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Assessing the Readiness of Filipino MRA-supported Professions To Participate in the Mobility of Skilled Labor in the ASEAN Region: Lessons for APEC Economies

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Abstract

As a single market and production base, the ASEAN Economic Community (AEC) enabled ASEAN Member States (AMS) to take advantage of the free flow of goods, services, funds, and labor. The free movement of labor, particularly skilled, to economies with lucrative opportunities allows them to realize higher returns on their investments in human capital. Such movement is facilitated by mutual recognition arrangements (MRAs) where AMS agreed on recognition mechanisms (i.e., equivalence of registration, licensing requirements, and reciprocity requirements) that facilitated mobility of skilled professionals within the region, strengthened trade in services, and further deepen the AEC. As such, we conduct an extensive analysis of the contributions of MRAs in enhancing the quality of professional services through human resource development (HRD), specifically in the Philippines. In addressing our inquiry whether Filipino professions with MRA support (i.e., accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals) are ready to participate in the mobility of skilled professionals in the AEC, we are able to prepare Filipino professionals, in terms of education, continuing professional education, licensure examinations, experience and others, to be comparable with the existing MRAs for each profession. Through document review and analysis as well as a validation workshop with experts for each profession, we would be able to pinpoint specific avenues of HRD that will increase competitiveness of Filipino professionals in the region. Results will provide a lens on analyzing the mobility of skilled workers through MRAs, which are meant to enable policymakers in making Filipino professionals as well as the entire ASEAN region highly competitive. This will also provide lessons for other economies, particularly APEC economies, on how HRD can enhance labor competitiveness.

Keywords: ASEAN economic community, human resource development, movement of natural persons, mutual recognition arrangements

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Assessing the readiness of Filipino MRA-supported professions to participate in the mobility of skilled labor in the ASEAN region: Lessons for APEC economies

John Paolo R. Rivera*, Cynthia P. Cudia**, and Tereso S. Tullao Jr.***

1. Introduction

From being a loose forum for exchanging official views and a simple socio-political-security cooperation, the Association of Southeast Asian Nations [1] (ASEAN) has progressed to becoming a region with deeper bonds and a distinct identity called the "ASEAN" way (Medalla & Yap, 2008). It is characterized by economic cooperation, starting with the ASEAN Free Trade Area (AFTA) in 1992 aimed to expand the region's competitive edge as a production base for the international market (Austria, 2013). It has continuously forged closer economic ties with external partners through the implementation of various free trade areas (FTAs) and comprehensive economic partnership agreements (CEPA) (Wong & Pellan, 2012). In 2015, the region ventured to further deepen economic integration through the ASEAN Economic Community [2] (AEC) that enabled ASEAN Member States [3] (AMS) to be economically integrated through a single market and production base through the freer flow not only of goods and services, but also of funds, and labor (both skilled[4] an unskilled workers[5]) (Tullao, 2018).

1.1. On Trade Competitiveness

The resulting economic efficiency from the repercussions of the law of one price (i.e., with free-trade and absence of distorting practices, homogenous products would sell for the same price across the world) stimulates growth (Read & Parton, 2009). It is on these ideals that fostering regional integration with the aim of increased competitiveness requires *trade liberalization* and *economic deregulation* measures[6] (Fukunaga, 2015). On one hand, trade liberalization is the movement towards reducing and eventually eliminating import and export duties, non-quantitative barriers to trade, implementation of tariff reforms, and relaxation of foreign direct investment (FDI) controls (Santos-Paulino, 2002). For instance, the ASEAN implemented a Common Effective Preferential Tariff (CEPT) scheme aimed to reduce tariffs

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[1] Founded on 08 August 1967 by Indonesia, Malaysia, the Philippines, Singapore, and Thailand. They signed the ASEAN Declaration that aims to accelerate economic growth, social progress, and cultural development in the region; to promote regional peace, collaboration and mutual assistance on matters of common interest; to provide assistance to member economies through training and research facilities; to collaborate for better utilisation of agriculture and industry to raise the living standards of the people; to promote Southeast Asian studies; and to maintain close, beneficial cooperation with existing international organizations with similar aims and purposes (Austria, 2013).

