably .7 or higher (Byrne, 2001; Hair, Balck, Babin, Anderson, & Tatham, 2006; Paswan, 2009). Table 4.2 shows that no loading factor is below .70. All loading factors are significant as required for convergent validity. The lowest factor loading is .771 (JA1). This partially confirms that the convergent validity is supported.

Table 4.2 Factor Loading, VE and CR for Career Choice Model

	JA	JS	JE	PP	GI	AA	SI	AI	UC	R^2	Delta
JA3	.775									.601	.399
JA2	.801									.642	.358
JA1	.771									.594	.406
Total	**2.347**									**1.837**	**1.193**
JE3		.854								.729	.271
JE2		.827								.684	.316
JE1		.904								.817	.183
Total		**2.585**								**2.230**	**.770**
JS3			.785							.616	.384
JS2			.850							.722	.277
JS1			.869							.755	.245
Total			**2.504**							**2.093**	**.906**
PP4				.867						.752	.248
PP3				.834						.696	.304
PP2				.827						.684	.316
PP1				.833						.694	.306
Total				**3.361**						**2.826**	**1.161**
GI3					.836					.699	.301
GI2					.834					.696	.304
GI1					.870					.757	.243
Total					**2.540**					**2.152**	**.848**

AA1							.868			.753	.247
AA2							.863			.745	.255
AA3							.865			.748	.252
AA4							.804			.646	.354
Total							**3.400**			**2.892**	**1.108**
SI1								.864		.746	.254
SI2								.855		.731	.269
SI3								.877		.769	.231
Total								**2.596**		**2.246**	**.754**
AI4									.832	.692	.308
AI3									.832	.692	.308
AI2									.851	.724	.276
AI1									.847	.717	.283
Total									**3.362**	**2.825**	**1.175**
UC1										.829	.687	.313
UC2										.867	.752	.248
UC3										.860	.740	.260
Total										**2.556**	**2.179**	**.821**
AVE	.612	.743	.698	.706	.717	.723	.749	.708	.700		
CR	.822	.897	.874	.907	.884	.913	.899	.906	.888		

4.4.1 Discriminant Validity of Constructs

Notably, parent's, professor's and friend's influence, have only a single indicator. Their each factor loading cannot be used to estimate construct reliabilities (CR) and variance extracted (VE). All other remaining factor loadings or standardized regression weights were used to estimate CR and VE. As the rule of thumb for a construct reliability estimate is that .7 or higher suggests good reliability. High construct reliability (CR) indicates that internal consistency exists. This means the measures all are consistently representing something (Paswan, 2009), meanwhile the AVE estimate is the average amount of variation that a latent construct is able to explain in the observed variables to which it is theoretically related (Forrel, 2009). An AVE of .5 or higher indicates adequate convergent validity. An AVE of less than .5 indicates that on average, there is more error remaining in the items than there is variance explained by the measuring latent factor structure (Paswan, 2009).The

estimated value of AVE for each construct is used to compare with the shared variance (i.e., square of the correlation) between constructs. If the AVE of each construct is greater than its shared variance with any other construct, discriminant validity is supported (Formel & Larcker, 1981). Table 4.2 shows that each CR value is greater than .70, which means that construct reliability is supported and each value of AVE is also greater than its corresponding correlation squares (Table 4.3). Therefore, discriminant validity is also supported or no problem of multicollinearity exists (Bryne, 2001).

Table 4.3 Correlation and Correlation Square Matrix and AVE

	JA	JE	JS	PP	GI	AA	SI	AI	UC	**AVE**
Job Availability (JA)	1	.591 (.349)	.704 (.496)	.648 (.420)	.466 (.217)	.607 (.368)	.274 (.075)	.510 (.260)	.320 (.102)	**.612**
Job Earning (JE)	591 (.349)	1	.554 (.307)	.753 (.567)	.572 (.327)	.621 (.386)	.111 (.012)	.474 (.225)	.344 (.118)	**.743**
Job Security (JS)	.704 (.496)	.554 (.307)	1	.624 (.389)	.436 (.190)	.555 (.308)	.168 (.028)	.428 (.183)	.250 (.062)	**.698**
Professional Prestige (PP)	.648 (.420)	.753 (.567)	.624 (.389)	1	.707 (.500)	.691 (.477)	.137 (.019)	.491 (.241)	.318 (.101)	**.706**
Genuine Interest (GI)	.466 (.217)	572 (.327)	.436 (.190)	.707 (.500)	1	.619 (.383)	.084 (.007)	.521 (.271)	.444 (.197)	**.717**
Attitude toward the Acc. (AA)	.607 (.368)	621 (.386)	.555 (.308)	.691 (.477)	.619 (.383)	1	.222 (.049)	.752 (.566)	.532 (.283)	**.723**
Social Norm (SI)	.274 (.075)	.111 (.012)	.168 (.028)	.137 (.019)	.084 (.007)	.222 (.049)	1	.075 (.006)	.153 (.023)	**.749**
Acc. Choice Intention (AI)	510 (.260)	.474 (.225)	.428 (.183)	.491 (.241)	.521 (.271)	.752 (.566)	.075 (.006)	1	.753 (.567)	**.708**
Using Acc. as Career (UC)	.320 (.102	.344 (.118)	.250 (.062)	.318 (.101)	.444 (.197)	.532 (.283)	.153 (.023)	.753 (.567)	1	**.700**

4.4.2 Goodness of Fit Indices

There are dozens of model fit indices described in the structural equation modeling (SEM), and new indices are being developed all the time. Meyers et al. (2013)

suggest that a set of fit indices should be reported: chi-square (χ^2), goodness of fit index (GFI), the root mean square error of approximation (RMSEA), comparative fit index (CFI), and norm fit index (NFI), as fit measure, whereas Kline (2005) strongly suggested that a minimal set of fit indices that should be reported and interpreted when reporting the result of SEM analysis.
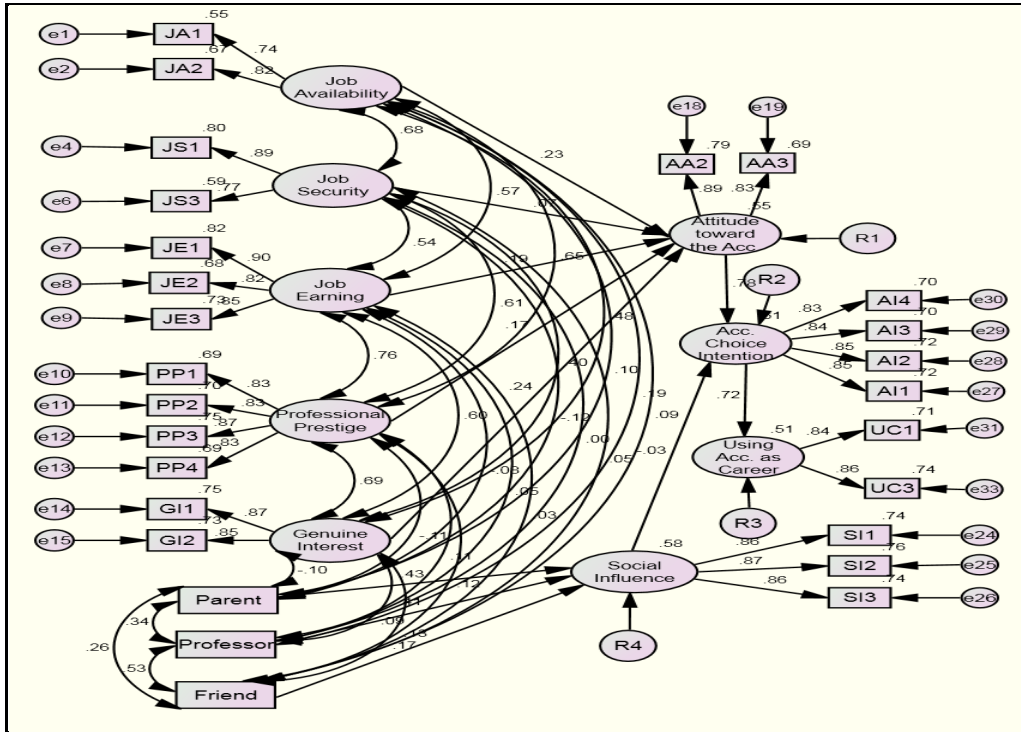

Figure 4.1 Hypothesized Model

Table 4.4 Goodness of Fit Indices for (CFA) Model (N=398)

Test	Index Values (30 items)
CMIN(χ^2)	299.271
df	216
CMIN/df	1.386
p-value	.00
GFI	.942
SRMR	.027
RMSEA	.031
CFI	.987

These statistics include χ^2, RMSEA, CFI and standardized root mean square residual (SRMR). Therefore, the study follows those authors' suggestion and the assessment criteria for those indices are based on a guidance provided by Sivo, Fan, Witta, and

Willse (2006); and Meyers et al. (2013). Table 4.4 and Table 4.5 shows that the goodness of fit indices for CFA and hypothesized model respectively.

Table 4.4 reveals that the measurement model is relatively goodness of fit indices after completing CFA process, e3, e5, e16, e17, e20, and e3 were deleted, resulted in a chi square of 299.271; CMIN/df ratio of 1.6386 (<2); GFI of .942 (>0.90); CFI of .987 (>.95); SRMR of .027 (<.05); RMSEA of .031 (<.08).

4.5 Structural Model

Since the proposed model (Figure 3.1 in section 3) did not achieve model fit; hence, the fitting process was continued to achieve the fitness criteria as shown in Figure 4.1. Initially, the model appeared to be relatively good, but the path analysis reveals that social factor was not significant. Thus, this construct would be removed from the model results in re-estimated model as shown in Figure 4.2.

From output of the re-estimated model (Figure 4.2), it is noted that the path between Job Security variable and Attitude toward the Accounting variable was insignificant, therefore, this path would be removed from the model, which results in re-specified (final) model as shown in Figure 4.3.
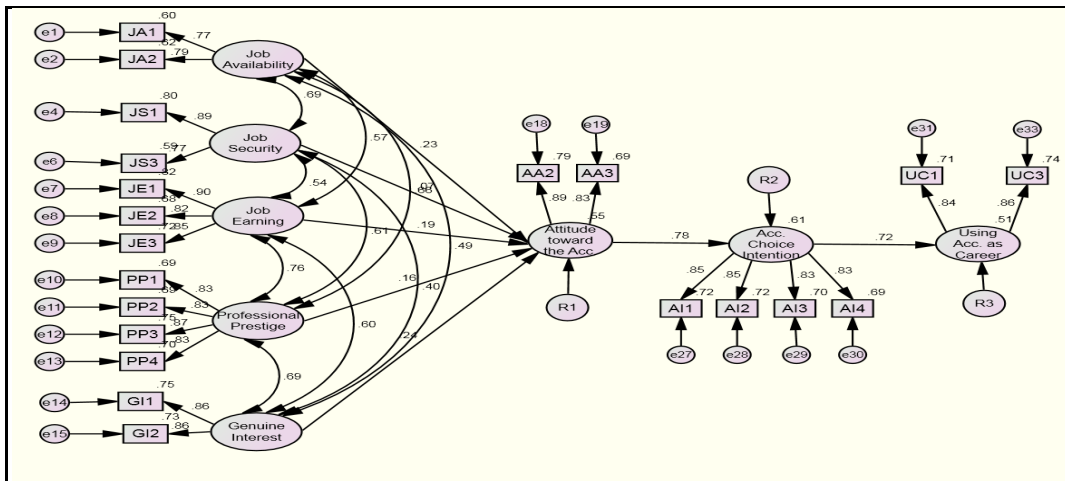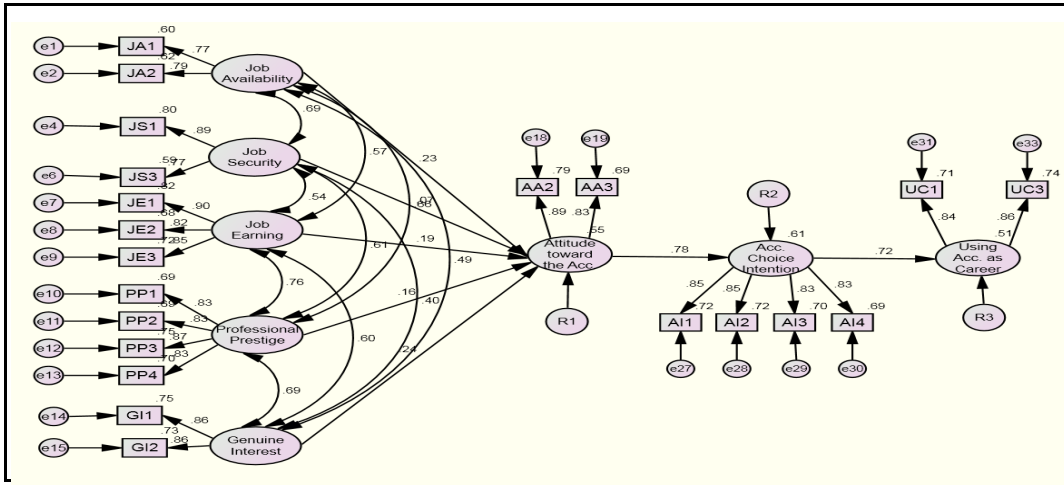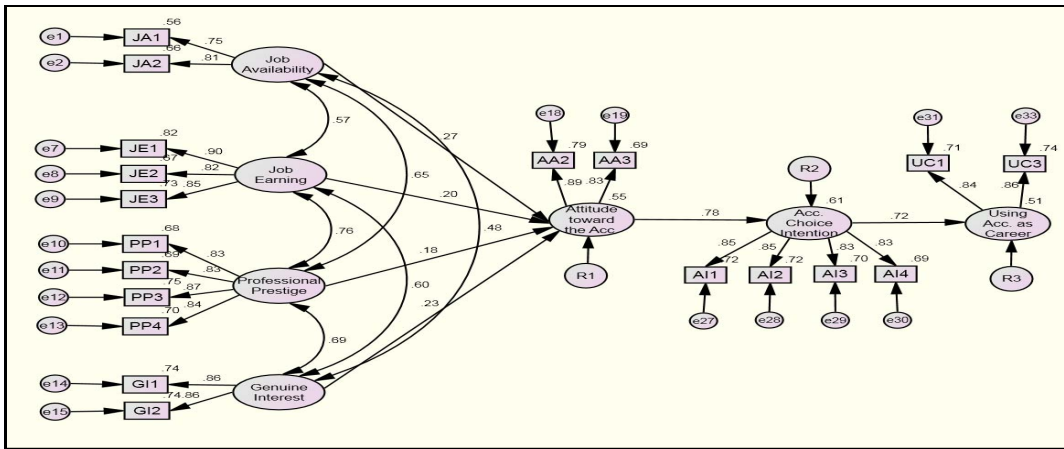
Figure 4.2 Re-estimated Model

Figure 4.3 Re-specified Model

Table 4.5 Goodness of Fit Indices for Re-specified (final) Model (N=398)

Test	Index Values (remaining 19 items)
CMIN (χ^2)	239.150
df	140
CMIN/df	1.441
p-value	.00
GFI	.950
SRMR	.028
RMSEA	.033
CFI	.988

Table 4.6 Path Relationships between Exogenous and Endogenous and R^2

Regression Weights			Est.	S.E.	C.R.	P
Attitude toward the Acc.	<---	Job Availability	.400	.103	3.87	***
Attitude toward the Acc.	<---	Job Earning	.222	.083	2.68	.007
Attitude toward the Acc.	<---	Professional Prestige	.200	.104	1.93	.054
Attitude toward the Acc.	<---	Genuine Interest	.250	.073	3.45	***
Acc. Choice Intention	<---	Attitude toward the Acc.	.708	.047	14.98	***
Using Acc. as Career	<---	Acc. Choice Intention	.701	.055	12.78	***
Squared Multiple Correlations						
Attitude toward the Acc.			.55			
Acc. Choice Intention			.61			
Using Acc. as Career			.51			

*** p < 0.001

Table 4.6 shows the relationship between exogenous and endogenous variables of re-specified (final) model. From this table, it is noted that Accounting Choice Intention variable has a significantly positive influence on Using Accounting as Career variable with a high beta of .701 (p < .001) and with R^2 of .51; Attitude toward Accounting variable has a significantly positive influence on Accounting Choice Intention with the highest beta of .708 (p < .001) and with R^2 of .61, whereas Job Availability, Genuine Interest, and Job Earning variables have low positive influence on Attitude toward Accounting. They have each beta of .400 (p < .001); of .250 (p < .001) and of .222 (p < .10), respectively. Finally, Professional Prestige variable has low influence on Attitude toward Accounting with its beta of .138 (p < .10). The later four variables explained Attitude toward Accounting variable about 55 percent (R^2=.55). From the Table 4.6, it is also noted that the path between Job Availability and Attitude toward the Accounting is insignificant. This variable was removed from the analysis, which results in final model as shown in Figure 4.3.

Table 4.7 Summary of Hypothesis Analysis for the Whole Model

	Hypotheses	Decision
H$_1$	Job Availability is positively influenced Attitude	Support

H$_2$	Job Security is positively influenced Attitude	Do not support
H$_3$	Job Earning is positively influenced Attitude	Support
H$_4$	Professional Prestige is positively influenced Attitude	Support
H$_5$	Genuine Interest is positively influenced Attitude	Support
H$_6$	Parent is positively influenced Social Norm	Do not support
H$_7$	Professor(s) is positively influenced Social Norm	Do not support
H$_8$	Friend(s) is positively influenced Social Norm	Do not support
H$_9$	Attitude is positively influenced Intention	Support
H$_{10}$	Social Norm is positively influenced Intention	Support
H$_{11}$	Intention is positively influence Using Accounting Major as Career	Support

From Table 4.7 it is noted that there are seven hypotheses, which include H$_1$, H$_3$, H$_4$, H$_5$, H$_9$, H$_{10}$ and H$_{11}$, supported. However, other four hypotheses, such as H$_2$, H$_6$, H$_7$ and H$_8$, are not supported by the current study.

5. Discussion and Conclusion

Discussion and conclusion of the current study are divided into two folds. First is about the factors influenced accounting major selection, and second is about the application of the TRA theory.

5.1 Factors Influence Accounting Choice

As much as business owners, public policy makers, students themselves and their parents have been concerned about the recent increase in accounting enrollments that will result in high unemployment rate and in negative impact on macro economy as well, little research has been reported to have systematically investigated this issue. As indicated early, the study presented in this paper applied the TRA framework to examine the factors underlying undergraduate students' intention to choose an accounting major. It also explored how the students' intention affected the future usage of accounting as career within the TRA framework. In these efforts, the study contributed to deepening understanding of accounting enrollments by proposing and verifying a theoretical framework, by identifying the important factors, and then testing those factors within the framework to see what influenced factors are. The

results of the current study reveal that job availability to be the most important influential factor. This may result from the worrying of student in the survey about job finding opportunity in narrow labor market in this country. This finding consists with the result of a study by Roach et al. (2011), who has conducted a research on factors influenced selection of business major. Data were collected from Southern University (U.S.A) in late 2009 and early 2010, a time during economic recession. The authors indicated that student career choices may be influenced by economic conditions. However, this finding is not consistent with various authors who studied on factors influenced accounting major selecting before the world financial crisis; for example,Sugahara and Boland (2006) and Zhang (2010). The concern about job availability or opportunity of current study ranks from the expectation of job demand in the market after graduating to an opportunity to run own business. This finding is not unique, as most prior studies have shown job availability to be the most important influence on student choice of major. The study also found that genuine interest to be an important factor. This finding supports the previous studies by Sugahara and Boland (2006), Zhang (2010). The nature of that "interest" can be a major interest itself, a student feels interested in and regards it more important than other business majors. Meanwhile, job earning and professional prestige were seen to be low influenced on the major selection whereas job security was insignificant. This probably results from the great concern for the job availability, which is dominant over the three factors.

5.2 The Theory of Reasoned Action (TRA)

The research model based on the TRA demonstrated considerable explanatory power. As the TRA predicts future usage of accounting as career affected accounting choice intention with an explained power of 51 percent. The choice intention, in turn, was influenced only by attitude toward choosing with an explained power of 61 percent, where social norm factor had no influence on the attitude. The decrease in 10 percent of a correlation from the choice intention to future usage of the career may result from low commitment after students in the sample had taken few years in the accounting program. Lastly, the attitude was affected by job availability, genuine interest in subject, job earning and professional prestige with an explained power of 55 percent. Notably, job security variable was not significant. This probably came from the fact that the job availability and job earning are the primary rather than job security is the first concern.