[2] The formal establishment of the AEC on 31 December 2015 marked a critical achievement in the regional economic integration agenda, preceded by implementation of measures in the first AEC Blueprint (2008-2015).

[3] AMS include Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.

[4] Defined by Hayes (2019) as "a segment of the workforce that has specialized know-how, training, and experience to carry out more complex physical, or mental tasks than routine job functions. Skilled labor is generally characterized by higher education; expertise levels attained through training and experience, and will likewise correspond with higher wages."

[5] Defined by Kagan (2019) as "a segment of the workforce associated with a limited skill set or minimal economic value for the work performed. Generally characterized by a lower educational attainment (i.e., high school diploma, GED or lack thereof), and typically receives smaller wages. Work that requires no specific education level or specialized experience is often available to the unskilled labor force."

[6] Community building is a dynamic process requiring continuous efforts to seek deeper and broader integration, and ensure its continued relevance. The AEC Blueprint 2025, adopted by the ASEAN Leaders at the 27th ASEAN Summit in Kuala Lumpur, Malaysia, provided directions through strategic measures guiding the succeeding phases of regional economic integration from 2016 to 2025. Along with the ASEAN Community Vision 2025, the ASEAN Political-Security Community (APSC) Blueprint 2025 and the ASEAN Socio-Cultural Community (ASCC) Blueprint 2025, the AEC Blueprint 2025 forms part of ASEAN 2025: *Forging Ahead Together.*

(Wong & Pellan, 2012). On the other hand, deregulation refers to securing free activities of capital through the relaxation and removal of social rules over the market economy (Goka, 1997); policy initiatives influencing internal markets (Weeks, 1999); and dismantling of monopoly power and domestic policies that serve as trade and investment barriers (Tullao, 2018). It is the response to government regulations' inefficiencies and a risk-mitigation scheme against regulated industries controlling regulatory agencies to its interest.

Both trade liberalization and economic deregulation benefit both foreign and domestic economic agents. Liberalizing the market and eliminating the regulations on government management of monopolies and public organizations leads to the development of new markets and opportunities for capital to pursue profits (Goka, 1997). Hence, it will stimulate higher competitiveness making it enticing for both local and foreign players to enter the market. Likewise, this will also open opportunities for the domestic economy to align itself with regional and international benchmarks. Therefore, income and employment opportunities will expand resulting to further improvement in competitiveness and inclusivity in the domestic economy.

1.2. On Skilled Labor Mobility

The continued progression of temporary skilled labor migration is changing not only the operation of professions (Iredale, 2001), but also the production structure and comparative advantage of labor-sending economies (Rivera, 2013). The growing globalization of enterprises and the internationalization of higher education are motivating professions to internationalize. Sending countries augment the quality of its human resources to be at par with other economies so they can participate in the regional labor market. Consequently, lucrative opportunities alongside free movement of skilled workers within the region allow for the recovery of investments in human capital.

According to Raza (2018), freeing the international movement of labor through neoliberal globalization (i.e., a wide-ranging process of liberalizing capital and trade flows) has been unsuccessful. Hence, using the General Agreement on Trade in Services (GATS), the World Trade Organization (WTO) established a legal framework within the domain of trade politics that comprises the cross-border movement of natural persons to supply services that encouraged temporary movement of labor. This is labeled as Movement of Natural Persons (MNP) or *Mode 4* in the GATS' Modes of Supply[7]. WTO (n.d.) defines MNP as one of the four ways services can be internationally supplied. According to Tullao (2018), it includes natural persons who are residing in another WTO-member economy and are either service suppliers (e.g., independent professionals) or employed for a service supplier.