Even social variable was not significantly influenced the choice intention, but all other remaining factors did. The choice intention, in turn, well predicted the future usage commitment of accounting career. All factors had positive correlations with the choice intention that in turn had positive correlations with future usage of the career as the TRA promises. This can be concluded that the TRA framework is supported by the current study.

6. Model Diagnostics

There are three assumptions to be checked in the current study. Firstly, model diagnostics can be checked through Standardized Residual (SR) if any value of SR exceeds absolute value of 4.0 suggests problem (Hair et al., 2006; Paswan, 2009). The result of the study revealed that no residual covariance was greater than $|4|$; therefore, the model diagnostics is confirmed the null of homoscedasticity. Secondly, after SR had been checked and the normality was also conducted, the covariance residuals show the critical ratio (cr) value of multivariate normality of 1.35, which was smaller than 2.58, and then it can be concluded that the null hypothesis of normality was failed to reject (Kline, 2005). This means that the dataset in the current study was not violated normal assumption. Finally, as noted early in section 4.6, each of average variance extracted (AVE) values was greater than its corresponding correlation square; a conclusion can be reached that no problem of collinearity was present. In sum, the whole model and all significant paths were reliable.

7. Limitations and Implication for Future Research

The present study is not without its own limitations. First of all, the data used for the reported study have been collected from a largest business public school in Cambodia, which can't make the generalizability of the findings. Second, the application of the TRA framework in this study is not perfect. Some compromises have to be made; TRA includes negative and positive factors in the model, but the current study includes only positive one because the problem of the study has increased in enrollments of business students in accounting field rather than decreased problems; therefore, all negative factors, such as difficulty in curriculum, in major, and workload, are excluded from the study. Third, other factors like personality parental occupation and the socioeconomic status of students' families are also excluded from the model because they may not relate to the TRA.

Despite all these limitations, the findings from this study hold important implications, and this study also excludes other factors that may not relate to TRA; for rethinking our efforts, first, future research should include data from multiple business schools with different characteristics in different geographic and/or cultural areas. Second, future research should also include negative factors and demographic data to the TRA model.

REFERENCES

Ajzen, I. (1991). The Theory of PLanned Behavior. *Organizational Behavior and Human Decision Process, 50*, 179-211.

Ajzen, I. (2006). The Theory of Planned Behavior, Retrieved December 2013, available from http://www.people.umass.edu/aizen

Bratman, M. (1984). TWO FACES OF INTENTION *The Philosophical Review, 93*(3).

Byrne, B. M. (2001). *Sructural Equation Modeling With Amos: Basic Concepts, Applications, and Programming*. Mahwah, New Jersey, USA: Lawrence Erlbaum Associates, Inc.

CEDEFOP. (2009). Skill mismatch Identifying priorities for future research: Cedefop research arena (Cedra). *Cedefop working paper No 3*.

Chen, C., Jones, K. T., & McIntyre, D. D. (2005). A Reexamination of the Factors Important to Selection of Accounting as a Major. *Accounting and the Public Interest, 5*, 14-31.

Chin-Shan, L. a., Kee-hung, L., & Cheng, T. C. E. (2007). Application of structural equation modeling to evaluate the intention of shippers to use Internet services in liner shipping. *European Journal of Operational Research 180*, 845-867.

Cho, J., Jones, S., & Olsen, D. (2008). An Exploratory Study on Factors Influencing Major Selection. *Issue in Information Systemt 9*(1), 168-175.

Cohen, P. R., & Jevesque, H. J. (1990). Intention Is Choice with Commitment. *ARTIFICIAL INTELLIGENCE, 42*, 213-261.

Crampton, W. J., Walstrom, K. A., & Schambach, T. P. (2006). FACTORS INFLUENCING MAJOR SELECTION BY COLLEGE OF BUSINESS STUDENTS. *Issue in Information Systems, 7*(1), 226-230.

Downey, J. P., McGaughey, R., & Roach, D. (2011). Attitudes and Influences toward Choosing a Business Major: The Case of Information Systems. In D. Banks (Eds). *Journal of Information Technology Education, 10*.

Fogg, N. P., & Harrington, P. E. (2009). From Labor Shortage to Labor Surplus: The Changing Labor Market Context and Its Meaning for Higher Education. *Continuing Higher Education Review, 73*.

Formel, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50.

Forrel, A. M. (2009). Factor Analysis and Discriminant Validity: A Brief Review of Some Practical Issues. *Retrieved December 2013 from www.duplication.net.au/.../papers/ANZMAC2009-389.pdf*.

H.E.Chounnaron, H. (2013). Speech: Reform Priority of Education Youth and Sports (2013-2018). National Institute of Education and Economy.

Hair, J. F., Balck, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Mutivariate Data Analysis (6ᵗʰ ed.)*. New Jersey, USA: Peasion Prentice Hall.

Harrison, W., Thompson, V., & Rodgers, J. L. (1985). Robustness and Sufficiency of the Theory of Reasoned Action in Longitudinal Prediction. *BASIC AND APPLIED SOCIAL PSYCHOLOGY, 5*(1), 25-50.

HED. (2012-2013). *Statistics of Higher Education Institution (unpublished).*

Jackling, B., & Keneley, M. (2009)**.** Influences on the supply of accounting graduates in Australia: a focus on international students. *Accounting and Finance, 49*, 141-159.

Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling (2^{nd} ed.)*. New York: Guilford.

Kuechler, W. L., McLeod, A., & Simkin, M. G. (2009). EMPIRICAL RESEARCH: *Why Don't More S*tudents Major in IS. *Journal of Innovative Education, 7*(2), 463-488.

Lefebvre, R., Simonova, E., & Wang, L. (2012). Issue in Focus: Labour Shortages in Skilled Trades– The Best Guestimate? (Vol. Report). Canada: the Certified General Accountants Association of Canada.

Li, L., & Thomson, N. (2011). WHY BUSINESS STUDENTS SELECT MIS AS THEIR MAJOR – AN EMPIRICAL EXAMINATION. *Proceedings of the Southern Association for Information Systems Conference,*, 109-112.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2013). *Applied Multivariate Research: Design and Interpretation (2^{nd} ed.)*. USA: SAGE Publication, Inc.

Muse, L. A., & Stamper, C. L. (2007). Perceived Organizational Support: Evidence for a Mediated Associadon with Work Performance. *JOURNAL OF MANAGERIAL ISSUES, 19*(4), 517-535.

Myburgh, J. (2005). An empirical analysis of career choice factors that influence first-year Accounting students at the University of Pretoria: A cross-racial study. *Meditari Accounting Research, 13*(2), 35-48.

Papu, R. (2000). Factors Underlying Distance Education Marketing Students' Choice of Marketing Major: Preliminary Results Of An Empirical Study In The AUstralian Higher Education Sector. *Visionnary Marketing for the 21th Century: Facinf the Challenge*(933-938).

Paswan, A. (2009). Confirmatory Factor Analysis and Structural Equations Modeling: An Introduction. *[Power Piont slides]. Retrieved From www.cob.unt.edu/.../paswan/.../CFA-SEM%20-%20Intro-M*.

Pollant, J. (2010). *Survival Manual*. Finland: McGraw Hill.

Roach, D. W., McGaughey, R. E., & Downey, J. P. (2011). SELECTING A BUSINESS MAJOR WITHIN THE COLLEGE OF BUSINESS. *Administrative Issue Journal Education, Practice and Research, 2*(1), 107-121. doi: doi: 10.5929/2011.2.1.7

Sivo, S. A., Fan, X., Witta, E. L., & Willse, J. T. (2006). The Search for "Optimal" Cutoff Properties: Fit Index Criteria in Structural Equation Modeling. *The Journal of Experimental Education, 2006, 74*(3), 267-288.

Strasser, S. E., Ozgur, C., & Schroeder, D. L. (2002). Selecting a Business College Major: An Analysis of Criteria and Choice Using the Analytical Hierarchy Process. *Business Education, 17*(2).

Sugahara, S., & Boland, G. (2006). The Role of Perceptions Toward the Accounting Profession by Japanese Tertiary Business Students in the Process of Career Choice. *Papers of the Research Society of Commerce and Economis, 47*(2), 127-154.

Sugahara, S., & Boland, G. (2009). The Accounting Profession as a Career Choice for Tertiry Business Students in Japan-A Factor Analysis. *Accounting Education, 18*(3), 255-272.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics*. The United States: Pearson Eduction Inc.

Tayor, S., & Todd, P. A. (1995). Understanding Information Technology Usage. *Information Systemt Research, 6*(2), 144-176.

Vincent, P. C., Peplau, L. A., & Hill, C. T. (1998). A Longitudinal Application of the Theory of Reasoned Action to Women's Career Behavior'. *Journal of Applied Social Psychology, 28*(2), 761-778.

Walmsley, A., Wilson, T., & Morgan, C. (2010). Influences on a College Student's Major: A Developmental Perspective. *Journal for the Liberal Arts and Sciences, 14*(2).

Zakaria, M., Fauzi, W. N. A. W., & Hasan, S. J. (2012). Accounting as a Choice of Academic Program. *Journal of Business Administration Research, 1*(1), 43-52. doi: 10.5430/jbar.v1n1p43

Zhang, W. (2010). Why IS: Understanding Undergraduate Students' Intentions to Choose an Information Systems Major. *Journal of Information Systems Eduction, 18*(4), 448-458.

IMPACT OF TAX REVENUE ON
THE ECONOMIC GROWTH OF CAMBODIA

Dr. CHHUN Rady[15]

Abstract

The study examines the impact of tax revenue on the economic growth of Cambodia. To achieve this objective, relevant secondary data were collected from the Economic and Public Finance Policy Department, Ministry of Economic and Finance. The data collected from the secondary sources were analyzed using relevant econometric models such as Augmented Dickey-Fuller, Diagnostic Tests, Engel and Granger test for Co-integration, and Error Correction Model. The results from the various test shows that tax revenue is positively and significantly related to economic growth. On the basis of the findings, the study concluded that tax revenue improves the revenue generating machinery of government to undertake socially desirable expenditure that will translate to economic growth in real output.

Key words: *Tax Revenue, Direct Tax, Indirect Tax, International Trade Tax, Economic Growth, Cambodia.*

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[15] Dr. CHHUN Rady, Chair of IT Department, National University of Management

1. Introduction

Tabansi (2001) stated that taxation is the system of imposing levy by the government against the income, profit or wealth of the individual, partnership and corporate organization. The tax system is an opportunity for government to collect additional revenue needed in discharging its pressing obligations. A tax system offers itself as one of the most effective means of mobilizing a nation's internal resources and it lends itself to creating an environment conducive to the promotion of economic growth (Onaolapo el al.,2013). So, tax is a major player in every society of the world and it lends itself to creating an environment conducive to the promotion of economic growth (Azubike , 2009). And, Success el al. made a remark that the economic growth proxied by GDP. Moreover, Appah and Oyandonghan (2011) stated that tax is a compulsory levy imposed on a subject or upon his property by the government to provide security, social amenities and create conditions for the economic well-being of the society. Therefore, the political, economic and social development of any country depends on the amount of revenue generated or the provision of infrastructure in that given country.

Tax are imposed to regulate the production of certain goods and services, protection of infant industries, control business and curb inflation, reduce income inequalities etc (Anyanwu, 1997). Azubike (2009) stated that tax is a major source of government revenue all over the world. Government use tax proceeds to render their traditional functions, such as the provision of public goods, maintenance of law and order, defense against external aggression, regulation of trade and business to ensure social and economic maintenance. In addition, the economic effects of tax include micro effects on the distribution of income and efficiency of resource use as well as macro effect on the level of capacity output, employment, prices, and growth (Musgrave and Musgrave, 2004). Oyebode (2010) also stated that most economy relies on income from taxation for it development. Aside from its uses as a means of raising government revenue, taxation is also often used as an instrument of regulating the economy. In Cambodia, tax is divided into three parts that are direct taxes, indirect taxes, and international trade taxes and they had increased in amounts from year to year. In this case, total tax revenue as percentage of GDP from 2001 to 2009 has increased from 7.2% to 10.1% (report of the economic and public finance policy department, Ministry of Economic and Finance, 2010). Therefore, the objective of this study is to examine the impact of tax revenue on the economic growth of Cambodia (2001-2009). To achieve this objective, the study is divided into five interconnected sections. The next section examines the literature review of taxation and economic growth; the third section contains the methodology and data analysis used in the study. The fourth section examines the results and discussions. The final section examines the conclusion and recommendations.

2. Literature Review

Nature and scope of taxes: The achievement of economic growth is an very important goal for government. To achieve this goal, requires economic policy (Olawunmi and Ayinla, 2007). So, fiscal and monetary policy instruments are the main instruments of achieving this goal. The main fiscal policy instruments are taxation and taxation as the compulsory transfer or payment (or occasionally of goods and services) from private individuals, institutions or groups to the government (Anyanwu, 1997). According to Jhingan (2004), the main purpose of tax is to raise revenue to meet government expenditure and to redistribute wealth and management of the economy. Nzotta (2007) indicated that the four key issues must be understood for taxation to play its functions in the society. First, a tax is a compulsory contribution made by the citizens to the government and this contribution is for general common use. Secondly, a tax imposes a general obligation on the tax payer. Thirdly, there is a presumption that the contribution to the public revenue made by the tax payer may not be equivalent to the benefits received. Finally, a tax is not imposed on a citizen by the government because it has rendered specific services to him or his family. Therefore, a good tax structure plays a multiple role in the process of economic development of any nation (Appah, 2010).

Taxes generally have allocational, distributional and stabilization functions. The allocation function of taxes entails the determination of the pattern of production, the goods that should be produced, who produces them, the relationship between the private and public sectors and the point of social balance between the two sectors. The distribution function of taxes relates to the manner in which the effective demand over economic goods is divided, among individuals in the society (Nzotta , 2007). Also, Anyanwu (1993) stated that there are three basic objectives of taxation. These are to raise revenue for the government, to regulate the economy and economic activities and to control income and employment. Moreover, the distribution function deals with the distribution of income and wealth to ensure conformity with what society considers a fair or just state of distribution. The stabilization of function of taxes seeks to attain high level of employment, a reasonable level of price stability, an appropriate rate of economic growth, with allowances for effects on trade and on the balance of payments (Musgrave and Musgrave , 2004). On the contrary, Nwezeaku (2005) stated that the scope of these functions depends, inter alia, on the political and economic orientation of the people, their needs and aspirations as well as their willingness to pay tax. Thus the extent to which a government can perform its functions depend largely on the ability to design tax plans and administration as well as the willingness and patriotism of the governed.

Empirical studies: Several empirical studies have been conducted on the impact of taxes on economic growth. Otu el al.(2013) in a study of the effect of tax revenue on economic growth in Nigeria (1970 – 2011), the result obtained shows that tax revenue

has positive effect on economic growth in Nigeria. Anyanwu (1997) in his study of the effects of taxes on Nigeria's GDP/Economic Growth (1981-1996) reveal that companies' income tax positively and significantly affects GDP. Addition, in study of economic growth of tax changes in OECD countries from 1980 to 1999 reveal that economic growth measured by GDP per capita has a significant effect on the tax mix of the OECD countries. The analysis reveals that different taxes respond to the growth of the GDP per capita. It is shown that while the shares of personal and property taxes have responded positively to economic growth, shares of the payroll and goods and services taxes have shown a relative decline (Tosun and Abizadeh , 2005). Hubert (2011) in a study of the tax policy and economic growth in Jamaica, the result is that increasing revenue from indirect tax is more conductive to economic growth in long run. Worlu and Emeka (2012) in their study of the tax revenue and economic development in Nigeria, showed that tax revenue stimulates economic growth through infrastructural development. This means that tax revenues can only materialize its full potential on the economy if government can come up with fiscal laws and legislations and strengthen the existing ones in line with macro economic objectives, which will check-mate tax offenders in order to minimize corruption, evasion and tax avoidance. According to Masood el al. (2010) that studied the tax revenue and economic growth in Pakistan, found that the direct tax to GDP ratio granger causes the real GDP growth significantly, which implies that a higher level of direct tax will foster the real growth. G.N. Ogbonna and Appah Ebimobowei (2012) in their study the impact of tax reforms and economic growth of Nigeria, showed that tax reforms have significantly altered the way the system and their agencies function resulting in improved impacts on economic growth. It means that tax reforms improves the revenue generating machinery of government to undertake socially desirable expenditure that will translate to economic growth in real output and per capita basis. E.E. Chigbu el al (2012) in a study of the an empirical study on the causality between economic growth and taxation in Nigeria, reveals that taxation as an instrument of fiscal policy affects the economic growth and taxation granger cause economic growth of Nigeria.

3. Methodology and Data Analysis

In applying this study, time series data sourced from Economic and Public Finance Department, Ministry of Economic and Finance were used in this study. The macroeconomic data cover tax revenue (TR) and Economic Growth (EG) for the period 2001 to 2009 in Cambodia.

Data analysis techniques are used in this research consists of sample regression analysis. The specification shall be:

$$LnGDP_t = \beta_0 + \beta_1 LnTTR_t + u_t \quad (1)$$
$$LnGDP_t = \beta_0 + \beta_1 LnDT_t + u_t \quad (2)$$
$$LnGDP_t = \beta_0 + \beta_1 LnIDT_t + u_t \quad (3)$$
$$LnGDP_t = \beta_0 + \beta_1 LnITT_t + u_t \quad (4)$$

GDP = Gross domestic product
TTR = Total tax revenues
DT = Direct tax
IDT = Indirect tax
ITT = International trade tax

Since the data to be used for the analysis is time series, we employed co-integration tests to avoid spurious regression. The first step would be a test of each of the variables for stationarity. The study employs the Phillips–Perron test for unit root. If any of the series is found to be integrated, then a cointegration test will be conducted using The Engel and Granger Test. Therefore, to determine if there exists a long run relationship between dependent and independent variables. If the series are cointegrated, then they will be most efficiently represented by an Error Correction Method which is used to tie the short run behavior to its long run value (Wooldridge, 2013).

4. Result and Discussions

This section provides the results and discussion of the study. The tables below shows the various results from the Stata analysis of the secondary data generated from the from Economic and Public Finance Department, Ministry of Economic and Finance were used in this study. The macroeconomic data cover tax revenue (TR) and Economic Growth (EG) for the period 2001 to 2009 in Cambodia.

4.1 Unit root test

Table 1. Unit Root Test for Tax Revenue and Economic Growth
Using Phillips–Perron unit-root Test

Variable	Only Intercept	With Trend and Intercept
LnGDP		
Level	-0.073 (0.9521)	-2.461 (0.3477)
1st Difference	-0.085 (0.9509)	-3.633** (0.0272)
LnTTR		
Level	-0.160 (0.9431)	-2.121 (0.5341)
1st Difference	-0.169 (0.9421)	-3.640** (0.0266)
LnDT		
Level	-0.748 (0.4908)	-2.523 (0.3163)

1st Difference	-0.621	-4.626***
	(0.8881)	(0.0009)
LnIDT		
Level	-0.369	-2.361
	(0.9152)	(0.4008)
1st Difference	-0.348	-4.088**
	(0.9184)	(0.0066)
LnITT		
Level	-0.484	-2.161
	(0.8950)	(0.5119)
1st Difference	-0.468	-3.642**
	(0.8981)	(0.0265)

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

The results of the Using Phillips–Perron unit-root test are reported in the table 1 given. First the property of the data is checked at level and then first difference is taken to make it stationary. The results of Phillips–Perron unit-root test show that all variables are stationary therefore most appropriate technique for the analysis is co-integration as summarized in Table 1.

4.2 Testing for co-integration

Table 2. Engel and Granger Test for Residual Using Augmented Dickey Fuller Test

Residual – **Model 1**	Only Intercept	With Trend and Intercept
Level	-2.195	-1.976
	(0.2079)	(0.6142)
1st Difference	-2.706*	-3.831**
	(0.0731)	(0.0142)
Residual – **Model 2**	Only Intercept	With Trend and Intercept
Level	-2.300	-1.598
	(0.1719)	(0.7933)
1st Difference	-2.650*	-5.622***
	(0.0831)	(0.0000)
Residual – **Model 3**	Only Intercept	With Trend and Intercept
Level	-2.749*	-2.523
	(0.0660)	(0.3167)
1st Difference	-3.154**	-2.601
	(0.0228)	(0.2794)

Residual – **Model 4**	Only Intercept	With Trend and Intercept
Level	-2.573 (0.0988)	-2.396 (0.3815)
1st Difference	-3.246** (0.0212)	-2.484 (0.3360)

***Test indicates one cointegrating equation at 1% level of significance.

** Test indicates one cointegrating equation at 5% level of significance.

* Test indicates one cointegrating equation at 10% level of significance.

We used Engel and Granger test for co-integration where we estimated an OLS regression, obtained the residuals. In this case the time series are said to be cointegrated and suggests the existence of long-run or equilibrium relationship between them (table 2).

4.3 Long-run relationship

Table 3. Normalized Co-integrating Coefficients

	Model 1	**Model 2**	**Model 3**	**Model 4**
LnTTR	0.7064725*** (0.0368451)			
LnDT		0.5540672*** (0.0432612)		
LnIDT			0.681558*** (0.0312002)	
LnITT				0.844468*** (0.0712327)
Constant	4.76317*** (0.2820088)	7.053847*** (0.2439956)	5.34573*** (0.2209335)	4.71732 *** (0.4599433)
Prob > F	0.0000	0.0000	0.0000	0.0000
Adj R^2	0.9786	0.9532	0.9835	0.9458
Breusch-Pagan test (*p*-value)	0.8687	0.1664	0.7429	0.9299
RESET Test (*p*-value)	0.3602	0.4129	0.6504	0.5195
LM test (*p*-value)	0.6262	0.2494	0.6832	0.8609

*** Significant at the 1% level

Table 3 shows the long-tern relationship between the GDP and tax revenue. All regression model results indicate that the F-value of the model is statistically significant (*P*<0.05). The result depicts the relationship between the dependent variable (GDP) and each independent variables (total tax revenue, direct tax, indirect tax and international trade tax) that meet the entry probability requirement of less or equal to 0.05 (P$\leq$0.05). As a matter of fact, total tax revenue had an adjusted R^2 value of 0.9786 on Cambodia's GDP, which means that 97.86% of the country's

GDP can be explained by total tax revenue. Direct tax had an adjusted R^2 value of 0.9532 on Cambodia's GDP, which means that 95.32% of the country's GDP can be explained by direct tax. Indirect tax had an adjusted R^2 value of 0.9835 on Cambodia's GDP, which means that 98.35% of the country's GDP can be explained by indirect tax. International trade tax had a adjusted R^2 value of 0.9458 on Cambodia's GDP, which means that 94.58% of the country's GDP can be explained by international trade tax.

The result further showed that the four variables, total tax revenue, direct tax, indirect tax and international trade tax had a strong positive correlation with the dependent variable, GDP. This means that the four variables had a strong long-run relationship with the GDP in Cambodia.

The White Heteroskedasticity test above shows that the p-value of about 0.8687, 0.1664, 0.7429, and 0.9299 for model 1, 2, 3, and 4 is more than the critical value of 0.05, that is, we accept that there is no heteroskedasticity. This shows that there is no evidence of heteroskedasticity since the p-value are considerably in excess of 0.05.

The Ramey RESET test shows that the p-value of 0.3602, 0.4129, 0.6504, and 0.5195 is greater than the critical value of 0.05. This shows that there is no apparent non-linearity in the regression equation and it would be concluded that the linear model is appropriate.

The Breusch-Goddfrey Serial Correlation LM test for the presence of autocorrelation. The result of the test shows that the p-value of 0.6262, 0.2494, 0.6832, and 0.8609 is greater than the critical value of 0.05 (5%). This shows the non-existence of autocorrelation.

4.4 The Error Correction Model

$$\Delta LnGDP_t = \alpha_0 + \alpha_1 \Delta LnTTR_t + \alpha_2 u_{t-1} + \varepsilon_t \quad (5)$$
$$\Delta LnGDP_t = \alpha_0 + \alpha_1 \Delta LnDT_t + \alpha_2 u_{t-1} + \varepsilon_t \quad (6)$$
$$\Delta LnGDP_t = \alpha_0 + \alpha_1 \Delta LnIDT_t + \alpha_2 u_{t-1} + \varepsilon_t \quad (7)$$
$$\Delta LnGDP_t = \alpha_0 + \alpha_1 \Delta LnITT_t + \alpha_2 u_{t-1} + \varepsilon_t \quad (8)$$

Table 4 below that shows the error correction estimate .The fact that the variables in our model are cointegrated provides support for the use of an error correction model mechanism (ECM) representation in order to investigate the short run dynamics.

Based on the results in *table 4* indicate that there is positive relationship between the dependent variable (GDP) and each independent variables (total tax revenue and indirect tax) at 5%.

Table 4. Error correction estimate

	Model 5	Model 6	Model 7	Model 8
ΔLnTTR	0.317284** (0.1472427)			
ΔLnDT		0.1786004 (0.2141465)		
ΔLnIDT			0.327491** (0.1391078)	
ΔLnITT				0.2399835 (0.1604088)
u	-0.062402 (0.3950554)	0.0438504 (0.4622369)	-0.1977361 (0.4738515)	-0.1382312 (0.3325288)
ε	0.07371 *** (0.028901)	0.0892796* (0.0462046)	0.068630** (0.0291603)	0.094307** (0.029398)
Prob > F	0.0751	0.3035	0.0585	0.2903
Adj R^2	0.5028	0.1311	0.5503	0.1463
Breusch-Pagan test (*p*-value)	0.9539	0.3955	0.8086	0.7422
RESET Test (*p*-value)	0.6794	0.3818	0.9306	0.7497
LM test (*p*-value)	0.0866	0.1728	0.4667	0.3490

*** Significant at the 1% level
** Significant at the 5% level

Total tax revenue actually had an adjusted R^2 value of 0.5028 on Cambodia's GDP, which means that 50.28% of the country's GDP can be explained by total tax revenue. And, indirect tax had an adjusted R^2 value of 0.5503 on Cambodia's GDP, which means that 55.03% of the country's GDP can be explained by indirect tax.

The result further showed that there are only two independent variables (total tax revenue and indirect tax) had a strong positive correlation with the dependent variable, GDP. This means that these two variables had a strong short-run relationship with the GDP in Cambodia.

The White Heteroskedasticity test above shows that the p-value of about 0.9539, 0.3955, 0.8086, and 0.7422 for model 5, 6, 7, and 8 is more than the critical value of 0.05, that is, we accept that there is no heteroskedasticity. This shows that there is no evidence of heteroskedasticity since the p-value are considerably in excess of 0.05.

The Ramey RESET test shows that the p-value of 0.6794, 0.3818, 0.9306, and 0.7497 is greater than the critical value of 0.05. This shows that there is no apparent non-linearity in the regression equation and it would be concluded that the linear model is appropriate.

The Breusch-Goddfrey Serial Correlation LM test for the presence of autocorrelation. The result of the test shows that the p-value of 0.0866, 0.1728, 0.4667, and 0.3490 is greater than the critical value of 0.05 (5%). This shows the non-existence of autocorrelation.

Table 5. Summary

Variables	Impact	
	Long run	**Short run**
LnTTR	0.7064725***	0.317284**
LnDT	0.5540672***	--------
LnIDT	0.681558***	0.327491**
LnITT	0.844468***	--------

*** Significant at the 1% level

Table 5 shows the summarized results. For the long-run period, one of the four independent variables, the direct tax had the effect (0.5540672) on the GDP, but no effect for short-run period. Then, the international trade tax had the greatest effect (0.844468) for long-run on GDP, but there was no effect for short-run. And, the indirect tax for long-run (0.681558) had more effect on the GDP than short-run (0.327491). The total tax revenue for long-run (0.7064725) had more effect on the GDP than short-run (0.317284). Finally, the direct tax revenue had the least effect (0.5540672) than the other three independent variables such as total tax revenue, indirect tax, and international trade tax for long-run.

5. Conclusion

The study shows that total tax revenue (such as direct tax, indirect tax, and international trade tax) positively affect on economic growth in Cambodia. It means that when the tax revenue increase, economic growth also increase. In addition, the positive relationship between tax revenue and economic growth calls for efficient tax policy to be formulated and implemented so as it to continue to generate the needed revenue for the government. Also revenue collecting authorities of the government should be made more effective in their operations of collecting revenue for the government. Therefore, equally important is the need for the upgrading of revenue collecting technique so as to be able to generate more tax revenue for the government.

REFERENCES

Anyanwu, J.C. (1993). Monetary Economics: Theory, Policy and Institutions. Hybrid Publishers, Onitsha.

Anyanwu, J.C. (1997). Nigerian Public Finance. *Joanne Educational Publishers, Onitsha.*

Appah, E. (2010). The Problems of Tax Planning and Administration in Nigeria: The Federal and State Governments Experience. Int. J. Lab. Organ..Psychol., 4(1-2): 1-14.

Appah, E. and J.K. Oyandonghan. (2011). The challenges of tax mobilization and management in the Nigerian economy. *J. Bus. Admin. Manage., 6(2): 128-136.*

Azubike, J.U.B. (2009). Challenges of tax authorities, tax payers in the management of tax reform processes. *Niger. Account., 42(2): 36-42.*

E.E. Chigbu, Akujuobi, Linus Eze and Appah, Ebimobowei. (2012). An Empirical Study on the Causality between Economic Growth and Taxation in Nigeria. Current Research Journal of Economic Theory 4(2): 29-38.

G.N. Ogbonna and Appah Ebimobowei. (2012). Impact of Tax Reforms and Economic Growth of Nigeria: A Time Series Analysis. Current Research Journal of Social Sciences 4(1): 62-68

Hubert G. Searlett. (2011). Tax Policy and Economic Growth in Jamaica. Bank of Jamaica.

Jeffrey M. Wooldridge. (2006). Introductory Econometrics. 3d ed. Thomson South-Western.

Jhingan, M.L. (2004). Money, Banking, International Trade and Public Finance. Vrinda Publications, New Delhi, India.

Masood Mashkoor, Sohaib Tahya, and Syed Ammad Ali. (2010). Tax Revenue and Economin Growth: An Empirical Analysis for Pakistan. World Applied Sciences Journal 10(11) 1283-1289.

Musgrave, R.A. and P.B. Musgrave. (2004). Public Finance in Theory and Practice. *Tata McGraw Hill, New Delhi, India.*

Nwezeaku, N.C. (2005). Taxation in Nigeria: Principles and Practice. Springfield Publishers, Owerri.

Nzotta, S.M. (2007). Tax evasion problems in Nigeria: A critique. Niger. Account., 40(2): 40-43.

Olawunmi, O. and T.A. Ayinla. (2007). Fiscal policy and Nigerian economic growth. J. Res. Nat. Dev., 5(2).

Onaolapo A. Abdul-Rahamoh, Fasina H. Taiwo, and Adegbite T. Adejare. (2013). The Analysis of the Effect of Petroleum Profit Tax on Nigerian Economy. *Asian Journal of Humanities and Social Sciences (AJHSS) Volume 1 – Issue 1, May 2013 ISSN: 2320-9720*

Otu, Helen Bukie , and Theophilus Oyime Adejumo. (2013). The effects of Tax Revenue on Economic growth in Nigeria (1970 – 2011). *International Journal of*

Humanities and Social Science Invention, ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714.

Oyebode, a. (2010). The role of Taxation During Global Economic Recovery. Retired May 11, 2012. http://www.Nigeriavillagesquare.com/index.php

Success Musa Jibrin, Success Ejura Blessing, and M.S.K Ifurueze. (2012).

Impact of Petroleum Profit Tax on Economic Development of Nigeria. *British Journal of Economics, Finance and Management Sciences 60 September 2012, Vol. 5 (2)*

Tabansi, A.C.O. (2001). Nigerian Taxation for Student. Enugu, A.C. Ochiogu Publishers Limited.

Tosun, M.S. and S. Abizadeh. (2005). Economic growth and tax components: An analysis of Tax changes in OECD. Appl. Econ., 37: 2251-2263.

Wooldridge, J.M. (2013). Introductory Econometrics: A Modern Approach. 5rd Edn., Thomson Higher Education, Mason.

Worlu, Christian N. and Emeka Nkoro. (2012). Tax Revenue and Economic Development in Nigeria: A Macroeconometric Approach. Academic Journal of Interdisciplinary Studies, Vol 1 No 2.

GEARING SERVICE QUALITY INTO PUBLIC TRANSPORTATION: EVIDENCE FROM BUS TRANSPORT SECTOR IN CAMBODIA

Dr. UNG Veasna[16]

Abstract

The Service industry has been an area that radically changed in globalization. This has prompted the transportation sector in Cambodia to pay more and more attention in assessing the overall passengers' perceived service quality that has been viewed as a "foundation" of customer satisfaction. This paper aims to identify components of service quality of Cambodian bus transport service. This research was conducted by descriptive in nature and uses multiple regression to identify the most important factors of passenger satisfaction with the augmented SERVQUAL model and additional two dimensions (culture, and safety and efficiency) which researcher named new model of RACTERS(Reliability, Assurance, Culture, Tangibility, Empathy, Responsiveness, Safety & efficient).Using cross-sectional data with a sample of 698 respondents, the estimation results found that five dimensions (safety and efficient, assurance, empathy, culture and tangibility) have a significant and positive impact on the overall passenger satisfaction, with safety and efficiency dimension being the most important predictor of passenger's satisfaction.

Keywords: *Service Quality, Passenger Satisfaction, RACTERS model, Bus Transport Sector, Cambodia*

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[16]Dr. UNG Veasna, Chair of Tourism and Hospitality Faculty, and research member of National University of Management, Phnom Penh, Cambodia. E-mail: ung_veasna@yahoo.com

1- Introduction

Traveling turns into a piece of life for some individuals that resulted from worldwide economic growth and growing disposable particular personal income (Pan, et al., 2012). Enhancing moving capacity of citizen cannot absent of center part of public mass transportation service that can be regard as survival solutions to the traffic congestion problem in this circumstances (Choocharukul, 2004), as a popular sector of transportation practice through enjoyable journey (Rahaman,2009), most convenience with low costing (Randheer2011), providing economic of scale (Bhatia and Jain, 2009), and reducing the private cars employing in urban (Haron, et al.,2010). And public transport also contributes stress reduction of personal car drivers resulted from growing of traffic jam. Due to Too and Earl (2009) point that an attractive alternative to the car is concentrate on public transport. Furthermore great public transport rendered, i.e. that provides comfort, convenience and reliability, is the indispensable component to a more economical future, and a tricky dream for some urban areas and community. Then, the quality of services offered out in public transportation services are introspect sensitivity in a presented time of globalization, which is confirmed by Randheer, et al., (2011).So public transportation service contributes mostly to solve the communication demand, the employment problems, saving cost of individual, reducing traffic jam, the threat of global warming alleviation, as well as decreasing air pollution which has a significant effect on the national economy and world. Besides, business of transport cannot focus on profit and its survival. And competitive advantage of transport business through placing more emphasize on service quality and client fulfillment.

Service quality and customer satisfaction in both profit and non-profit organizations are inseparable, which is often compared to be like tongue and teeth (Ung &Chun, 2013). In globalization's competitive environment, the service quality assessment is the first stage in keeping and retaining existing users and attracting new ones, who tend to have an increased service desire and expectations because of more self-service opportunity required (Somaratna and Peiris, 2011), and service quality was views as more attention (Maymand, et al.,2013) and an important strategic issue and a pervasive strategic force on management's agenda (Abdullah,2006), and has become an important research topic because of its perceived relationship to costs (Crosby, 1984), customer satisfaction (Bolton and Drew,1991; Landrum et al.,2009), customer retention and positive word-of-mouth communications (Reichheld and Sasser, 1990), cost-efficiently with limited revenue sources(Namju, et al.,2005).In addition, firms' market shares, greater return on investment, lower production costs (Mueller and Bedwell, 1993; Phillips et al., 1983; Reichheld and Sasser, 1990), higher profitability (Abdullah,2006; Gundersen et al.,1996) and customer satisfaction (Oliver, 1997; Zakaria, et al.,2009) cannot be absent of service quality.

Moreover, highly satisfied customers are road map to business survival (Munusamy, & Chelliah 2011),repurchase and/or customer's recommendation of firm's products or services to others (Kandampully et al., 2004; Arasli, 2005), survival or existence, profitability, customer retention (Ojo et al., 2010) , loyalty intention (Thuy and Hau, 2010; Thakur and Singh, (2012),and help to spread the positive word-of-mouth recommendations and in effect become walking, talking advertisements for providers whose service has pleased them, thus lowering the cost of attracting new customers. Satisfied customers tend to buy more, to be less price conscious, and to generate the positive word-of-mouth recommendations, thus contributing to profit (Anderson and Mittal, 2000). The growth of organizations really need the factors of service quality and customer satisfaction, and also perceived to be a bridge to acquiring and sustaining competitive advantage, retaining the existing customers and attracting the new ones, creating long term profitability as well as improving living standard of employees (Ung, 2013) and identification of service quality attributes and establishment of their vital and influence on customer behavior is essential for researchers (Mazzulla and Eboli, *2006).*

In era of great competitive environment for tourism part, quality service regard as vehicle for communication (Abu Ali, & Howaidee, 2012). Actually, public transport sectors, the main concerning issue for great amount of passengers emphasizes on delivering the service quality (Rahaman 2009; Namju et al.,2005), in which service quality results in convenience for passengers, thus expand of the service competitiveness against private vehicles clients, however the evaluation of the passenger's perceptions on public transport service is vital to demonstrate the attractiveness and of the service in terms of availability and comfort and convenience(traveler's fulfillment) Yaakub, and Napiah (2011).Moreover, preventing the flow of the negative word-of-mouth communication, the complaining, and the switching, public transportation delivery has to be interested in meeting customer satisfaction(Ercsey,2009).With bus performance satisfaction of passengers, they will return and use the services (Haron, et al., 2010).

2- Problem identified

Even the public transportation is modernized but the service quality is still lacking and not well implemented. This will lead to negative perceptions and not satisfy the consumer in using the public transports. The issues in service quality of the bus transports in Cambodia become unsatisfied and in the average level, therefore it is not satisfying the consumer needs and expectation. The bus transport business that's available in this country was provided by the private company towards public use. The implementation of the service quality for these bus transports is not really executed well which is being concerned by the Cambodia prime minister (Hun, 2012). Besides, physical facilities in term of cleanliness and comfortableness, punctuality, frequencies and responsiveness of the driver and conductor of people in

general transports was appear to be not fulfilled in the area of public transport service quality (Zakaria, et al., 2010).

Some incident also showed the problems of the service quality in term of safety measurement of the public transports become worse and in the critical case. Therefore the quality in term of service must be concerned extremely because of making sure the peoples or user satisfied and give positive perceptions towards the public transports provided as well as in urban or rural areas. In addition, in term of physical facilities of the public transports are insufficient, this is because the bus transport mostly not provided convenience facilities to the disable person which is used wheelchair to board. The bus transport sector do mostly not provided the ramps to give more disable people more convenience to use that kind of the public transports.

3- Objective of Study

Service quality is an important aspect in public transportation, there is very less research being done to explore this issue (Friman, et al., 2001). Therefore, this study focused measuring and assessment the level and significance of service quality perception of the augmented SERVQUAL scale given by Parasuraman et al (1988) and additionally including culture, and safety and efficiency dimension. This study is to examine the impact of RACTERS dimensions on passenger satisfaction and the factors that contribute most significantly to passenger satisfaction in the bus transport sector in the Cambodia. Research questions thus need to be formally formulated, and vigorous analysis is required to systematically answer the questions before any sound managerial implications can be provided.

4- Reviewed of Related Literature

Service quality happens while firms convey its services to clients, for the most part in a communication between the customer and front-office workers. The components of the execution of workers, an organizational asset are a key to achieve service quality (Parasuraman et al., 1988). Moreover, the nature of service quality is generally a capacity of a few quality variables (properties) and deciding of each one element weight is one of the "corner-stone" of measuring quality, and the analysis of perceived service quality and its parts was additionally given careful consideration for firms(Yatskiv et al., 2010).Due to Smith and Hull, (2011) also indicated that quality service as capacity of the client's point of view, a few ―critical elements were made, including: proficient, cordial, responsive representatives; convenience and accessibility of service; reliability, safety, and security of service; cleanliness / physical appearance of service; effective and timely recovery when service is disrupted; provision of accurate, accessible, and timely information; and development of a workplace environment that values and respects its employees and their role in the delivery of quality service.