In 2012, the adoption of the ASEAN Agreement on the Movement of Natural Persons (AAMNP) underscored the critical importance of temporary cross-border movement of skilled workers in the region. According to ASEAN (n.d.), it organizes and fully discloses the processes for immigration applications for the temporary entry or entry of stay of natural persons (i.e., contractual service providers, intra-corporate transferees, business visitors, and other classifications of natural persons as may be specified by an AMS). Tullao (2018), on the other hand, highlighted that other than enhancing trade in services, it also significantly ruled out all limitations in the temporary cross-border movement of natural person included in trade

[7] The four modes of supply are as follows: Mode 1 (Cross-border Transactions); Mode 2 (Consumption Abroad); Mode 3 (Commercial Presence); and Mode 4 (Movement of Natural Persons) (Tullao & Rivera, 2009).

in goods, services, and investment. Specifically, it facilitates entry of business visitors[8] by subjecting them to less stringent immigration policies with minimal entry requirements accompanied by longer duration of stay; (2) provides variability in the duration of stay of business visitors (set at 30 days to 90 days) and intra-corporate transferees (set at 1 month to not more than 10 years).

1.3. On Existing MRAs

It can be construed that professional qualifications are now transnational matters and are no longer solely determined by national professional bodies. It has to be agreed by sending and receiving economies (Iredale, 2001). Hence, in analyzing the mobility of professionals and skilled workers (i.e., MNP), mutual recognition agreements (MRAs) are vital to advance regional workforce competitiveness. As such, Tullao (2018) accentuated that facilitating the free movement of skilled labor through MRAs can enhance the quality of human resources in both domestic and regional economy. Economies will invest in the education and training of its workforce to produce competent manpower that are qualified to move across the region, as per the requirements and equivalency stipulated in the MRAs. It is important to note that the extent of internationalization varies with professions (Iredale, 2001); hence, the various MRAs.

MRAs among professionals are intended to facilitate skilled labor movement in ASEAN. These agreements to pursue recognition mechanisms were the result of the adoption of the ASEAN Framework Agreement in Services (AFAS) in 15 December 1995. The ASEAN (n.d.) defined MRAs as framework arrangements established in support of liberalizing and facilitating trade in services whose main objective is to enable mobility of skilled labor and professionals in the region; and to work towards the embracing of best practices on standards and qualifications. Likewise, according to Aldaba (2013), MRAs are also meant to "promote efficiency and competitiveness of ASEAN service suppliers" (p. 1).

As of November 2019, there are eight ASEAN MRAs covering the following eight priority sectors namely engineering services (signed in December 2005); nursing services (signed in December 2006); architectural services (signed in November 2007); surveying qualifications (signed in November 2007); dental practitioners (signed in February 2009); medical practitioners (signed in February 2009); accountancy services (signed in November 2014); and tourism professionals (signed in November 2012). As reported by Basa (2014), these MRA frameworks have been formalized among AMS for the mutual recognition of education and experiences obtained in the eight priority sectors. Through these recognition mechanisms (i.e., equivalence of registration, licensing requirements, reciprocity requirements), MRAs are able to contribute to the mobility of skilled professionals within the region.

1.4. On Comparability

To be able to be comparable with the specific requirements of the abovementioned MRAs, human resource development (HRD) becomes essential. According to Gilley and Eggland (1989), HRD is defined as organized learning processes crafted within an organization to enhance performance and advance personal growth of individuals in order to improve not only the job but also the individual and the organization. That is, according to Tullao and Cabuay (2014), it is the enhancement of the abilities of an individual in forming various forms of human

[8] MNP does not include individuals who seek employment in other AMS but only covers persons such as "business visitors, intra-corporate transferees, contractual service suppliers and other categories as may be specified in the Schedules of Commitments for the temporary entry and temporary stay of natural persons" (Tullao, 2018).

wealth (e.g., social, human, knowledge capitals[9]) that can be used in the productive and distributive activities of an economy. These forms of human wealth are vital in maintaining ASEAN dynamism in the midst of an expanding and differentiating labor force

The burgeoning of MRAs contributed to the hastening of best practices channels in HRD among professionals in ASEAN. Thus, it is imperative to evaluate the readiness and comparability of Filipino professionals through the human resource drivers enumerated by Aldaba (2013): (1) education and training, (2) assessment and examination, (3) continuing professional development, (4) experience, (5) accreditation, (6) certification and licensing, as well as (7) research and publication. These advancements complement one another in fostering economic integration by leveling the playing field among AMS.