Nowadays, one of the vital competitive weapons in any organizations as well as in all service industries can be presented of service quality in their firms (Berry et al., 2001, Kulkarni and Deshpande, 2012), and it has been increasingly recognized as a critical factor in the success of any business (Parasuraman et al., 1985, 1988); and lead to ensure customers patronizing the business for repeat purchases, customer satisfaction and return and use the services(Haron, et al., 2010), and behavior intention (Sumaedi, et al.,2012).

With literature documents a number of methods used to measure service quality. However, measuring of service quality was pointed out by Gronroos (1984) there are three dimensions involved. (1) technical quality is the nature of what purchaser really gets as a result of his/her cooperation with the service firm and is essential to him/her and to his/her assessment of the quality of service. (2) functional quality is the way he/she gets the technical outcome. This is essential to him and to his/her perspectives of service he/she has gotten. And (3) image is extremely important to service firms and this can be required to develop mainly by technical and functional quality of service including alternate components, for example, tradition, ideology, word of mouth, pricing and public relations. Furthermore, a well-known research team (Parasuraman, Zeithaml, and Barry, 1985) concentrates on SERVQUAL recognized ten possibly covering segments. These dimensions are reliability, responsiveness, competence, access, courtesy, credibility, security, understanding or knowing the customer, and tangibles. In their later studies, Parasuraman et al. (1988, 1990) reduced the original ten potentially overlapping dimensions to five testable dimensions. The five widely used dimensions include *tangibles* (referring to physical facilities, appearance of personnel and equipment); *reliability* (referring to the ability to perform the promised service dependably and accurately); *responsiveness* (referring to the willingness to help customers and provide prompt service); *assurance* (referring to the knowledge and courtesy of employees and their ability to convey trust and confidence); and *empathy* (referring to the provision of caring, and personalized individual attention given to customers).

In the interim, in concentrated nature's domain, customer satisfaction is key point that is characterized as the general level of achievement of a client's desires, and has doubtlessly been satisfied through measuring as the rate of client desires. It is likewise important to utilize benchmarks that allow examinations to be made. This correlation could be for quality in distinctive time periods or in the meantime among diverse courses or even among distinctive operators are the result from measuring and appraisal of service quality nature of client's perspectives (Morfoulaki, et al., 2007). Customer satisfaction has a positive effect on firms' benefit (Abbasi et al., 2010) and is crucial for holding clients (Clow and Vorhies, 1993; Oliver, 1989). Numerous researchers arrive at a conclusion there are truly linkages between service quality and customer satisfaction (Spreng and Mackoy 1996; Buttle, 1996; Caruana, 2002; Cronin et al., 2000). Precisely, confirmations of study about traveler's fulfillment out

in the public transport part was demonstrated via researchers, for example, Budiono, (2009); Ercsey, (2009); Yaakub, and Napiah, (2011); Randheer, (2011).

In public transport industry, the survival of modern society with transport service is imperative for life of individuals in the urban areas (Onokala, 2001) in which cited by (Ali,2010). Individuals, companies and other organizations to lead their exercises at locales chose for these reasons in divided areas in the urban communities was empowered by transport benefits in urban focuses. Transport likewise is an exemplification of the complex connections in the middle of social and political exercises and the level of economic development, in which convey a foundation to knowing and operation of numerous different frameworks at numerous distinctive scales (Buchannan, 1969; Hoyle and Smith, 1992).The most vital matter of both organizers and administrators concentrate on measuring of service quality, furthermore measured by the clients' perceptions and expectation see, and might be enhanced by distinguishing the imperative and perception level called attention to by users in the field of public transportation (Eboli, and Mazzulla, 2008).

The service quality of the public transports contributes to have better and comfortable environment. Many researchers arrive at a conclusion there are linkages between public transport service quality and customer satisfaction (Rahaman, 2009; Haron, et al., 2010; Zakaria, et al., 2010). Cited by Wijaya (2009) then Giannopoulos (1989) stated that customer satisfaction of public transport stresses on every one of those components of the operation in a transport that directly relates to the proper and efficient execution of the daily service requirements in which the mechanical parts of the urban bus and especially the body structure, the chassis, the suspension, the types of doors and their mechanism, the control systems (brakes and steering), the transportation framework, and different attributes of the vehicle are the components that impact straightforwardly on wellbeing of the operation.

Rendering the study of public transportation industry in twin cities of Hyderabad and Secunderabad, India, Randheer, et al., (2011) incorporated one additional dimensions, culture (including respects the local culture, works for the welfare of society in line with local values, the good image among local population, gives attention to women, children and handicapped), to those of popular SERVQUAL model. Namju, et al., (2005) in South Korea; *Geetika, and Nandan,(2010) in India;* Kitasaka, and Eng. (2003),Thompson, Schofield, (2007) in UK, also researched another on dimension of safety-security and efficiency for public transportation(including comfortable way to travel, bus transport vehicles safe, safety information for bus transport toward passengers, security and safety on bus traveling and luggage, perceived safe travelling alone on the bus service, on time departure of bus transportation, on time arrival at the next stop, queuing time for ticket of passengers, and waiting time for bus of passengers, and improvement of mobility and transportation efficiency, productivity, safety and security for passengers and freight) are also shown to be

important attributes that public passengers use to evaluate public transportation service. Moreover, in the study of bus transport industry in Penang, Malaysia (Haron , et al., 2010) indicated dimension of safety and security (feel safe while waiting for the bus, traveling on the bus at night, crossing the road to the bus stop, very helpful bus drivers, bus drivers polite to passengers, bus drivers drive carefully) affects on passengers satisfaction. However, service quality in the public transport industry has also been examined in a number of studies (Choocharukul, 2004;Budiono, 2009;Haron, Sarina and Noor, 2010; Zakaria et al., 2010;Too and Earl,2010; and Yaakub and Napiah, 2011; Randheer, et al., 2011;).

In a more recent study by Zakaria, et al**.,** (2010) to determine the dimensions of service quality in Malaysia, they find that dimension of tangibility carries the heaviest weight in explaining customer satisfaction, followed by reliability and responsiveness. For India's public transportation sector, Randheer, et al., (2011) finds that culture, assurance, reliability, empathy, tangibility dimensions are found to be the significant predictors of overall customer satisfaction.

5- Research Methodology
5-1 Data Collection and Instrument

Researcher used to extend SERVQUAL. The questionnaire includes the five widely-used dimensions (tangibility, reliability, responsiveness, assurance, and empathy) and two additional dimensions of service quality (culture, and safety and efficiency) in which the factor of culture following Randheer, et al., (2011) and safety and efficiency dimension adopted from Thompson, Schofield (2007); Geetika and Nandan (2010); and Namju, et al.,(2005).

Relevant information about passenger perceptions and socio-demographics are obtained by means of a survey conducted to collect a data for the analysis. A purposive non-probability sampling method was used by researchers. A survey questionnaire is designed and distributed randomly to target respondents, who have been using bus transportation service in Cambodia. In order to receive the most accurate responses possible, the questionnaires were English language and also translated into Khmer, the official language of Cambodia.

The questionnaire is classified into three major parts. The first part of the questionnaire contains respondents' perceived performance. In the second part captures the information related to overall passenger satisfaction. Respondents were asked to respond to each item on the widely used five-point Likert-type scale in which is linked to Randheer, et al., (2011). The third part of the questionnaire is used to get the information on the demographic information of the respondents.

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, 720 questionnaires were distributed to passengers. The rate of the responses was about 97%. Following cleaning process of the data, a sample of698 respondents is considered usable for the analysis. Data was collection in approximately two month in period of April and May 2012.

5-2 Analytical Techniques

All data collected are fed into statistical packages, in particular the Statistical Package for the Social Sciences (SPSS 20.) and/or STATA 12.1 for analysis. The statistical analysis of data includes descriptive statistics (frequency, percentage and chart), 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). These tests include multicollinearity checks, heteroskedasticity test and model specification test, known as Ramsey (1969)'s RESET test. Before presenting econometric results, we carry out several tests, such as those heteroskedasticity in which the Breusch and Pagan (1979) test for heteroskedasticity (Verbeek, 2004; Wooldridge, 2006). The multicollinearity check is made through values of variance inflation factor (VIF), which has been shown to be equal to $1/(1 - R_i^2)$, where R_i^2 is obtained from the multiple correlation coefficient of an explanatory variable X_i regressed on the remaining explanatory variables. In order to obtain stable estimated slope parameters, VIF should be lower than five (Studenmund, 2006).

5.3 The Model

Passenger satisfaction and service quality is a key point to breed to the success of any organizations. In light of discussion on the review of related literature, following among others Parasuraman, et al., (1991); and Randheer, et al., (2011);and Namju, et al., (2005); *Geetika, and Nandan,(2010);* the relationship between service quality and passenger satisfaction can be modeled.

This study is of particular interest since, to the best of knowledge; no research was undertaken with respect to the determining factors influencing passenger satisfaction in bus transportation service in Cambodia. This model consists of a dependent variable, passenger satisfaction, and seven explanatory variables (RACTERS):

responsiveness, assurance, culture, tangibility, empathy, reliability, and safety &*efficiency*.

$$OPS = \beta + \beta_1 reliability + \beta_2 assurance + \beta_3 culture + \beta_4 tangibles + \beta_5 empathy$$
$$+ \beta_6 responsiveness + \beta_7 safety\ and\ efficiency + \varepsilon$$

Where OPS denotes overall passenger satisfaction, and ε is error term, which is assumed to be normally distributed.

6. Empirical Data Analysis and Discovery
6-1 Basic Analysis

The purpose of this study was to assess passengers' satisfaction of service quality in passenger's perception, 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 majority of bus transportation services users is single, accounting for married 71 percent. It is also found that, of the 698 respondents, more than 52% are female. With respect to frequency of travel by bus transportation, more than 49 % of passengers are rarely travel by bus transportation. The respondents' reasons for traveling by bus transport included those with tourism (almost 82%), followed by visit family (almost 74%) and works (almost 64%). The data set also reveals that more than 51% of the respondents are students, followed by employed full-time (more than 17%), own business(10%), employed part-time (more than 8%), and other (more than 6%). Moreover, with respect to passengers' income, the majority of the respondents seem to have income under $100 (46%), followed by 100$ to 200$ (more than 29%), and 201$ to 300$ (more than 12%). Due to respondents' nationality is Cambodian (more than 98%), and Chinese (almost 1%). With respect to the brand name of bus transport companies, Mekong Express (more than 17%), followed by Capital (14.18%), Hochin (7.16%), Paramound (more than 7.16%), Red Dragon (7.02%), Virak BunThaing (7.02%), Sok sokha (6.88%), and Soriya (6.73).

Table 1. Characteristic of the Respondents

Categories	Frequency	Percentage	Cumulate
Gender			
Male	333	47.71	47.71
Female	365	52.29	100.00
Marital Status			
Single	497	71.20	71.20
Married	193	27.65	98.85
Divorce	3	0.43	99.28
Other	5	0.72	100.00
How often do you travel by bus transport service?			
Rarely	342	49.14	49.14
Occasionally	247	35.49	84.63
Frequently	78	11.21	95.83
Very frequently	29	4.17	100.00
Reason to travel by Bus			
Work	132	63.77	100.00
Study	45	34.35	100.00
Own Business	77	46.39	100.00
Tourism	237	81.72	100.00
Seminar	39	33.33	100.00
Visit family	188	73,73	100.00
Other	76	54.51	100.00
Employment Status			
Student	358	51.29	51.29
Employ full-time	122	17.48	68.77
Employ part-time	60	8.60	77.36
Own business	70	10.03	87.39
Housewife	25	3.58	90.97
Retire	1	0.14	91.12
Civil servant	18	2.58	93.70
Other	44	6.30	100.00
Income per month			
Under $100	322	46.13	46.13
100$ – 200$	205	29.37	75.50
201$ - $300	88	12.61	88.11
301$ - $400	42	6.02	94.13
401$ - $500	19	2.72	96.85
501$ - $600	8	1.15	97.99
$601 - $700	4	0.57	98.57
701$ - $800	4	0.57	99.14
801$ - $900	5	0.72	99.86
Over $900	1	0.14	100.00
Nationality			
Cambodian	687	98.42	98.42
Chinese	6	0.86	99.28

Korean	*1*	*0.14*	*99.43*
American	*1*	*0.14*	*99.57*
Vietnamese	*2*	*0.29*	*99.86*
English	*1*	*0.14*	*100.00*
Bus brand name			
Mekong	*120*	*17.19*	*17.19*
Capitol	*99*	*14.18*	*31.38*
Hochiming	*50*	*7.16*	*38.54*
Red Dragon	*49*	*7.02*	*45.56*
VirakBunthaing	*49*	*7.02*	*52.58*
Paramount	*50*	*7.16*	*59.74*
Sok sokha	*48*	*6.88*	*66.62*
Soriya	*47*	*6.73*	*73.35*
Punleur Angkor	*47*	*6.73*	*80.09*
Rith Mony	*92*	*13.18*	*93.27*
GST	*47*	*6.73*	*100.00*

6-2 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 reliability scale was 0.801; assurance scale was 0.738; the culture scale was 0.757; tangibles scale was 0.784;the empathy scale was 0.750; responsiveness scale was 0.714;and safe and *efficient* was 0.812 and overall passenger satisfaction scale was 0.748respectively. 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

RACTERS Dimensions	Case	Reliability Statistics	
	No. of Obs.	Cronbach's Alpha	No. of Items
Reliability	698	0.801	8
Assurance	698	0.738	4
Culture	698	0.757	4
Tangibility	698	0.784	10
Empathy	698	0.750	6
Responsiveness	698	0.714	6
Safety and *efficiency*	698	0.812	9
Overall passenger satisfaction	698	0.748	4

6.3 RACTERS Model and Empirical Data Analysis

Based on the review of the related literature and previous empirical studies, the relationship between service quality and passenger satisfaction can be explicitly modeled as follows:

$$OPS = a_0 + \beta_1 Reliability + \beta_2 Assurance + \beta_3 Culture + \beta_4 Tangible + \beta_5 Empathy + \beta_6 Responsiveness + \beta_7 Safety\ and\ efficiency + \varepsilon$$

Where OPS denote Overall Passenger Satisfaction, and ε is error term, which is assumed to be normally distributed

The cross-sectional data used for the analysis is from a survey of 720 passengers. Yet, following cleaning process, a sample of 698 is considered to be usable for the analysis. The data set contains detailed information on the explanatory variables-- reliability, assurance, culture, tangibles, empathy, responsiveness, and safety and efficiency--which are included in the model presented above. And before presenting econometric results, the researcher reports several tests such as those for multicollinearity, based on variance inflation factor (VIF), heteroskedasticity and Ramsey (1969)'s regression specification error (RESET) for functional form misspecification.

Table 3. Multicollinearity Check

Predictor Variable	Collinearity Statistics	
	Tolerance	VIF
Reliability	.447	2.236
Assurance	.424	2.359
Culture	.463	2.160
Tangibility	.443	2.258
Empathy	.347	2.885
Responsiveness	.412	2.425
Safety and efficient	.360	2.780

Table 4. Estimation results with usual standard errors

Variable	Coefficients	Std. Error	T statistics	Sig.
Constant	.257	.101	2.543	.011
Reliability	.016	.036	.438	.661
Assurance	.171	.037	4.595	.000
Culture	.091	.033	2.807	.005
Tangibility	.087	.037	2.386	.017
Empathy	.109	.046	2.400	.017
Responsiveness	.002	.042	.058	.953
Safety and efficient	.446	.046	9.640	.000

Table 5. Estimation results with robust standard errors

Variable	Coefficients	Std. Error	T statistics	Sig.
Constant	.257	.105	2.45	0.015
Reliability	.016	.042	0.38	0.705
Assurance	.171	.039	4.40	0.000
Culture	.091	.032	2.81	0.005
Tangibility	.087	.036	2.46	0.014
Empathy	.109	.050	2.20	0.028
Responsiveness	.002	.044	0.06	0.955
Safety and efficiency	.446	.051	8.75	0.000

- No. of observe = 687 - R-squared = 0.580 - Adjusted R squared = 0.575 - F-value = 135.966; P-value= 0.000	- Ramsey RESET statistic 0.56 (P-value = 0.641) - Brusch-Pagan Test Statistic,11.243(P-value =0.113) - Special White Test Statistic, 51.59 (P-value =0.035)

OPS = .257 + .016 Reliability + .171 Assurance + .097 Culture +.087 Tangible + .109 Empathy
        (.101)   (.036)   (.037)   (.033)   (.037)   (.046)
{.105}{.042}{.039}{.032}{.036}{.050}
            + .002 Responsiveness + .446 Safety &efficiency
 (.042)   (.046)
{.044}{.051}

Table 3 presents the estimation results, along with test statistic. As can be seen from this table, VIF values for all independent variables were much less than 5, implying that multicollinearity issues are of no concerns.

For the reason of comparison, tables 4 and 5 present the estimation results with usual standard error and with heteroskedasticity-corrected standard error. Overall passenger satisfaction is regressed on seven service quality dimensions—tangibility, reliability, assurance, culture, empathy, responsiveness, safety and efficiency. It is found that the special case of White test statistic of 51.59 with p-value = 0.035 is highly significant at less than the 1%, pointing to a clear evidence of heteroskedasticity presence in the data set. And Bruch pagan test statistic of 11.243 with p-value of 0.113, respectively, is statistically insignificant at any conventional significance level, suggesting no heteroskedasticity in the data set. Moreover, the Ramsey RESET test statistic of 0.56 with p-value of 0.64are statistically insignificant at any conventional significance level, suggesting model fit in the data set.

Based on table 5 with Robust standard error above, the seven dimensions explain 58 percent of the variation of the overall passenger satisfaction, which is statistically

significant at less 1% significance level (F-value = 135.96 with P-value < 0.00). To identify which dimensions of service quality contribute most significantly to the overall passenger satisfaction, a regression is use z-scores are run to obtain standardized coefficients or beta coefficients. Therefore, explanatory variables with higher standardized coefficients contribute more significantly to the dependent variable.

The estimation results of bus transport companies in Cambodia suggest that the regression model is statistically significant and that the seven service quality dimensions exert a positive effect on the overall passenger satisfaction, except reliability, and responsiveness dimension which lacks statistical significance (table 5). The highest estimated standardized coefficient on safety and efficiency dimension of 0.446 implies that the dimension makes the greatest contribution to the bus passenger satisfaction, followed by the service quality dimensions of assurance (0.117), empathy (0.106), culture (0.091) and tangibility (0.087). These findings indicate that safety and *efficiency* has been the most important predictor of overall passenger satisfaction in the manner of bus transport companies in Cambodia.

Coefficient of safety and *efficiency* dimension is highly statistically significant at the 1% significance level, indicating that safety and *efficiency* has indeed positively affected upon overall bus passengers' satisfaction. It means that a unit change in the response rate of bus companies in Cambodia for safety and *efficiency* item, *ceteris paribus*, leads to an estimated change in their overall satisfaction of about 0.446. And followed by the service quality dimensions of assurance, empathy, and culture, respectively, implies that, holding other factors fixed, a unit change in the response rate of bus service operation in Cambodia for assurance, empathy and culture dimension, respectively, leads to a positive change in their overall satisfaction of about 0.117; 0.106 and 0.091, respectively,. And also followed by dimension of tangibility (0.087), is also highly significant at less than 5%. Therefore, dimension of bus service company safety and efficiency, assurance, empathy, culture, and tangibility really makes the greatest contribution to bus service satisfaction

7- Conclusion and Implications

The empirical study began with detailed descriptions of service quality dimensions of RACTERS model and addressed the research questions with respect to service quality dimensions that may influence bus passenger satisfaction in Cambodia. It also seeks to identify the dimensions that contribute most significantly to overall passenger satisfaction. The purposes of the study are to identify the relationship between RACTERS dimension attributes and the overall satisfaction of passengers who has been using bus service. Cross-sectional data were used and survey questionnaires were distributed randomly to 720 respondents; but after rounds of verification only 689are usable.

Using multiple regression analysis, the results indicate that five dimensions (safety and efficiency, assurance, empathy, culture and tangibility) show significant, positive sign on the overall satisfaction, with safety and efficiency dimension also contributed most on the bus passenger satisfaction. The findings of the study indicate that the five dimensions of SERVQUAL cannot be replicated fully to the bus transport sector. Another dimension, safety and efficiency, and culture, may be equally important. The results present a number of managerial implications and recommendations for bus transport company management, while contributing to the improvements of service quality, with application to bus transportation sector in Cambodia.

With cross-sectional data, the special attention should be paid to the most important trigger of bus transport satisfaction, management of bus transport companies should also place an emphasis significant predictors such as safety and *efficiency* in which bus transport sectors in Cambodia is a comfortable way to travel, safety in bus transport vehicles, safety information for bus transport toward passengers, safety and efficient on bus traveling and luggage, perceived safe traveling alone on the bus service, on time departure of bus transportation, on time arrival at the next stop, queuing time for ticket of passengers, and waiting time for bus of passengers

Meanwhile, assurance and empathy dimension of service quality are also a vital factor to contribute their passenger satisfaction and also identify long-life of bus transportation companies. For the behavior of employees, drivers driving in a bus company instills confidence in passengers, giving feel safe in bus company's transactions with customers, employees in the bus company area consistently courteous with clients, having the knowledge to answer customers' questions, giving attention to women, children and handicapped, operating hours convenient to all its customers, and employees in the bus company should give your personal attention to passengers, keep customers in your best interest at heart, understand your specific needs and always friendly service personnel to all customers.

And the other hand, bus transport companies in Cambodia has been facing more challenges in both same companies and substitute service sector (like taxi, minibus and airline...) in a change environment of globalization, customer's fear on public transport accident that require bus companies to be interested in law enforcement of road transportation. So a bus company should respect the local culture, works for the welfare of society, build the good image among the local population, and especially, the bus driver should obey driving law

Moreover, bus transportation companies cannot ignore the dimension of tangibility that is also an important factor to contribute the bus customers' satisfactions even though these factor less influence on passenger satisfaction. Bus transport should has visually appealing physical facilities, clean and hygienic inside environment of bus (toilets, seats....), neat appearing employees, comfort shelter, well function of bus AC, TV, Karaoke, availability of trash bin on board, availability of media of suggestion and

complaint in bus, availability of the comfort seats in the bus, and convenient bus stops locations. The results present a number of managerial implications and recommendations for bus transport sector management, while contributing to the improvements of the RACTERS model, with application bus transport industry in Cambodia (Figure 1).

Figure 1: Effects of service quality dimensions on passenger satisfaction, loyalty, positive word-of-month recommendations, and competitive advantage of public transport sector
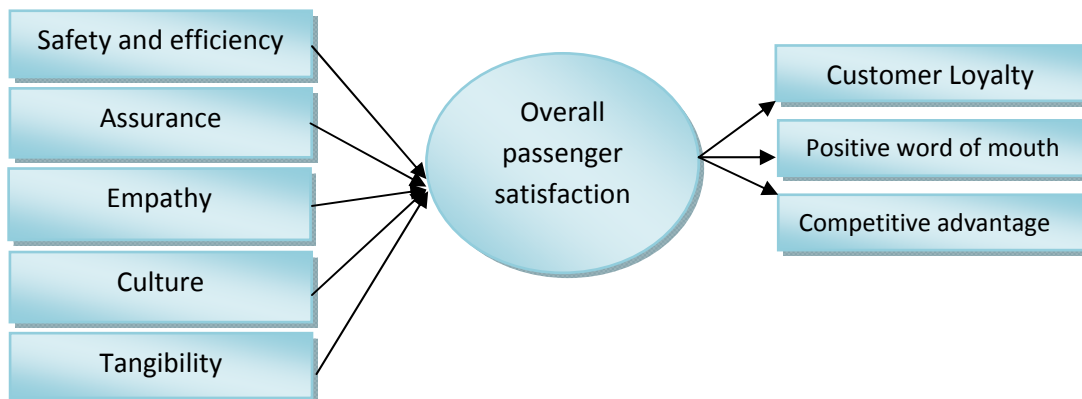
However, this research has few limitations. First, the researcher used purposive method of non-probability sampling of data collection thus the sample may not be truly representative of the population. Secondly, the study emphasizes only on bus transport service in Cambodia. The results of the study, therefore, may be applied with bus transport companies only. Third, writing and paraphrase in English are still constraint for researcher that cannot lead to be better than Khmer writing. The future research may be conducted in other public transportation sector (such as taxi, minibus...) and should expand dimension that apply in the transportation 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 ASEAN countries in related to service quality of the public transport sector.

REFERENCES

Abbasi, S.A., Khalid, W., Azam, M. and Riaz, A. (2010), "Determinants of Customer Satisfaction in Hotel Industry of Pakistan", European Journal of Scientific Research, Vol.48, pp. 97-105.

Abdullah, F. (2006), "Measuring service quality in higher education: threeinstruments compared", *International Journal of Research & Method in Education, Vol. 29, No. 1, pp. 71–89*

Abu Ali, J., & Howaidee, M., (2012), "The Impact of Service Quality on Tourist Satisfaction in Jerash" Interdisciplinary Journal of Contemporary Research In Business, Vol 3, No 12

Ali, A.N., (2010), "An Assessment of The Quality of Intra-Urban Bus Services in The City of Enugu, Enugu State, Nigeria", Theoretical and Empirical Researches in Urban Management, Number 6(15).

Anderson, E. and Mittal, V., (2000), Strengthening the Satisfaction-Profit Chain, Journal of Service Research, Vol. 3, pp. 107-120.

Andrzej Kobylanski,(21012), "Attributes And Consequences Of Customer Satisfaction In Tourism Industry: The Case Of Polish Travel Agencies", Journal of Service Science – Spring 2012 Volume 5, Number 1

Arasi, H., Katircioglu, S.T., and Mehtap-Smadi, S. (2005), "A comparison of service quality in the banking industry: Some evident from Turkish-and Greek-speaking areas in Cyprus", *International Journal of Bank Marketing*, Vol. 23, pp. 508-526

Berry, L.L., Parasuraman, A., Zeithaml, V.A. (2001), "The Service-Quality Puzzle. Retrieved in 16/01/2013.areas.kenanflagler.unc.edu/.../The%20Service-Quality%20Puzzle .pd...

Bhatia,T. and Jain,M.(2009), "Bus Transport in Delhi", Working Paper No. 210 Summer Research Internship

Bolton, R.N. and Drew, J.H. (1991),"A Multistage Model of Customers Assessment of Service Quality and Value", Journal of Consumer Research, Vol. 17, pp. 375-384.

Breusch, T.S. and Pagan, A.R. (1979),"A Simple Test for Heteroskedasticity and Random Coefficient Variation", Econometrica, Vol. 47, pp. 1287-1294.

Buchannan, A.F. (1969). Traffic in Town. H.M.S.O. London Budiono, O.A., (2009), "Customer Satisfaction in Public Bus Transportation: A study of travelers' perception in Indonesia", Master Thesis: Service Science Program. Karlstad University, Spring 2009

Buttle, F. (1996),"SERVQUAL: Review, Critique, Research Agenda", European Journal of Marketing, Vol. 30, pp. 8-35.

Caruana, A. (2002),"Service Loyalty: the Effect of Service Quality and the Mediating Role of Customer Satisfaction", European Journal of Marketing. Vol. 36, pp.811-830

Choocharukul,K., (2004), "Passengers' perspective of bus service quality in Bangkok:

an ordered probabilistic modeling approach", 27th Australasian Transport Research Forum, Adelaide, 29 September – 1 October 2004

Clow, K.E. and Vorhies, D.W. (1993), "Building a Competitive Advantage for Service
Firms: Measurement of Consumer Expectations of Service Quality", Journal of Services Marketing, Vol. 7, pp. 22-32.

Cronin, J.J., Brady, M.K. and Hult, G.T.M. (2000),"Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments", Journal of Retailing, Vol. 76, pp. 193-218.

Crosby, P.B. (1984),"Quality Without Tears", New York: New American Library

Eboli,L., Mazzulla,G., (2008), "Willingness-to-pay of public transport users for improvement in service quality", European Transport \ Trasporti Europei n. 38 (2008): 107-118

Ercsey,I.,(2009), "The Examination of the Consumer Satisfaction in the Urban Public Transport", ANZMAC 2009, pp1-8 unpublished manuscript

Friman, M., Edvardsson, B., and Garling, T., (2001), "Frequency of negative critical incidents and satisfaction with public transport services", *Journal of Retailing and Consumer Services,* 8(2), 95-104.

Geetika, Shefali Nandan,S. (2010), "Determinants of Customer Satisfaction on Service
Quality:A Study of Railway Platforms in India", Journal of Public Transportation, Vol. 13, No. 1,

Giannopoulos, G. A. (1989),"*Bus Planning and Operation in Urban Areas: A Practical Guide.*England: Avebury".

Gronroos, C. (1984), "A service quality model and its marketing implications"*, European Journal of Marketing,* Vol. 18, pp. 36-44.

Gunderson, M.G., Heide, M. and Olsson, U.H. (1996), "Hotel Guest Satisfaction among Business Travelers: What are the Important Factors?", Cornell Hotel and Restaurant Administration Quarterly, Vol. 37, pp. 72-81.

Hair, J.F, Black, W.C., Babin, B.J. and Anderson, R.E. (2010),"Multivariate Data Analysis: A Global Perspective", (10th Edition). New Jersey: Pearson.

Haron,S., Noor, S.M., Sadullah, A.F.M.,and Vien,L.L., (2010), "The Headway Patterns and Potential Paramethers of Bus Transportation in Penang", Proceeding of Malaysian Universities Transportation Research Forum and Conferences 2010 (MUTRFC2010), 21 December 2010, Universiti Tenaga Nasional. ISBN 978-967-5770-08-1

Hoyle, B.S. and Smith, J.l. (1992). "Transport and Development", in Hoyle B. S. and Knowles, R. D. (eds) Modern Transport Geography. Belhaven Press, London and New York, pp. 11-30.

Hun,S. (2012), "Speech delivery of Cambodian prime minister in Bonteay Meanchey province in Cambodia".

Kandampully, J., Mok, C., and Sparks, B., (2004), "Service Quality Management in

Hospitality, Tourism and Leisure", Mumbai: Jaico Publishing House.

Kitasaka,L, Eng,P., (2003), "Bus Rapid Transit Evaluation Study, Transport Canada", unpublished manuscript

Kulkarni, M., Neela J. D (2012), "Empowering Library Users, Establishing Channel of Communication for Service Quality Expectations of Trainers from Government Administrative Training Institute (ATI) Libraries in India"

Landrum,H., Prybutok,V., Zhang, X., and Peak,D., (2009), "Measuring IS System Service Quality with SERVQUAL: Users' Perceptions of Relative Importance of the Five SERVPERF Dimensions".

Maymand,M., Fani,M., Saravimoghadam,N., & Pakari,A., (2013), "Service Quality as a powerful tool in the Management of Organization 1Dr. Mohmmad", Advances in Environmental Biology, 7(7): 1292-1299,

Mazzulla,G., and Eboli,L., 2006, "A Service Quality Experimental measure for public transport", European Transport \ Trasporti Europei n. 34 (2006): 42-53

Morfoulaki,M., Tyrinopoulos,Y., and Aifadopoulou,G., (2007), "Estimation of Satisfied Customers in Public Transport Systems: A New Methodological ApproachSource",*Journal of the Transportation Research Forum*, Vol. 46, No. 1 (Spring 2007), pp. 63-72

Morris, M., Ison, S. and Enoch, M. (2005), "The role of UK Local Authorities in Promoting the Bus", *Journal of Public Transportation*, 8(5), *pp. 25-40.*

Mueller, G. and Bedwell, D. (1993),"Customer Service and Service Quality", in E. Shewing (ed.). The Service Quality Handbook, New York: AMACOM.

Munusamy,J., & Chelliah,S., (2011), "An Investigation of Impact of Service Strategy on Customer Satisfaction in the Budget Airline in Malaysia: A Case Study of Air Asia" , Contemporary Marketing Review 1(1): 1-13, March, 2011

Namju,K, Changwoo, L., Jumsan,K., and Yongseok,K., (2005), "Critical Measures of Transit Service Quality in Various City Types", Proceedings of the Eastern Asia Society for Transportation Studies, Vol. 5, pp. 414 – 427

Ngatia,G.,J., Toshiyuki,O., and Fumihiko,N., "The Structure of Users' Satisfaction on Urban Public Transport Service in Developing Country: the Case of Nairobi", Unpublished manuscript

Ojo,o., State,o., Nigeria. (2010), "The Relationship Between Service Quality and Customer Satisfaction in the Telecommunication Industry: Evidence From Nigeria. BRAND", Broad Research in Accounting, Negotiation, and Distribution, Volume 1, Issue 1,

Oliver, R.L. (1997). "Satisfaction: A Behavioural Perspective on the Customer", New York: McGraw-Hill.

Oliver, R.L. (1989),"Processing of the Satisfaction Response in Consumption: A Suggested Framework and Research Propositions", Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior, Vol. 2, pp. 1-16.

Onokalo, P.C., (2011), "Urbanization and Urban Transportation Problems in Nigeria,

in E.O. Ezeani and N.N. Elekwa (eds) Issue in Urbanization and Urban Asiministration in Nigeria Jamoe Enterprises (Nigeria) Publishers Enugu, pp. 168-186

Pan,Y.J., Wang,Y.F, and Liu,M.H.,, (2012), "A New Thinking of Loyalty for a Travel Product", DOI: 10.7763/IPEDR. 2012. V50. 5

Parasuraman, A., Zeithaml, V. and Berry, L.L. (1985), "A Conceptual Model of Service Quality and its Implications for Future Research", Journal of Marketing, Vol. 49, pp. 41-50.

Parasuraman, A., Zeithaml, V. and Berry, L.L. (1988). "SERVQUAL: A Multiple Item Scale for Measuring Consumer Perceptions of Service Quality", Journal of Retailing, Vol. 64, pp. 12-40.

Parasuraman, A., Zeithaml, V. and Berry, L.L. (1988). "Communication and Control Processes in the Delivery of Service Quality", Journal of Marketing, Vol. 52, pp. 35-48.

Parasuraman, A., Berry, L.L, and Zeithaml, V. A. (1990),"Guidelines for Conducting Service Quality Research", Marketing Research, Vol. 2, pp. 34-44.

Phillips, L.W., Chang, D.R. and Buzzell, R.D. (1983),"Product Quality, Cost Position and Business Performance: A Test of Some Key Hypotheses", Journal of Marketing, Vol. 47, pp. 26-43.

Rahaman,K.R., and Rahaman,M.A., (2009), "Service Quality Attributes Affecting The Satisfaction of Railway Passengers of Selective Route in Southwestern Part of Bangladesh": Theoretical and Empirical Researches in Urban management

Randheer,K., AL-Motawa,A.A, and Vijay,P.J., (2011), "Measuring Commuters' Perception on Service QualityUsing SERVQUAL in Public Transportation", International Journal of Marketing Studies Vol. 3, No. 1;

Randheer,K., Ahmed A. and AL-Motawa, (2011), "Measuring Commuters' Perception on Service Quality Using SERVQUAL in Public Transportation", International Journal of Marketing Studies Vol. 3, No. 1; February 2011

Reichheld, F.F. and Sasser, E.W. (1990),"Zero Defections: Quality Comes to Services", Harvard Business Review, Vol. 68, pp. 105-111.

Smith,M, and Hull,G. (2011), "Handbook for Implementing a Service Quality Program for Transit Agencies", Amercian Public Transportation Association (APTA)

Roscoe, J. (1975),"Fundamentals of Research Statistics for the Behaviour Sciences", Holt, Rineheart and Winston, USA

Somaratna, D.S and Peiris, C.N (2011), "Service quality in University of Colombo libraries: an assessment", Annuals of Library and Information Studies, Vol. 58, pp. 170-183

Spreng, R. A. Mackoy, R.D. (1996),"An Empirical Examination of a Model of Perceived Service Quality and Satisfaction", Journal of Retailing, Vol. 72, pp. 201-214.

Studenmund, A. H. (2006),"Using Econometrics: A Practical Guide", (5th Edition). New Jersey: Pearson.

Sumaedi,S., Bakti,I.G.M.Y., Yarmen,M., (2012), "The Empirical Study of Public Transport Passengers' Behavioral Intentions: The Roles of Service Quality, Perceived Sacrifice, Perceived Value, and Satisfaction, Case study: Paratransit Passengers in Jakata, Indonesia", *International Journal for Traffic and Transport Engineering, 2012, 2(1): 83 – 97*

Thakur,S., Singh,A.P., (2012), "Brand Image, Customer Satisfaction and Loyalty Intention: A Study in teh Ontext of Customer Product Among the People of Ceentral India", *International Journal of Multidisciplinary Management Studies Vol.2 Issue 5,* http://zenithresearch.org.in/ www.zenithresearch.org.in

Thompson,K, Sadullah, A.F.M., Vien,L.L.,and Schofield,P. (2007), "An investigation of the relationship between public transport performance and destination satisfaction", Journal of Transport Geography 15 ,136–144

Thuy, P.N., and Hau, L.N.,(2010), "Service personal values and customer loyalty: A study of banking services in a transitional economy", *International journal of bank marketing, Vol.28 No.6, pp.465-478*

Too,L and Earl,G., (2009), "Public Transport Service Quality and Sustainable Development:a Community Stakeholder Perspective", John Wiley & Sons, Ltd and ERP Environment

Ung,V. (2013), "An assessment of customer satisfaction in hotel industry in Cambodia", Centre for International Management and Development Antwerp, and Centre for ASEAN Studies

Ung, V. and Chun,N.N., (2013) "Effect of LibQUAL Dimensions on Library User Satisfaction: Evidence from Cambodia", unpublished manuscript

Verbeek, M. (2004),"A Guide to Modern Econometrics", (2nd edition). Chichester: John Wiley.

Wijaya,D.H., (2009), "Study of Service Quality in the Public Bus Transport: Customer Complaint Handling and Service Standards Design" Case Study: Transjakata Busway and VÄRMLANDSTRAFIK AB BUS, Karlstads Universitets 651 88 Karlstad Tfn 054-700 10 00

Wooldridge, J.M. (2006),"Introductory Econometrics: A Modern Approach", (3th Edition). Ohio: South-Western.

Yaakub,N., and Napiah,M., (2011), "Quality of Service and Passenger's Perception – A Review on Bus Service in Kota Bharu", International Journal of Civil & Environmental Engineering IJCEE-IJENS Vol: 11 No: 05

Yatskiv, V.; Gromule,V; Kolmakova,N.; Pticina,T., (2010), "Service Quality Indicator at Riga International Coach Terminal", Computer Modelling and New Technologies, Vol.14, No.2, 40–49,

Zakaria,Z., Hussin,Z.H, Abdul Batau,M.F.,and Zakaria,Z.,(2010), "Service Quality of Malaysian Public Transports: A Case Study in Malaysia", Cross-Culture Communication Vol. 6, No. 2, 2010, pp. 84-92

Zakaria,Z.,Hussin,Z.H.,Wahab,M.A.A.Noordin,M.N.N.Sawal,M.Z.H.M., and Zakaria,Z., (2009),"Service Quality in Sungai Petani Public Library:Malaysian Evidence", *Canadian Social Science ISSN 1712-8056 Vol.5 No.6*

DOES FOREIGN AID PROMOTE INTERNATIONAL TRADE FOR CAMBODIA?: AN EMPERICL INVESTIGATION

Dr. SOENG Reth[17] and Dr. KEM REAT Viseth[18]

1. Introduction

Foreign aid is viewed as one of the important factors contributing to growth and poverty reduction in least developed and developing countries through reducing supply-side constraints, such as physical and social infrastructure, insufficient capabilities in agriculture, manufacturing and services (Nowak-Lehmann et al. 2013), and through its positive impact on trade and investment. This view has led multinational organizations, such as the United Nations and the World Bank, to call for more aid committed to the development process of recipient countries (Martinez-Zarzoso et al., 2009). Aid may also have a potential to contribute to good governance in the recipients as it is often conditioned on governance improvement, induce reforms, improve education, promote democracy and succeeds in raising income and human development, thereby affordably enabling the promotion of good governance (Snack, 2004; Ear, 2007a).