1.5. Research Question

Given the abovementioned backdrop, we find it imperative to ask the research question: *are Filipino professions with MRA support (i.e., accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals) ready to participate in the mobility of skilled professionals in ASEAN?*

Given the existing MRAs the Philippines has with the ASEAN, *how can we assure that Filipino professionals under accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals, are prepared, in terms of education, continuing professional education, licensure examinations, experience and others, to be comparable with the existing MRAs for each profession?*

1.6. General Objective

In addressing our two-pronged research questions, our objective is to review the HRD dimension of the various MRAs of the Philippines with the ASEAN region in order to explore how can the Philippines prepare its skilled professionals, particularly those under accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals, to take advantage of participating in the ASEAN labor market given existing MRAs and the establishment of the AEC allowing for easier labor mobility.

1.7. Specific Objectives

To answer the research questions and to address the general research objective, we set the following specific research objectives:

- To explore the contributions of MRAs in improving the quality of professionals in ASEAN;
- To review the best practices in the areas of accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals in the Philippines that can be shared with other professionals so they can also attain regional and international comparability;
- To identify the challenges facing Filipino professionals under accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals in complying with their respective MRAs;

[9] As defined by Furman and Hayes (2004), social capital refers to qualities of individuals in interacting with others (useful in the development of work attitude and people skills). Human capital refers to motor, intellectual and productive skills that can enhance an individual's employability and increase lifetime income. Knowledge capital constitutes higher levels of knowledge and competencies resulting to growth of research capabilities of an economy through creation of new innovations.

- To create policy recommendations that can enhance the identified best practices and address the challenges of Filipino professionals under accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals so they can reap the benefits of the mobility of professionals in the region.

1.8. Scope and Limitations

Our study covers the Philippines for the five priority sectors namely accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals. We believe that these are the sectors that need most important consideration in the Philippines because of the number of laborers from these sectors deployed abroad, and the scarcity of analysis of the contributions of MRAs in these sectors in enhancing the quality of professional services. Also, these professions are deemed to be sufficient to analyze and compare regulated and unregulated professions.

1.9. Significance of the Study

Results provide another lens in analyzing MNP and the mobility of skilled workers through MRAs. This will enable policymakers in crafting interventions to make Filipino professionals highly competitive. Through primary data gathering, consultations with experts and stakeholders, and analysis of results, we would be able to pinpoint specific avenues of HRD that will increase competitiveness in the region.

Results also highlight several major policy relevance, implications, and strategies towards wealth formation through various forms and levels of training and education (i.e., professional courses in tertiary education) and research and development. Analysis of best practices vis-à-vis MRAs will also allow us to recommend regulatory frameworks to address interests of accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals under a globalized environment in the educational sector.

Finally, the importance of HRD as a critical aspect of MRA comparability and competitiveness is emphasized. For instance, there is a direct relationship between access to a wider range of HRD opportunities and access to greater employment opportunities (Son, 2010).

2. Linking MRAs with HRD

2.1. MRAs and Skilled Labor Migration

Globalization, bearing witness to the emerging importance of the services sector in ASEAN, gave rise to the mobility of professionals. In recognizing the critical role of trade in services and the move towards progressive liberalization, the GATS and AFAS was signed by AMS. In line with this, the Coordinating Committee on Services (CCS) was created to contrive the Alternative Approach to Liberalization of Services (AALS) in ASEAN – a long-term plan of liberalization of service by 2020. The plan includes sector identification[10], identification of an apt mode of supply and barriers per mode of supply, and process of harmonization and reciprocity (Tullao, 1999).