Theory attempting to explain impact of foreign aid on recipients is attributed to the early work of Rostow (1963) who stressed the significance of aid on the take-off to sustained economic growth of low-income countries. In this sense, foreign aid is believed to allow the economies of poor countries to take off and to be put on the right path of their economic development, thereby contributing to poverty reduction (Gounder and Sen, 1999). Gounder and Sen (1999) indicate that donor countries have different objectives, with respect to their decisions to provide aid. For instance, Australian aid is provided for promoting economic and social progress in developing countries and for its political, strategic and commercial interests. Evidently, McGillivray and Oczkowski (1991) and Gounder (1994) found in their respective studies that Australian aid was likely to go to countries that imported more from Australia. Similarly, the United States aid is designed to provide humanitarian relief and further the long-term economic and social development of low-income recipient countries. In a recent study, Gibler and Miller (2012) made comparison of foreign aid

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[17] Corresponding author: Dr. SOENG Reth is currently Research Fellow at Centre for ASEAN Studies, University of Antwerp, Belgium and Former Senior Lecturer in Economics at National University of Management, Phnom Penh, Cambodia. He was Post-doctoral Fellow at the Flemish Centre for International Policy in Belgium. Email: soengreth@gmail.com.Tel: +855(0)12 63 54 63.

[18] Dr. KEM REAT Viseth is Academic Adviser and Senior Lecturer in Economics at National University of Management, Phnom Penh, Cambodia. Email: kem.viseth@gmail.com.Tel: +855(0)12 634 913.We are grateful to Mr. Sithikun Heng, doctoral Candidate, for his assistance in collecting necessary data.

policies used by Bush and Obama administrations and found that Bush administration tended to reward countries that provided support to the United States war in Iraq with increased economic aid from the U.S. government. However, these countries were penalized by the Obama administration for their involvement in the war. This finding highlights foreign policy differences between both administrations.

The motives of development assistance have been discussed in the development literature since the 1970s (Berthélemy, 2006). Some donors possess egoistic behavior in their decision to provide aid—linking their aid to their self-interests while others have altruistic behavior relating aid to recipients' needs. Despite these different objectives, the common motivation of donors seems to contain both types of behavior[19]—promoting economic development and tackling poverty reduction issues in recipients, and lessening the inequalities between the developing and developed economies as well as pursuing their economic, security, and political self-interests in the recipient countries.

Broadly defined, official development assistance (ODA) refers to development assistance and humanitarian assistance and emergency relief or food aid, administrative costs of aid programs and educational costs arising from scholarship awards to students from developing countries. Moreover, it has been shown that foreign aid helps promote exports from donor countries to the recipients (Martinez-Zarzoso et al., 2009). Wagner (2003) finds that foreign aid is associated with an increase in donors' exports of goods amounting to 133% of aid provided. Similarly, Martinez-Zarzoso et al. (2009) and Nowak-Lehmann et al. (2011) find for Germany that, in the long run, German aid is associated with an increase in German exports of goods that is larger than the German aid flow. In a recent study, Cali and TeVelde (2011) used a large data set of developing countries to examine if aid has any impact on trade performance, and found that aid—in particular aid-for-trade—has an overall positive and significant impact on exports for developing countries.

Looking at Cambodia's experience, the Kingdom has received a large sum of assistance from its development partners in the form of ODA since its general elections of 1993. The volume of ODA to Cambodia is one of the major sources financing its development programs, and it has contributed to the implementation of major public development projects. These programs also included promotion of trade and investment as well as public private partnership activities. A small part of total ODA is aid-for-trade (AfT) which supports the technical assistance for trade policy and regulations, e.g. helping recipient countries to develop trading strategies, negotiate trade agreements and implement their outcomes. According to the data

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[19] Australia, France, Italy, Japan, and the United States are more egoistic other donors such as Switzerland, Austria, Ireland and the Nordic donors, who have been much more altruistic (Berthélemy, 2006).

obtained from the Council for the Development of Cambodia, total disbursement has gradually increased over the period under consideration. Likewise, the Kingdom has also received AfT, which is directed to help Cambodia promote its trade.

The motivation of the current study is twofold. First, Cambodia has received a handsome sum of assistance from its development partners in the form of ODA since its general elections of 1993. However, how foreign assistance has impacted upon Cambodia is not much understood. Second, no systematic study on the impact of ODA on Cambodia's trade performance has been investigated, to the best our knowledge, except an institutional analysis of foreign aid from four emerging donors—China, India, South Korea, and Thailand—to Cambodia undertaken by Sato et al. (2011). An understanding of aid-trade relations is important for development policymakers, researchers and stakeholders.

The above discussion has provided a brief overview of the factors that may exert influence on international trade in Cambodia. Of course, general descriptions need to be analyzed in more detail. Research questions need to be formulated, and rigorous analyses are required to systematically answer the questions before any sound policy implication can be recommended. To this end, the following research questions are the main focus of the study: What determine Cambodia's international trade? Do aid inflows promote Cambodia's trade performance?

The remaining parts of the study are structured as follows. Section2 presents theoretical foundation and empirical literature on which the econometric model is based in order to answer the aforementioned research questions. Section 3 provides brief overview of the foreign aid to Cambodia. The empirical model using the augmented gravity model and the research methodology as well as data sources will be presented in Section 4. Section 5 reports the estimation results. Section 6 draws conclusion and offer some policy implications.

2. Linkages between Foreign Aid and Trade

Official development assistance may exert an effect on trade flows, either through general macroeconomic impact of foreign aid, or because foreign aid is directly tied to trade, or because it reinforces bilateral economic and political relations or a combination of the three (McGillivray and Morrissey, 1998; Suwa-Eisenmann and Verdier, 2007). The macroeconomic impact of aid likely occurs as foreign aid augments savings of domestic economy, which translates into higher domestic investment and higher growth rate of domestic growth than would be possible in the absence of aid. The higher economic growth rate, in turn, induces greater import capacity of the recipient to absorb foreign goods and services; some of which are originating from donor countries (Suwa-Eisenmann and Verdier, 2007). This leads to an increased trade flows between donors and recipient countries.

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The links between aid and trade flows are documented. It is often indicated that foreign aid is linked to structural economic reforms of the recipient countries, such as the liberalization of trade regimes, trade facilitation, etc. The good example of this type of aid is the one provided to the recipient countries by the multilateral donors, such as the World Bank and/or the International Monetary Fund on condition that the former engage seriously in its macroeconomic stabilization and adjustment programs. This type of conditional aid can possibly induce importation of products from donors as the implementation of the economic reforms in the recipient countries can lead to a reduction in international trade barriers to markets of the recipient developing countries (McGillivray and Morrissey, 1998; Lloyd et al., 1998).

However, there seems to be no consensus with regard to the positive relationship between for eign aid and trade flows. First, due to its fungibility, aid may have a negligible economic effect on trade (Heller, 1975; Pack and Pack, 1993).Although all aid is saved, thereby leading to higher domestic investment, it may potentially crowd out public investment and increase investment goods prices, resulting in lower economic growth. Second, aid may be used to finance the consumption of non-tradable goods and services, which will generate an upward pressure on the prices of the non-tradable goods, thereby bringing about a relative price shift in favor of non-tradable sector, given the price of the tradable goods. This makes the price of tradable goods relatively cheaper, leading to an increase in the demand for the goods, and thus more imports. The result is the deterioration of the external balance, which in turn requires more aid—a phenomenon known as 'aid dependency'. Third, aid may also generate undesirable effects on tax and real exchange rate, thus export competitiveness of the recipient countries—a phenomenon widely known as 'Dutch Disease'.

In addition, there are other channels through which aid and trade are related. The most direct linkages between the two are aid tying, both formal and informal, where aid is provided, dependent upon the recipient purchasing goods from aid-giving countries.[20]This means that aid is given in the forms of goods and services procured in the donor countries, thus the aid itself is exports of the donors. One would expect that tied aid is directly positively associated with exports of donors, thus increasing recipient exposure to donor goods and services, which expand and consolidate commercial ties between aid-giving and receiving countries (McGillivray and Morrissey, 1998; Suwa-Eisenmann and Verdier, 2007; Lloyd et al.,1998). That is why aid is often viewed as an instrument of trade policy (Morrissey, 1993; McGillivray and Morrissey, 1998). Another variant of aid tying is mixed credits, where donors provide an export subsidy to their companies, seeking contracts in aid-

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[20] Australia, France, Italy and the United States are known to have tied their assistance (Berthélemy, 2006)

receiving developing countries, paying for this out of aid budget. A less direct form of tying is informal, where donors direct aid towards projects or countries in which their own industries have a strong competitive advantage.

Yet, aid tying can slow down economic growth in recipient countries, and as such be counterproductive in promoting donor exports as it prevents the recipients from purchasing the most appropriate goods at the best possible price (Morrissey, 1993; Lloyd et al., 1998; McGillivray and Morrissey, 1998). Aid tying may also be detrimental to donors as it often tends to support their inefficient industries (McGillivray and Morrissey, 1998). Tied aid many also induce economic distortions and worsen the terms of trade of the recipient least developed economies, impoverishing the recipients rather than making better off (Tajoli, 1999).This led a number of multilateral organizations such as the World Bank to discourage the use of tied aid through their coordinated efforts. Jepma (1991) pointed out that exports under tied aid are overpriced by between 10 and 40 percent, compared to the prevailing world market prices.

On the other hand, it is often believed that trade can influence aid, which may be attributed to effects of aid allocation policies of donor countries. These policies may be pursued, due largely to various pressures applied by various lobby and business groups who might be associated with particular trade interests. Trade can also give rise to aid when aid-giving countries give their preferences in aid allocation toward the recipient countries that have the greatest commercial relations. This occurs as donors tend to reward a recipient for the purchase of their products.

Even in the absence of tying aid, there are channels through which aid can induce recipient dependence on donors for the supply of goods and services. For example, aid tends to fund projects that require the imports of capital goods, typically produced by donors. This effect is not necessarily isolated to the life of the project, where equipment and machinery are involved; replacement parts are often only available in the original source country (Lloyd et al., 1998).

A number of studies have been undertaken to examine the relationship between foreign aid and international trade. In their study on the relationship between bilateral aid and bilateral exports, Arvin and Baum (1997) detected a positive relationship between aid and exports of recipients. Similarly, using panel data from 184 countries over 1990-2005, Johansson and Peterson (2009) suggested that aid was positively associated with international trade between recipients and donors. Martınez-Zarzoso et al. (2009) investigated the impact of German aid on German export performance to its recipient countries, using both static and dynamic econometric specifications. They found that German aid is positively associated with an increase in German exports of goods that is larger than the aid flow. Similar results were reported by

Nowak-Lehmann et al. (2009), Brenton and von Uexkull (2009), Ferro et al. (2011), Helble et al. (2012) and Pettersson and Johansson (2013).

However, Lloyd et al. (2000) pointed out that there were very little evidence that aid created trade in their study on the linkages between aid and trade, using a sample of four European donors and 26 African recipients over the period of 1969-1995. Jepma (1991) and Wagner (2003) found that the benefits for donors through tied aid are usually small whereas aid tying significantly reduces the benefits of aid for recipient countries. In their most recent study, Nowak-Lehmann et al. (2013) find that the net effect of foreign aid on exports of recipients is insignificant for a large sample of 123 countries.

Cali and TeVelde (2011) empirically carried out a systematic evaluation of whether aid-for-trade has helped recipient developing countries trade more efficiently, and whether it has improved their trade performance, using a sample of 100 developing countries over the period 2002-2007. They found that *aid for trade facilitation* reduced the costs of trading. The effect of *aid to trade policy and regulations* on the costs of trading is mixed. *Aid to economic infrastructure* has a positive effect, both statistically and economically, on exports. However, *aid to productive capacity* does not appear to exert any impact upon exports.

In a nutshell, based on the literature review so far, the aid-trade links are far from clear-cut. Thus, the findings obtained from one country cannot be generalized for others as countries differ in many aspects—economic structure, institutions, culture, etc.

To the best of our knowledge, no empirical study has been carried out to examine the impact of foreign aid on trade for Cambodia, except Sato et al. (2011) who performed an institutional analysis of foreign aid from four emerging donors, namely India, South Korea, Thailand, and China. The current paper attempts to examine the effect of aid on trade for Cambodia, using a panel data set over the period of 1995-2011.

3. Brief Overview of Foreign Aid to Cambodia

Cambodia received foreign aid from the former Soviet Bloc countries, known as the Council for Mutual Economic Assistance during the 1980s (Ear, 2007b). By the time when the United Nations Transitional Authority in Cambodia (UNTAC) arrived, aid from these countries was cut off, which severely affected the health of Cambodian economy. Ear (2007b) reported that, during 1987-1988, aid to Cambodia dropped by 35% while trade, measured as a percentage of GDP, decreased significantly between 1989 and 1990. Retail price inflation was very high, exceeding 100% during the early 1990s (Irvin, 1993; Ear, 2007b). However, in 1991, aid increased substantially,

thanks to the then United Nations Secretary-General's appeal to the international community for their support of Cambodia's rehabilitation and reconstruction efforts.

Foreign aid to Cambodia has been considered as one of the factors contributing to the rehabilitation and development of the country, which was devastated by more than three years of the genocidal regime and subsequent internal conflicts.The internal conflicts came to a complete end in 1998,[21] thanks to the *win-win* strategy initiated by Samdech Techo Prime Minister Hun Sen. The genocidal regime caused an enormous destruction, not only to the country's infrastructure, educational institutions, financial and health systems, but, even more importantly, to the human capital,[22] which is indispensable for the development of the country. To rebuild the decades-long, conflicts-inflicted country, Cambodia was in dire need of capital as well as foreign aid. The need to build up the nation's capital stock was very acute, and could, to some extent, be alleviated through inward FDI and foreign aid. Cambodia has engaged in the liberalization of its economy by promoting investment and by adopting an extremely open policy towards foreign investment and international trade.

After the first-ever national elections in 1993, Cambodia has regained its national confidence and recognition from the international community. The Kingdom also started to undertake economic reforms for which it received financial and technical assistance from a number of donors and from multilateral institutions such as the World Bank and the International Monetary Fund, and opened its economy more widely to investment and trade with the rest of the world. As a result, Cambodia became a potential location base for FDI, while its international trade got a new impetus and substantially expanded, and foreign aid has gradually increased. Following the elections of 1993, Cambodia received large amounts of foreign aid, making Cambodia one of the most aid-dependent countries in the world (Ear, 2007; Ek and Sok, 2008).[23]

According to ODA statistics made available by the Council Development of Cambodia, total disbursements of aid have increased gradually. Cambodia received US$ 250.1 million in foreign aid in 1992, and it increased to around US$ 415 million

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[21] After the UN-administered elections in 1993, conflicts continued and sporadic fighting was heard in some parts of Cambodia.

[22] As cited in Ear (2007b), the United Nations (1992) estimated that most of highly educated Cambodians were residing abroad. They were regarded as a threat to the Khmer Rouge regime and thus prime target by the regime.

[23]Ek and Sok (2008) reported, using data from the World Bank, that foreign aid to Cambodia accounted 11.2 percent of its gross national income in 2000, and dropped to around 9 percent in 2005, which was far exceeding the low-income average of approximately 3 percent, and that aid receipts accounted for about 50 percent of the country's national budgets.

in 2000, to US$ 777.3 million in 2007 and reachedUS$1,086 million in 2010 (Figure 1).[24] However, foreign aid to Cambodia dropped to around US$ 745 million in 2011. This may be due to the global economic crisis that hardest hit the world economy, especially the advanced economies—some of which are Cambodia's donors. Among the main development partners, Japan and China are the largest sources of official development assistance. However, global foreign aid landscape is reportedly shifting. China, India, Korea and Thailand, among others, are now considered as emerging donors,[25] playing an increasing role in the development of poorer countries such as Cambodia (Sato et al., 2011).The rising profile of emerging donors is largely due to the recipients' dissatisfaction with the traditional development assistance regime (Woods, 2008; Sato et al., 2011).

Some of official development assistances are classified as an aid-for-trade since its objective is to provide technical assistance for trade-related policy, trade-related infrastructure, trade development, and other trade-related projects (Soket al., 2011). Sato et al. (2011) reported that some donors such as Korea gave aid to Cambodia for the latter's infrastructure development to improve recipient's business environments for its investment and exports.
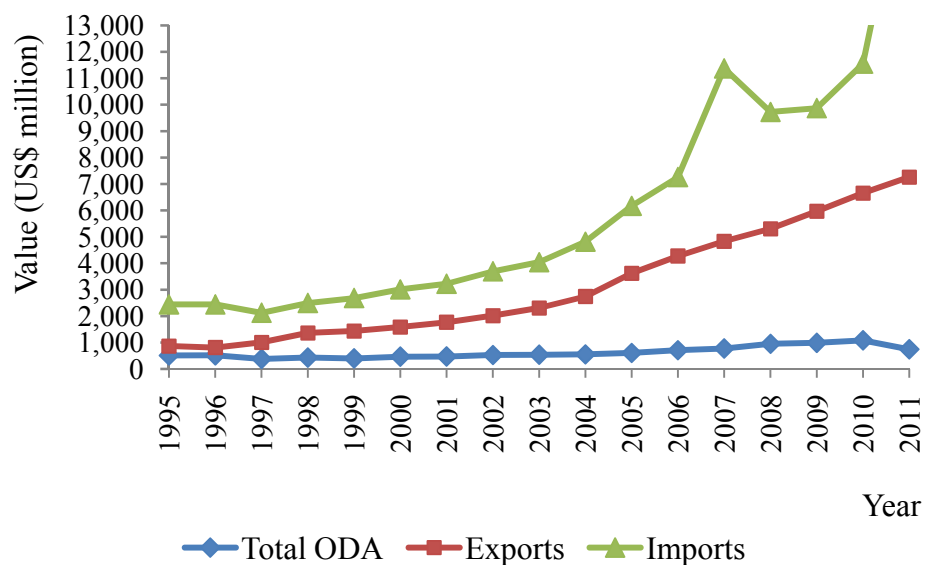

Figure 1: Total ODA, Exports and Imports over 1995-2011

Source: Council for the Development of Cambodia and IMF's Directions of Trade

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[24] This amount includes foreign aid to non-governmental organizations in operation in Cambodia.

[25] Emerging donors refer to donors that are not OECD development assistance committee members, which are often referred to as established donors.

ODA to Cambodia was made through multilateral agencies such as the World Bank, the International Monetary Fund, the Asian Development Bank and the Global Fund, accounting for 29.87%; European Union (23.14%); bilateral donors (38.17%); and non-governmental organizations (8.82%) (Figure 2).
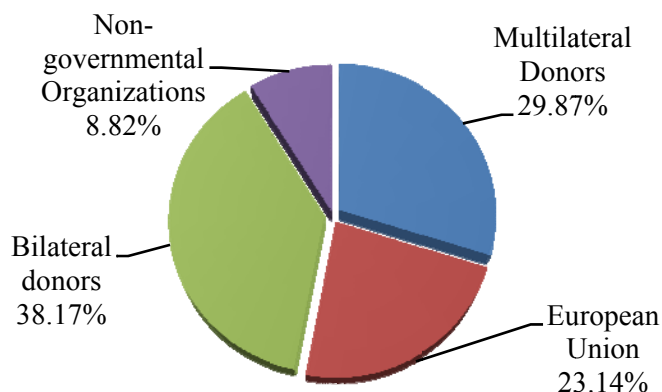

Figure 2: ODA by Donors over 1992-2011
Source: Council for the Development of Cambodia, 1992-2011

The data from the Organization of Economic and Development Cooperation (OEDC) database shows that Cambodia has received some amounts of aid for trade since 2003.Aid-for-trade flow to Cambodia was US$ 0.32 million in 2003, and gradually increased since then until 2008, reaching US$ 8.74 million (OECD database). Aid for trade are aimed to help recipients, particularly least developed and developing countries, to build the supply-side capacity and trade-related infrastructure to assist them in implementing and benefiting from WTO agreements, and more broadly in expanding their trade with the rest of the world. It primarily focuses on the following (Vijil and Wagner, 2012; OECD-WTO, 2013): (i) technical assistance for trade policy and regulations; (ii) trade-related adjustment; (iii) economic infrastructure or trade-related infrastructure; (iv) building productive capacity and trade development; and (v) other trade-related needs. These are likely to help strengthen institutional and capacity building to support trade development and facilitation of the recipients.

4. Model Specification and Estimation Techniques
4.1 Model Specification

The present study attempts to empirically examine the relationship between Cambodia's international trade and foreign aid, along with other control variables that may affect trade over the period 1995-2011, using the framework of widely-used gravity model which was initially developed by Anderson (1979) and later further

refined by a number of trade authorities, such as Bergstrand (1985, 1989), Deardorff (1998), Feenstra et al. (2001); and Anderson and van Win coop (2003). In the original gravity model, bilateral trade between two countries is positively related to their incomes and populations of trading partners, but negatively related to geographic distance between the trading countries. In the empirical studies, this basic model is augmented by a number of trade enhancing and impeding factors, as well as a number of dummy variables, e.g. former colony, common language, common border, and land lockedness.