[10] Sector identification depends on various sectoral characteristics such as sectoral interests, preparedness to comply with existing regime, depth of competitiveness, existing liberalization regime, pending liberalization measures, and existing cooperation activities (Tullao, 1999).

According to GATS Article VII (Recognition), MRAs can facilitate the negotiations on mutual recognition of professional qualifications. The Working Party on Professional Services (WPPS) under the Council for Trade in Services (CTS) acceded to specific precepts to reconcile recognition of both the home and host countries with assessed differences between qualification systems. This is necessary as recognition at the full professional level of professionals from different economies with totally different educational and training systems is a challenging undertaking (Ryan-Bacon & Delisle, 2001). AFAS Article V (Mutual Recognition) stipulated that AMS may acknowledge the education or experience attained, requirements satisfied, and license or certification granted in another AMS, for licensing and certification of service providers.

With globalization, it is vital that AMS establish the parameters that will allow regional recognition to be achieved through the signing of MRAs by major players in the trade of skilled labor (e.g., accounting services, medical practitioners, architectural services, engineering services, and tourism professionals).

2.1.1. Role of MRAs in improving the quality of professionals in ASEAN

MRAs serves as the foundation of the skilled labor movement within ASEAN which allows worker's experience, skills, and experience to be recognized across the region by providing permission for them to work outside their respective home country. Also, all ASEAN MRAs are created to bolster the services sector to permit the movement of professionals and skilled workers within AMS (Hamanaka & Jusoh, 2016). Because all services sectors are unique, each of the MRAs covered in this study have varying modalities and standards by profession (Koty, 2016; Hamanaka & Jusoh, 2016).

Hamanaka and Jusoh (2016) grouped the ASEAN MRAs into three categories: (1) the dental practitioners, nursing services, and medical practitioners MRAs are on the first group because they have limited output due to their highly regulated nature; (2) the tourism professionals MRA is on the second group because of its unregulated nature allowing AMS to jointly establish competency standards, which will be the basis for the future creation of tourism-related qualifications for each AMS; and (3) the MRAs on accountancy, architecture, and engineering are under the third group – professions that are in the middle of regulated and unregulated – wherein having some coordinated actions to facilitate mutual recognition within a supranational approach is plausible. Figure 1 illustrates such categorization.

Figure 1. MRA-groupings according to Hamanaka and Jusoh (2016)

MRA-groupings (Hamanaka & Jusoh, 2016)		
HIGHLY REGULATED	**REGULATED**	
Dental Services	Accountancy	**UNREGULATED**
Nursing Services	Architecture	Tourism Professionals
Medical Practitioners	Engineering Services	

2.1.2. Review of Existing MRAs (covered by this study)

Accounting services. In 13 November 2014, the ASEAN MRA on Accountancy Services was signed to facilitate the mobility of accountancy services professionals in the region. As asserted by Domondon (1997), "the accountancy profession was selected as a priority for liberalization because of its impact on the growth and globalization of the capital markets." In addition,

according to the International Federation of Accountants (IFAC) education committee, accounting education has emphasized transfer of knowledge and therefore requires its programs to go beyond the traditional approach.

In the MRA, a professional accountant is referred to as an ASEAN national assessed by the National Accountancy Body of any participating AMS to undertake professional accountancy practice[11]. To freely work within ASEAN, a professional accountant must be registered as an ASEAN Chartered Professional Accountant (ACPA) on the ASEAN Chartered Professional Accountant Register (ACPAR). The qualifications are summarized in Table 11[12]. Specifically, as stipulated in Article 4.3 of the 2014 ASEAN MRA on Accountancy Services, an ACPA may apply to a National Accounting Body (NAB) in order to practice profession in another country as a Registered Foreign Recipient Accountant (RFRA) subject to local and international rules of conduct. In applying, the Monitoring Committee (MC) of the individual's country of origin will submit the application to the ASEAN Chartered Professional Accountant Coordinating Committee (ACPACC). The ACPACC will be assessing the application according to a specific set of criteria and procedures stated in the MRA. Upon acceptance, the individual will be placed in the ACPAR with the title of ACPA.

After successfully applying as an ACPA, the individual has to apply to be a Registered Foreign Professional Accountant (RFPA) in the NAB and/or Professional Regulatory Authority (PRA) of the host country where the individual intends to practice. Upon successful application, the RFPA will be subjected to domestic regulations and will be working in collaboration with designated Professional Accountants in the host country.

To facilitating procedures and requirements, the MRA also outlines the responsibilities of the respective regulatory authorities and bodies in each participating AMS, MC, and ACPACC.

In the MRA, it is obvious that educational outcomes are strictly measured in terms of proficiency in knowing the concepts, principles, standards, and procedures at a given point in time. Weight is put on a set of knowledge, skills and professional values, extensive enough to allow adoption to adjustments. Individuals who become professional accountants should constantly strive to learn and apply the latest developments from one economy to another (i.e., education must underscore the development of general knowledge, intellectual and interpersonal skills, communication skills through a wide range of subjects that provide students with a grounding in the sciences, literature, arts, and humanities). Hence, a broad-based general education is vital to life-long learning and offers the foundation on which to build professional education.

Medical practitioners. The MRA on Medical Practitioners was signed into agreement last 26 February 2009. A medical practitioner is defined by the MRA as an ASEAN national who has complied with the professional medical training and medical qualification, has been registered

[11] In order for a graduate of an accountancy program obtain a license in the Philippines, passing a licensure exam is required. The Certified Public Accountant (CPA) Licensure examination given by the Board of Accountancy (BOA) is administered twice a year. A Board of Accountancy, under the supervision of the Professional Regulation Commission (PRC), controls the licensing processes of CPAs.

[12] According to the National Economic Development Authority [NEDA] (2014), the specific qualifications for mutual recognition of ASEAN professionals in accounting requires: (1) meets the country of origin's requirements and satisfies the host country's professional requirements; (2) with valid license required from government or regulatory body other than the professional regulations authority; and (3) must meet the host country's education and training requirements.

and/or licensed by the Professional Medical Regulatory Authority (PMRA), and considered qualified to professionally practice medicine[13].

To be recognized as a foreign medical practitioner in the host country, a practitioner must be able to satisfy several qualifications enlisted in Table 11[14]. Upon satisfying these conditions, a foreign medical practitioner will be allowed to practice medicine in the host country while being subjected to domestic regulations and conditions.

According to the MRA, the ASEAN Joint Coordinating Committee on Medical Practitioners (AJCCM) oversees its implementation. Its aims are: to facilitate the implementation of the MRA respective to the various domestic regulations of each AMS, to encourage the standardization and adoption of mechanisms to implement MRA, and to foster the exchange of information with the goal of harmonizing regional and international standards, to review and develop the MRA every five years if necessary.

The Professional Medical Regulatory Authority (PMRA) in each AMS plays a critical role in regulating and controlling the medical practitioners and their practice of medicine. This includes the evaluation of qualifications of foreign medical practitioners, imposition of additional requirements for registration, recognition of grants, monitoring and assessing, and comparability of registered practitioners. The MRA states that it will not reduce or modify the authority and power of each member states in regulating medical practitioners and their practice of medicine. Nonetheless, it is expected that discretion will be exercised in good faith. The PMRA has the statutory responsibility to protect its jurisdiction, specifically its foreign medical practitioners.