Following the theoretical foundation and previous empirical literature such as Wagner (2003), Martınez-Zarzoso et al. (2009), Helble et al. (2011), Silva and Nelson (2012), and Nowak-Lehmann et al. (2013), we augment the basic gravity model with foreign aid, exchange rate, foreign direct investment and a number of dummy variables to investigate the effect of foreign aid on Cambodia's international trade flows. The augmented gravity model of Cambodia's international trade are thus specified as follows:

$$LnEXP_{cjt} = \alpha_0 + \alpha_1 LnFDI_{cjt} + \alpha_2 LnAID_{cjt} + \alpha_3 LnHGDP_{cjt} + \alpha_4 LnRER_{cjt} + \alpha_5 LnDIST_{cj}$$
$$+ \alpha_6 GSP + \alpha_7 AFTA + \alpha_8 CRISIS + \varepsilon_{cjt} \tag{1}$$

$$LnIMP_{cjt} = \beta_0 + \beta_1 LnFDI_{cjt} + \beta_2 LnAID_{cjt} + \beta_3 LnCGDP_{cjt} + \beta_4 LnRER_{cjt} + \beta_5 LnDIST_{cj}$$
$$+ \beta_6 AFTA + \beta_7 CRISIS + \mu_{cjt} \tag{2}$$

$$i = 1,2,3,\ldots,N \text{ and } t = 1,2,3,\ldots,T$$

where *lnEXP* is logarithm of exports from Cambodia to trading partners, measured in current U.S. dollars; *lnIMP* is logarithm of imports from trading partners, measured in current U.S. dollars; *lnFDI* denotes logarithm of investment stock of trading partners in Cambodia in current U.S. dollars; *lnAID* is logarithm of foreign aid from trading partners in current U.S. dollars; *lnCGDP* is logarithm of Cambodia's gross domestic product at purchasing power parity; *lnHGDP* is logarithm of trading partner's gross domestic product at purchasing power parity; *lnRER* is logarithm of the ratio of the U.S. dollar to the that of partner's currency;[26] *lnDIST* is logarithm of geographic distance between capital city of Cambodia (Phnom Penh) and that of each

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[26] Cambodian economy has been highly dollarized and seems to remain unabated at least in the medium term. Most of business transactions are made in U.S. dollars, ranging from wages and salaries of private firms and international organizations and NGOs, to trade payments. The use of domestic currency (the Riel) is mainly confined to payments of tax and government salaries, and small transactions.

trading partner in kilometers; GSP, dummy variable, is generalized system of preferences, which is equal to 1 for years when Cambodia was granted GSP status by GSP-providing countries and 0 otherwise; *AFTA* is dummy variable for number of years since Cambodia become a member of ASEAN Free Trade Area, defined as being equal to 1 for 2000-2011 and 0 otherwise; and *CRISIS* is dummy variable for the Asian crisis and global financial and economic crises, defined as being equal to 1 for 1997, 1998, 2008-2010 and 0 otherwise. c, j and t represent Cambodia, home county trading partner and period of time, respectively; and ε_{cjt} and μ_{cjt} are composite error terms.

This paper uses detailed, unpublished FDI data, provided by the Council for the Development of Cambodia (CDC) covering the period 1995-2011. The data on gross domestic product (GDP), exchange rates, total exports and total imports for each country in the sample are from IMF's International Financial Statistics, Direction of Trade Statistics, and World Economic Outlook database, the World Bank's World Development Indicators. The data on official development assistance to Cambodia are made available by the Cambodian Rehabilitation and Development Board (CRDB) and OECD database. Data on geographical distance is from the Great Circle Distances between Capital cities in kilometers. The data on the generalized system of preferences are obtained from the Cambodian Ministry of Commerce and UNCTAD database.

4.2 Estimation Techniques

The data used to estimate specifications (1) and (2) are panel data set, which is the pooling of observations on cross-section of Cambodia's trading partners over 17 years.

Panel data have several advantages over the usual cross-sectional or time series data (Hsiao, 2003, 2005, 2007; Plasmans, 2006). Plasmans (2006) has shown that panel data are more efficient with respect to random sampling and ease of identification, presents less multicollinearity and are better for aggregation as the aggregation may vary over time. Similarly, Hsiao (2005, 2007) has indicated that an important advantage of panel data is that it allows to control for the impact of omitted variables, and contain information on the inter-temporal dynamics, and also that the individuality of the entities allows the effects of missing or omitted variables to be controlled for. Wei and Liu (2001) have argued that the use of panel data takes into account the diversity and the specificity of trading partner's unobservable behavior.

Panel data sets allow us to use three estimation procedures: pooled OLS, fixed-effects (FE), or random effects (RE) estimations. If the assumption holds that the unobservable individual country-specific effects are not very different, pooled OLS estimations are the most simple and efficient method. The FE estimator allows for the

unobservable country heterogeneity, and is always less efficient than the RE estimator, but the latter may suffer from endogeneity bias (Hausman test) so that the FE estimator is preferred in that case. However, the use of a fixed-effects model will drop the time-invariant variable DIST, and will make FE estimations less efficient than the RE estimation counterpart. Like the FE model, RE estimations take into consideration the unobservable country heterogeneity effects, but incorporate these effects into the error terms, which are assumed to be uncorrelated with the explanatory variables.

To choose the appropriate model for the panel data set from these three competing models, three tests are available (Plasmans, 2006): the F-test, the Hausman specification test (Hausman, 1978), and the Lagrange multiplier test (LM test) (Breusch and Pagan, 1980). The F-test is used to carry out a test for the FE model against the pooled OLS. The null hypothesis of the F-test is that all individual effects are equal (pooled regression), or algebraically, $H_0 : \alpha_1 = \alpha_2 = ... = \alpha_N = \overline{\alpha}$, with the F-test statistic for the joint statistical significance of the individual effects as follows:

$$F_{N-1,NT-N-(K-1)} = \frac{(R^2_{FE} - R^2_{pooled})/(N-1)}{(1 - R^2_{FE})/[(NT - N - (K-1)]}, \tag{3}$$

where N is the number of FDI-investing countries, and K is the number of explanatory variables. A large value for F will lead to the rejection of the null hypothesis in favor of the FE model.

The Hausman test is for testing the appropriateness of the fixed effects model against the RE model. The Hausman test statistic is computed as follows (Verbeek, 2004):

$$\psi_H = (\hat{\beta}_{FE} - \hat{\beta}_{RE})'[\hat{V}\{\hat{\beta}_{FE}\} - \hat{V}\{\hat{\beta}_{RE}\}]^{-1}(\hat{\beta}_{FE} - \hat{\beta}_{RE}), \tag{4}$$

where $\hat{V}s$ denote estimates of the true covariance matrices. Under the null hypothesis that the explanatory variables and α_i are uncorrelated, the Hausman test statistic ψ_H is asymptotically Chi-square distributed with K degrees of freedom, where K is the number of slope coefficients in the random effects model. A large value of ψ_H leads to the rejection of the null in favor of fixed effects model.

Since the regression equations above contain both time-variant and time-invariant variables, the use of FE estimation is deemed inappropriate as it will drop the time invariant variables. Therefore, this chapter will opt for the estimation of pooled OLS and RE models. One model against the other model will be tested using the LM test. If individual country-specific effects do not exist, the pooled OLS model is known to deliver the best linear unbiased estimators (BLUE), while RE estimators are not

efficient. The opposite is true if individual country-specific effects do exist in the panel data set.

The pooled OLS model assumes that the individual specific effects, α_i, are equal and different from zero, while the RE model assumes that they follow a random, independently and identically distributed stochastic process, that is, $\alpha_i \sim iid(0, \sigma_\alpha^2)$; u_{it} is assumed to be normally distributed with zero mean and constant variance, that is, $u_{it} \sim iid(0, \sigma^2)$. It has been shown by Breusch and Pagan (1980) that, under the null hypothesis $H_0 : \sigma_\alpha^2 = 0$ against the alternative hypothesis $H_1 : \sigma_\alpha^2 > 0$. The LM test statistic is as follows:

$$
LM_{BP} = \frac{NT}{2(T-1)} \left[\frac{\sum_{i=1}^{N} \left(\sum_{t=1}^{T} \hat{e}_{it} \right)^2}{\sum_{i=1}^{N} \sum_{t=1}^{T} \hat{e}_{it}^2} - 1 \right]^2 , \tag{5}
$$

which is asymptotically $\chi^2 -$ distributed with one degree of freedom; $\hat{e}_{it}$ denotes OLS residuals obtained under H_0 (pooled regression). A large value for the LM test statistic will reject the null hypothesis in favor of the RE model.

To avoid spurious regression results, it is important to carry out unit root tests of each variable before sound estimations and useful analysis can be performed[27]. Since the time span of the individual series in the available panel data set is relatively short, the recently-developed panel unit root test (see Im et al., 2003), known as the IPS test, will be used, as it allows for residual serial correlation and heterogeneity of error variances across groups, and also as it is more powerful even with relatively short sample periods.[28]

The IPS test starts with the specification of a separate Augmented Dickey-Fuller (ADF) regression for each cross section:

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[27]A number of panel unit root tests are available in the econometric literature (see, for instance, Quah, 1994; Choi, 2001; Levin, Lin and Chu, 2002; Im, Pesaran and Shin, 2003).

[28]Im, Pesaran and Shin (2003) indicate that their panel unit root test technique is generally better than previously-proposed tests, and is usually simpler. The minimum time observations for the Im et al. (2003) results are greater than five time observations in the case of ADF regressions with intercepts, and greater than six time observations in the case ADF regressions with intercepts and linear time trends.

$$\Delta y_{it} = \alpha_i + \beta_i y_{i,t-1} + \sum_{j=1}^{p_i} \rho_{ij} \Delta y_{i,t-j} + \varepsilon_{it} \tag{6}$$

$$i \in [1, N], \quad t \in [1, T]$$

Since almost all time series have deterministic trends, incorporating the trend into growth equation (6) leads to equation (7):

$$\Delta y_{it} = \alpha_i + \gamma_i t + \beta_i y_{i,t-1} + \sum_{j=1}^{p_i} \rho_{ij} \Delta y_{i,t-j} + \varepsilon_{it} \tag{7}$$

$$i \in [1, N], \quad t \in [1, T]$$

where Δ presents the operator for the first-order difference, y_{it} denotes each dependent and explanatory variable, p_i is the number of lags of Δy_{it}, ρ_{ij} is the slope parameters of the lagged changes, and ε_{it} is assumed to be independently and normally distributed with mean zero and finite heterogeneous variances. The null hypothesis of unit roots to be tested is: $H_0 : \beta_i = 0$ for all i versus the alternative, $H_1 : \beta_i = 0$ for some $i's$ and $\beta_i < 0$ for at least one i.

The IPS test statistic, which is referred to as the t-bar statistic, is based on the ADF statistic averaged across the groups. The standardized t-bar statistic is of the following form:[29]

$$W_{t-bar} = \frac{\sqrt{N}\{\frac{1}{N}\sum_{i=1}^{N} t_{iT}(p_i, \rho_i) - \frac{1}{N}\sum_{i=1}^{N} E[t_{iT}(p_i, 0)|\beta_i = 0]\}_{T,N}}{\sqrt{\frac{1}{N}\sum_{i=1}^{N} Var[t_{iT}(p_i, 0)|\beta_i = 0]}} \Rightarrow N(0,1) \tag{8}$$

Im, Pesaran and Shin (2003) tabulated the values of $E[t_{iT}(p_i, 0)|\beta_i = 0]$ and $Var[t_{iT}(p_i, 0)|\beta_i = 0]$ for different values of T and p. Under the null hypothesis, the t-bar statistic has a standard normal distribution. Under the alternative hypothesis of stationarity, the t-bar statistic diverges to $-\infty$. The rejection of the null hypothesis will lead to the conclusion that the variable considered is stationary.

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[29] See equation (4.10) in Im et al. (2003).

To obtain stable estimated slope parameters, additional tests such as collinearity and heteroskedasticity tests are carried out. The collinearity check is based on the variance inflation factor (VIF), which has been shown to be equal to $1/(1-R_i^2)$, where R_i^2 is obtained from the multiple correlation coefficient of an explanatory variable X_i regressed on the remaining explanatory variables. Evidently, a higher VIF_i indicates R_i^2 to be near unity and therefore points to collinearity. The commonly-used rule of thumb states that if VIF < 5, there is no evidence of damaging multicollinearity (Studenmund, 2006).

Greene (2003) proposes a test for group wise heteroskedasticity, which is based on the Wald statistic. Under the null hypothesis of common variance, the Wald test statistic is shown to be of the following form:

$$W = \sum_{i=1}^{N} \frac{(\hat{\sigma}_i^2 - \sigma^2)^2}{Var(\hat{\sigma}_i^2)}, \tag{9}$$

W is χ^2 – distributed with N degrees of freedom. Failure to reject the null indicates the absence of group wise heteroskedasticity.

5. Estimation Results

Table 1 presents the basic descriptive statistics and panel data unit root test results for both dependent and independent variables included in the specifications above. Coefficients on most of the variables are highly statistically significant at the 1% level, except for imports and exports, which are significantly different from zero at the 5% significance level. These results indicate that both dependent and other explanatory variables in the model are all stationary and can be used for estimation and for further hypothesis testing.

The collinearity checks for all variables in specifications 1 and 2, based on the VIF statistics of much less than 5, suggests that there is no harmful multicollinearity among the included explanatory variables. The statistically significant LM statistics for the export and import equations indicate that the RE model performs better than OLS.[30] The results of the test statistics are reported along with the estimation results.

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[30] LM statistics for export and import equations, along with estimated slope parameters, are reported in Tables 2-5, respectively.

Table 1: Descriptive Statistics and IPS Panel Data Unit Root Test Results			
Variable	Mean	Standard Deviation	t-bar Statistics
LnEXP	16.8684	1.7662	-1.805**
LnIMP	17.1151	2.1225	-1.676**
LnFDI	15.0824	6.7317	-4.727***
LnAID	9.6670	7.9305	-3.154***
LnHGDP	27.2784	1.1547	-4.791***
LnRER	0.4494	0.4980	-13.940***
LnDIST	8.4237	0.9570	–
GSP	-2.3266	2.8448	–

Notes:

1. *, **, and *** refer to statistical significance levels at the levels of 10%, 5% and 1%, respectively.
2. *lnEXP* is logarithm of Cambodia's exports to each trading partner; *lnIMP* is logarithm of Cambodia's imports from each trading partner; *lnFDI* is logarithm of foreign direct investment stocks of each trading partner in Cambodia; *lnAID* is logarithm of foreign aid to Cambodia by each donor; *lnHGDP* is logarithm of partner's GDP, measured at purchasing power parity; *lnRER* is logarithm of the ratio of U.S dollar to trading partner's currency; *lnDIST* is logarithm of geographical distance; and *GSP* is the generalized system of preferences.

Tests for group wise heteroskedasticity proposed by Greene (2003)were carried out for both equations 1 and 2. The large values of Wald test statistics for all specifications lead to strong rejection of the null hypothesis of homoscedasticity, suggesting that there is the presence of heteroskedasticity in the models.[31] Hence, all specifications are estimated with heteroskedastic consistent standard error.

Table 2: Effect of Foreign Aid on Cambodia's Exports

Variable	(1)	(2)
Constant	-13.666	-4.514
	(8.890)	(7.135)

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[31] Results of group wise heteroskedasticity test statistics can be obtained from the authors upon request.

LnFDI	0.042***	0.037**
	(0.016)	(0.016)
LnAID	0.050***	–
	(0.019)	
LnAFT	–	0.037***
		(0.013)
LnHGDP	1.447***	0.941***
	(0.398)	(0.323)
LnRER	0.001	0.016
	(0.068)	(0.082)
LDIST	-1.254***	-0.653*
	(0.379)	(0.351)
GSP	0.998***	0.831***
	(0.238)	(0.248)
AFTA	-0.529	-0.555*
	(0.330)	(0.319)
CRISIS	0.135	0.116
	(0.098)	(0.100)
No. of Observations	407	408
Overall R^2	0.2894	0.3106
Wald test Statistic	1181.41***	946.14***
LM statistic $\chi^2(1)$	OLS vs. RE: 1190.76***	OLS vs. RE: 1337.14***

Notes:

1. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.
2. Standard errors are group wiseheteroskedasticity robust standard errors in parentheses.
3. *AFTA* is Cambodia being a member of Asian Free Trade Agreement (AFTA); and *CRISIS* is Asian and global crises.
4. See notes below Table 1 for the definitions of the other variables.

Table 2 presents estimation results from regression specification 1, the effect of foreign aid on Cambodia's exports over the period under investigation. The estimated coefficient on LnFDI is, as expected, positive and is highly statistically significant at the 1%level, indicating that Cambodia's exports is positively affected by inward foreign direct investment. The result of the estimation suggests that, holding other factors fixed, one percent increase in FDI stock tends to increase Cambodia's exports by 0.042 percent. The finding is consistent with those of previous studies for Cambodia and for other countries (Soeng, 2008 for Cambodia; Wei and Liu, 2001 for China).

The coefficient on LnAIDin columns (1) bears a positive sign and is statistically significant at the 1% level, indicating that foreign aid has played an important role in inducing exports from Cambodia to the donors. The finding is consistent with Nowak-Lehmann et al. (2011) who found that development aid has a positive and significant impact on recipient countries' exports in Asian, Latin American and Caribbean countries. Similarly, Karingi and Leyaro (2009) found that aid for trade promoted trade for Africa.

In column (2), we re-estimated our econometric specification by replacing LnAID with aid-for-trade variable, LnAFT. The result shows that LnAFT is also highly significant at the 1% level, and is consistent with that reported by Cali and TeVelde (2011), Helble et al. (2011) and Bearce et al. (2013). This should be the case as aid-for-trade's objectives focus primarily on the trade-enhancing projects, such as (i) technical assistance for trade policy and regulations; (ii) trade-related adjustment; (iii) economic infrastructure or trade-related infrastructure; (iv) building productive capacity and trade development; and (v) other trade-related needs. All of these tend to reduce trade-related costs and help strengthen institutional and capacity building to support trade development and facilitation, thereby inducing recipient's exports.

The coefficient on LnHGDP is positive and statistically significant at the 1% significance level, indicating that partner's gross domestic product has strongly affected exports of Cambodia. The estimated coefficient of around 1.45 suggests that, *ceteris paribus*, one percent increase in partner's GDP is estimated to result in 1.45 percent increase in Cambodia's exports. GSP bears an expected positive sign, and is statistically different from zero at the 1% level. This implies that Cambodia has benefited from GSP status granted by the United States, the European Union, and other developed countries. The result is in line with the previous studies (Soeng, 2008; Cuyvers and Soeng, 2013).

The coefficient on LnDIST is statistically significant at the 5% level, implying that countries that are farther away from Cambodia trade less with the Kingdom, which is consistent with previous empirical studies (Cuyvers et al., 2008; Soeng, 2008; Wei and Liu, 2001). Other variables such as LnRER and CRISIS are not statistically different from zero at the conventional significance level in both columns (1) and (2).

Table 3: Effect of Foreign Aid on Cambodia's Exports (with one-year lag)

Variable	(3)	(4)
Constant	-14.203	-2.870
	(8.681)	(7.005)
$LnFDI_{t-1}$	0.037***	0.030**
	(0.014)	(0.014)

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LnAID $_{t-1}$	0.061***	–
	(0.017)	
LnAFT $_{t-1}$	–	0.048***
		(0.012)
LnHGDP $_{t-1}$	1.463***	0.832***
	(0.381)	(0.306)
LnRER $_{t-1}$	0.016	0.024
	(0.050)	(0.062)
LDIST	-1.217***	-0.464
	(0.378)	(0.320)
GSP	0.790***	0.607***
	(0.218)	(0.225)
AFTA	-0.323	-0.396
	(0.278)	(0.274)
CRISIS	0.072	0.001
	(0.096)	(0.104)
No. of Observations	392	392
Overall R^2	0.3049	0.3306
Wald test Statistic	266.99***	245.30***
LM statistic $\chi^2(1)$	OLS vs. RE: 1193.58***	OLS vs. RE:1358.74***

Notes:

1. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.
2. Standard errors are group wise heteroskedasticity robust standard errors in parentheses.
3. See notes below Tables 1&2 for the definitions of the variables.

It is unlikely that time-variant explanatory variables may instantaneously react,we therefore re-estimated the export equation with one-year lag to account for the lagged effect of these variables on exports on the one hand and to reduce the endogenous relationship between exports and the time-variant variables on the other. The results, reported in column (2), appeared to be robust. All variables including the variables of our interest, LnAID and LnAFT, retain their statistical significance, confirming that these variables have played a positive, significant role in promoting Cambodia's exports. Yet, AFTA is now significant at 10%. As AFTA has a negative sign, it seems to suggest that Cambodia appeared to have an export diversion. This is consistent with a recent study on Brunei Darussalam, Cambodia, Laos and the other

AFTA members by Coulibaly (2004) who showed that AFTA has been net export diverting.

Table 4: Effect of Foreign Aid on Cambodia's Imports

Variable	(5)	(6)
Constant	5.239	7.490*
	(3.973)	(4.236)
LnFDI	0.022*	0.023**
	(0.012)	(0.011)
LnAID	0.006	–
	(0.018)	
LnAFT	–	0.008
		(0.009)
LnCGDP	1.042***	0.933***
	(0.132)	(0.178)
LnRER	-0.010	-0.007
	(0.041)	(0.042)
LDIST	-1.550***	-1.516***
	(0.282)	(0.273)
AFTA	-0.073	-0.055
	(0.224)	(0.228)
CRISIS	-0.009	-0.009
	(0.066)	(0.065)
No. of Observations	411	412
Overall R^2	0.5951	0.5972
Wald test Statistic	818.90***	678.00***
LM statistic $\chi^2(1)$	OLS vs. RE: 1700.55***	OLS vs. RE: 1708.02***

Notes:

1. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.
2. Standard errors are group wise heteroskedasticity robust standard errors in parentheses.
3. *LnCGDP* is logarithm of Cambodia's GDP at purchasing power parity. See notes below Tables 1 & 2 for the definitions of the variables.

Table 4presents estimation results for the effect of foreign aid on Cambodia's imports. The coefficient of LnFDI, as expected, bears a positive sign and is statistically significant. This indicates that foreign direct investment is positively related to imports from the FDI investing countries. *Ceteris paribus*, one percent

increase in FDI stock would lead to 0.022 percent increase in imports to Cambodia from its trading partners. The effect is small compared to the previous study by Soeng (2008), who found a percent increase in inward FDI leads to an increase in Cambodia's imports of 0.07-0.11 percent. The finding is consistent with Beresford et al. (2004) and EIC (2007) who reported that most of the cloth, i.e. raw materials for the production of garments, is imported from Asian countries, such as China, Hong Kong and Taiwan, and that garment factories in Cambodia only perform cut-make-trim activities for exports. This means that the value added in the finished garment industry is relatively small. This may also explain the low productivity spillovers from FDI in the Cambodian manufacturing industry as was found by Soeng (2008).

The coefficient of LnCGDP is positive, and is statistically significant at 1% level, implying that Cambodia's GDP is positively related to its imports. This is true as higher GDP translates into higher income, thus leading to higher demand for goods; some of which are imported from its trading partners. Holding other factors constant, one percent increase in Cambodia's gross domestic product would lead to around 1 percent increase in imports to Cambodia. Like in the case of exports, geographic distance is negatively related to Cambodia's imports. Other variables such as LnAID, LnAFT, LnRER, CRISIS, and AFTA are not statistically significant at any conventional significance level, suggesting these factors have not affected Cambodia's imports. This result is consistent with the previous study (Soeng, 2008).

Table 5: Effect of Foreign Aid on Cambodia's Imports (with one-year lag)

Variable	(7)	(7)
Constant	4.104	11.540**
	(3.900)	(4.857)
$LnFDI_{t-1}$	0.019	0.022*
	(0.013)	(0.012)
$LnAID_{t-1}$	0.008	–
	(0.016)	
$LnAFT_{t-1}$	–	0.023***
		(0.008)
$LnCGDP_{t-1}$	1.093***	0.749***
	(0.133)	(0.185)
$LnRER_{t-1}$	-0.025	-0.019
	(0.042)	(0.042)
LDIST	-1.545***	-1.486***
	(0.278)	(0.276)
AFTA	-0.029	0.021
	(0.216)	(0.224)
CRISIS	-0.052	-0.063
	(0.073)	(0.071)

No. of Observations	393	393
Overall R^2	0.5983	0.5971
Wald test Statistic	597.01***	606.99***
LM statistic $\chi^2(1)$	OLS vs. RE: 1577.91***	OLS vs. RE:1600.24***

Notes:

1. *, **, and *** denote that the slope parameter estimates are statistically significant at the levels of 10%, 5%, and 1%, respectively.
2. Standard errors are group wise heteroskedasticity robust standard errors in parentheses.

Similar to the case of export equation, as time-variant explanatory variables may not instantaneously react, we therefore re-estimated the import equation with one-year lag. The result also appears to be robust (Table 5). Most variables retain their statistical significance, except LnAFT, which is now highly significant at the 1% level, implying that AFT and Cambodia's imports are positively related. This result appears to be in line with Wagner (2003) who found that 10 percent increase in aid to a country, *ceteris paribus*, led to an increase of donor exports to the recipient by 1.63 percent. Similar results were found in empirical studies by Nilsson (1997), Martinez-Zarzoso et al. (2009) and Nowak-Lehmann et al. (2011).

6. Conclusion

This paper attempts to identify the factors that determine Cambodia's international trade and examine the effect of foreign aid on the country's exports and imports over the period 1995-2011. The study is undertaken, using the widely-used gravity model and tested panel data set over the period under investigation. A set of commonly used variables, such as foreign direct investment, foreign aid, income, exchange rate, geographic distance and a set of dummy variables, which are believed to affect Cambodia's trade. To ensure the best possible results, several diagnostic tests were carried out. It is found that RE model is statistically better than OLS, and thus the econometric results are produced by the random effects model. Additional tests were also undertaken: the Im–Pesaran–Shin test for unit roots of all time-variant explanatory variables, multicollinearity checks based on the variance inflation factor (VIF), and group wide heteroskedasticity test.

The estimation results indicate that FDI is positively related to both exports and imports in Cambodia. This result is consistent with the theoretical explanations of trade-FDI models, as well as previous empirical findings for many other developing countries, including China. Concerning the effect of total foreign aid, we find strong evidence that foreign aid has played a significant role in promoting Cambodia's

exports with its trading partners who are also its donors. Aid-for-trade to Cambodia is also found to have had a positive impact on the country's exports. Yet, aid flows do not seem to have impacted upon Cambodia's imports, except Cambodia's income which is highly significant in inducing its imports from its trading partners. GSP is shown to be significantly contributed to the promotion of exports for Cambodia, which is consistent with Soeng (2008) and Cuyvers and Soeng (2013).Other variables such as exchange rate, AFTA, and crisis do not seem to exert any effect on Cambodia's international trade over the period under investigation.

The findings may offer several important policy implications. First, it is interesting to emphasize that inward FDI has played a positive role in Cambodia's international trade. Therefore, FDI should be further encouraged to Cambodia by reducing several remaining constraints that may weaken Cambodia's competitiveness. Second, foreign aid and aid-for-trade have positively affected Cambodia's exports. Thus, more aid, in particular aid-for-trade, to Cambodia should help, among others, promote the country's international trade, which in turn raise living standards and reduce poverty of Cambodian people through employment and income generation for low-skilled workers; many of them are women.

Third, although aid is found to be export promoter for Cambodia through improvements in trade-enhancing factors, it may be likely to fade away as Cambodia is climbing up the higher income ladder from low-income to lower middle-income country in the near future. Due to this and its characteristics, foreign aid seems to be relatively unstable sources compared to other external sources such as foreign direct investment which does not only exert a positive impact on trade but also generate technology transfer in Cambodia (Soeng, 2008).

Fourth, since the role of the exchange rate is ineffective due to the high degree of dollarization of the Cambodian economy, the de-dollarization is expected to reactivate the role of exchange rate in stimulating the economy although this may not be possible in the short run. However, it might be argued that the use of the dollar rather than the 'soft' national currency (the riel) has lowered the exchange rate risks faced by foreign investors in Cambodia, in particular those producing garments for exports.

REFERENCES

Anderson, J. E. (1979), A theoretical foundation for the gravity equation, *American Economic Review*, Vo. 69, pp. 106-116.

Anderson, J. E. and van Wincoop, E. (2003), Gravity with gravitas: A solution to the border puzzle, *American Economic Review*, Vol. 93, pp. 170-192.

Arvin, B. M. and Baum, C. F. (1997), Tied and untied foreign aid: a theoretical and empirical analysis, *Keio Economic Studies*, Vol. 34, pp. 71-79.

Bearce, D. H., Finkel, S. E., Perez-Linan, A. S., Rodriguez-Zepeda, J. and Surzhko-Harned (2013), Has the new aid for trade agenda been export effective?: Evidence on the impact of US Aft allocation 1999-2008, *International Studies Quarterly*, Vol. 57, pp. 163-170.

Beresford, M., Nguon, S., Roy, R., Sau, S. and Namazie, C. (2004), *The Macroeconomics of Poverty Reduction in Cambodia*, UNDP: Phnom Penh, Cambodia.

Bergstrand, J. H. (1985), The gravity equation in international trade: some microeconomic foundations and empirical evidence, *Review of Economics and Statistics*, Vol. 67, pp. 474-481.

Bergstrand, J. H. (1989), The generalized gravity equation, monopolistic competition, and the factor-proportion theory in international trade, *Review of Economics and Statistics*, Vol. 71, pp. 143-153.

Berthélemy, J-C (2006), Bilateral Donors' Interest vs. Recipients' Development Motives in Aid Allocation: Do all donors behave the same?,*Review of Development Economics*, Vol. 10, pp. 179-194

Brenton, P. and van Uexkull, E. (2011), Product specific technical assistance for exports: has it been effective?, *Journal of International Trade and Economic Development,* Vol. 18, pp. 235-254.

Breusch, T. S. and A. R. Pagan (1980), The Lagrange Multiplier Test and its Applications to Model Specification in Econometrics, *Review of Economics Studies*, Vol. 47, pp. 239-253.

Cali, M. and TeVelde, D. W. (2011), Does aid for trade really improve trade performance?, *World Development*, Vol. 39, pp. 725-740.

Choi, I. (2001), Unit Root Tests for Panel Data, *Journal of International Money and Finance*, Vol. 20, pp. 249-272.

Coulibaly, S. (2004), On the Assessment of Trade Creation and Trade Diversion Effects of Developing RTAs*,* University of Lausanne Working Paper, Lausanne-Dorigny, Switzerland.

Cuyvers, L., J. Plasmans, R. Soeng and D. Van Den Bulcke (2008), The Impact of Foreign Direct Investment on International Trade in Cambodia. *CAS Discussion Paper No. 65*, Centre for ASEAN Studies, University of Antwerp, Belgium.

Cuyvers, L. and Soeng, R. (2013), Impact of the EU Generalized System of Preferences on Exports and GSP Utilization by Asian and Latin American Countries, *International Journal of Trade Law and Policy*, Vol. 12, pp. 80-97.

Dearoff, A. V. (1998), Determinants of bilateral trade: does gravity work in a neoclassical world?, in Jeffrey and Frenckel (eds.), *The regionalization of the world economy*, Chicago: University of Chicago Press.

Ear, S. (2007a), Does aid dependence worsen governance?, *International Public Management Journal*, Vol. 10, pp. 259-286.

Ear, S. (2007b), The political economy of aid and governance in Cambodia, *Asian Journal of Political Science*, Vol. 15, pp. 68-96.

Ek, C. and Sok, H. (2008), Aid Effectiveness in Cambodia, *Wolfensohn Center for Development Working Paper 7*, Brookings Global Economy and Development, Brookings Institute.

EIC (2007), *Export Diversification and Value Addition*, Phnom Penh, Economic Institute of Cambodia (EIC), available at http://www.eicambodia.org/index.php

Feenstra, R., Markusen, J. and Rose, A. (2001), Using the gravity equation to differentiate among alternative theories of trade, *Canadian Journal of Economics*, Vol. 34, pp. 430-447.

Ferro, E., Portugal-Perez, A. and Wilson, J. S. (2011), Aid to the services sector: Does it affect manufacturing exports?, *Policy Research Working Paper No. 5728*, the World Bank.

Gibler, D. M. and Miller, S. V. (2012), Comparing the foreign aid policies of Presidents Bush and Obama, *Social Science Quarterly*, Vol. 93, pp. 1202-1217.

Greene, W. H. (2012), *Econometric Analysis*, Upper Saddle River: Prentice Hall

Gounder, R. (1994), Empirical results of aid motivations: Australia's bilateral aid program, *World Development*, Vol. 22, pp. 99-113.

Gounder, R. and Sen, K. (1999), What motivates foreign aid: A case study of Australia's aid to Indonesia, *Journal of Developing Area*, Vol. 33, pp. 379-394.

Hausman, J. A. (1978), Specification Tests in Econometrics, *Econometrica*, Vol. 46, pp. 1251-1271.

Helble, M., Mann, C. and Wilson, J. S. (2012), Aid for trade facilitation, *Review of World Economics*, Vol.148, pp. 357-376.

Heller, P. (1975), A model of public fiscal behavior in developing countries: Aid, Investment and Taxation, *American Economic Review*, Vol. 65, pp. 313-327.

Hsiao, C. (2003), *Analysis of Panel Data,* Cambridge: Cambridge University Press.

Hsiao, C. (2005), Why Panel Data? Singapore Economic Review, Vol. 50, pp. 143-154.

Hsiao, C. (2007), Panel Data: Advantages and Challenges, *TEST,* Vol. 16, pp. 1-22.

Im, K. S., M. H. Pesaran and Y. Shin (2003), Testing for Unit Roots in Heterogeneous Panels, *Journal of Econometrics*, Vol. 115, pp. 53-74.

Irvin, G. (1993), Cambodia: Why recovery is unlikely in the short run, *European Journal of Development Research*, Vol. 5, pp. 123-141.

Jepma, C.(1991), *EC-wide Untying*, International Foundation for Development Economics and Department of Economics, University of Groningen, Center for Development Studies.

Johansson M. and Pettersson J. (2009), The Relationship Between Aid and Bilateral Trade: Are Nordic Donors Different?, *UTV Working Paper No.1*, Department for Evaluation and Internal Audit, Swedish International Development Cooperation Agency, Stockholm, Sweden.

Karingi, S. N. and Leyaro, V. (2009), Monitoring Aid for Trade in Africa: An Assessment of the Effectiveness of the Aid for Trade, *ATPC Working Paper No. 83*, African Trade Policy Centre, Economic Commission for Africa.

Levin, A., C.-F.Lin and C.-S. J. Chu (2002), Unit Root Tests in Panel Data: Asymptotic and Finite-Sample Properties, *Journal of Econometrics*, Vol. 108, pp. 1-24.

Lloyd, T., McGillivray, M. Morrissey, O. and Osei, R. (1998),Investigating the Relationship between Aid and Trade Flows, *Credit Research Paper No. 10*, Centre for Research in Economic Development and International Trade, University of Nottingham.

Lloyd, T., McGillivray, M. Morrissey, O. and Osei, R. (2000), Does Aid Create Trade? An Investigation for European Donors and African Recipients, *European Journal of Development Research*, Vol. 12, pp. 107-123.

Martinez-Zarzoso, I., Nowak-Lehmann, D. F., Klasen, S. and Larch, M. (2009), Does German Development Aid Promote German Exports?, *German Economic Review*, Vol. 10(3), pp. 317-338.

Martinez-Zarzoso, I., Nowak-Lehmann, D. F., Klasen, S. and Adriana, C. (2010).*'Foreign aid and recipient countries' exports: how important are improved bilateral trade relations',* Conference Paper, Proceedings of the German Development Economics Conference, Hannover 2010, No. 44.

McGillvray, M. and Oczkowski, E. (1991), Modeling the allocation of Australian bilateral aid: A Two-part sample selection approach, *Economic Record*, Vol. 67, pp. 147-152.

McGillvray, M. and Morrissey, O. (1998), Aid and Trade Relationships in East Asia, *World Economy*, Vol. 21(7), pp. 981-995.

Morrissey, O. (1993), The Mixing of Aid and Trade Policies, *World Economy*, Vol. 16, pp. 69-84.

Morrissey, O. (2006), Aid or trade, or Aid and Trade?, *Australian Economic Review*, Vol. 39, pp. 78-88.

Nilsson, L. (1997), EU and Donor Exports: The Case of the EU Countries, in *Essay on North-South Trade*, Lund University.

Nowak-Lehmann, D. F., Martinez-Zarzoso, I., Klasen, S. and Larch, M. (2009), *Does German Development Aid Promote German Exports?*, German Economic Review, Vol. 10, pp. 317-338.

Nowak-Lehmann D., F., Martínez-Zarzoso, I., Cardozo, A., Herzer, D., Klasen, S. (2011), The link between aid and exports in recipient countries: Is aid's impact

different in different regions of the world?, *Working paper*, Ibero-Amerika Institute for Economic Research; University of Gottingen, Germany.

Nowak-Lehmann, F., Martinez-Zarzoso, I., Herzer, D., Klasen, S. And Cardozo, A. (2013), Does foreign aid promote recipient exports to donor countries?, *Review of World Economics*, Vol. 149, pp. 505-535.

OECD-WTO (2013), *Aid for Trade at a glance 2013: Connecting to Value Chains*, accessed on 13 October 2013 at www.aid4trade.org.

Pack, H. and Pack, J.R. (1993), Foreign aid and the question of Fugibility, *Review of Economics and Statistics*, Vol. LXXV, pp. 258-265.

Pettersson, J. and Johansson, L. (2013), Aid, aid for trade and bilateral trade: An empirical study, *Journal of International Trade and Economic Development*, Vol. 22, pp. 866-894.

Plasmans, J. (2006), *Modern Linear and Nonlinear Econometrics*, New York: Springer Verlag.

Quah, D. (1994), Exploiting Cross-Section Variations for Unit Root Inference in Dynamic Data, *Economics Letters*, Vol. 44, pp. 9-19.

Rostow, W. (1963), *The Economics of Take-off into Sustained Growth*, London: Macmillan.

Sato, J., Shiga, H., Kobayashi, T. and Kondoh, H. (2011), "Emerging Donors" from a Recipient Perspective: An Institutional Analysis of Foreign Aid in Cambodia, *World Development*, Vol. 39, pp. 2091-2104.

Silva, S. J. and Nelson, D. (2012), Does trade cause aid?: Evidence from asymmetric gravity model, *World Economy*, Vol. 35, pp. 545-577.

Snack, S. (2004), Does foreign aid promote democracy?, *International Studies Quarterly,* Vol. 48, pp. 251-266.

Soeng, R. (2008), *Foreign Direct Investment in Cambodia: Determinants and Impact on Domestic Labour Productivity and International Trade*, PhD thesis, University of Antwerp, Belgium.

Sok, S., Dao, C., Kang, C., and Liv, D. (2011), Evaluating Aid for Trade on the Ground, Lessons from Cambodia, Issue Paper No. 22, International Centre for Trade and Sustainable Development, Geneva, Switzerland.

Studenmund, A. H., *Using Econometrics: A Practical Guide*, Fifth Edition 2006, New Jersey: Pearson.

Suwa-Eisenmann, A. and Verdier, T. (2007), Aid and Trade, *Oxford Review of Economic Policy*, Vol. 23, pp. 481-507.

Tajoli, L. (1999), The impact of tied aid on trade flows between donor and recipient countries, *Journal of international trade and Economic Development*, Vol. 8, pp. 373-388.

Verbeek, M. (2004), *A Guide to Modern Econometrics*, 2nd edition, Chichester: John Wiley & Sons.

Vijil, M. and Wagner, L. (2012), Does aid for trade enhance export performance?: Investigating the infrastructure channel, *World Economy*, Vol. 35, pp. 838-868.

Wagner, D. (2003), Aid and trade: An empirical study, *Journal of the Japanese and International Economics*, Vol. 17, pp. 153-173.

Wei, Y. and Liu, X. (2001), *Foreign Direct Investment in China: Determinants and Impact*, Cheltenham: Edward Elgar.

Woods, N. (2008), Whose aid? Whose influence? China, emerging donors and the silent revolution in development assistance, *International Affairs*, Vol. 84, pp. 1205-1221.