Architectural services. The signing of the MRA last 19 November 2007 supports the movement of professional architects in ASEAN. In the MRA, an architect is referred to as an ASEAN national who has been licensed and registered by the PRA and assessed by a PRA of any participating AMS to be qualified to undertake professional practice of architecture. Subject to the domestic regulations of the host country, the professional services covered by the practice of architecture may include, but not limited to, the following: urban design, provision of studies, models, designs, drawings, coordination of technical documentation, construction economics, planning and land-use planning, among others. The practice of architecture encompasses services in relation to urban planning and the design, construction, restoration, conservation of a building.

To become an ASEAN Architect (AA) registered under the ASEAN Architect Register (AAR), several qualifications must be satisfied, and application must be submitted to the ASEAN Architect Council (AAC). These qualifications are listed in Table 11[15]. The successful AA applicant shall be subject to domestic laws and regulations and may be permitted to work as a Registered Foreign Architect (RFA) upon registering with the PRA of the host country. The

[13] Regular medical academic program in the Philippines is a post-baccalaureate degree of at least four years comprising of three years of didactic teaching-learning activities and one year of on-the job training. At least 1.5 years is for basic biomedical sciences during the first and second yeas and another 1.5 years dedicated to clinical sciences during the second and third years of the academic program. Meanwhile, the tail end of the program is for full clinical clerkship. Similarly, passing a licensure examination given by the Board of Medicine (BOM) is required for professional practice (Tullao, 2000).

[14] According to NEDA (2014), the specific qualifications for mutual recognition of ASEAN professionals in medical practice requires: (1) granted a medical qualification; (2) with valid license or certificate from country of origin; and (3) with at least five years of contnuous active practice as general pracritioner or specialist in country of origin.

[15] According to NEDA (2014), the specific qualifications for mutual recognition of ASEAN professionals in architecture requires: (1) an accredited or equivalent architectural degree; (2) current and valid license or certificate from country of origin; (3) at least 10 years of continuous practice after graduation; at least five years after licensure; and at least two years responsible of significant architectural works.

RFA can either choose to work independently or in collaboration with one or more licensed Architects in the host country.

Facilitating the implementation of the MRA in Architecture are three regulatory bodies including the PRA, MC, and AAC. The PRA is primarily tasked to screen and authorize the registration of RFA. It functions as the monitoring and assessing body of the professional practice of RFA, which entails tasks such as preparing rules and regulations guiding the MRA, facilitating information exchange, reporting developments regarding MRA to relevant bodies, maintaining standards, among others. Complementing the PRA is the MC is the authority solely responsible for the licensing and registrations of architects, which includes preparing the documents outlining the criteria, procedures, and qualifications set for AA applicants. Thus, overseeing the comparability of registered architects resides on the MC. Finally, the AAC has the sole authority to confer and withdraw the title of an AA to any individual, among others.

Engineering services. The MRA on engineering services was the first professional service to be signed in agreement last 09 December 2005. In the MRA, a Professional Engineer (PE) is referred to as an ASEAN national assessed by the PRA of an AMS as a qualified professional who is registered and licensed by its country of origin.

To be fully mobile, a PE must qualify to become an ASEAN Chartered Professional Engineer (ACPE) who has satisfied the standards and qualifications enlisted in Table 11[16]. Upon qualifying, and individual may apply trough the ACPE to be given permission and to be registered as a Registered Foreign Professional Engineer (RFPE). To practice in a host country, the ACPE must swear to the domestic laws and accompanying regulations of the country, working in collaboration with designated PEs in the host country.

The ASEAN Chartered Professional Engineer Coordinating Committee (ACPECC), under the ASEAN Chartered Professional Engineers Register (ACPER), spearheads the application process. Despite the registration system to become an ACPE, each AMS has put in alternative ways for a foreign engineer to work overseas, as listed by Fukunaga (2015):

- Brunei Darussalam: foreigners can be registered as Specialist Professional Engineers with approved qualifications;
- Cambodia: The Law on Investment allows foreigners to work by obtaining a work permit from the Ministry of Labour and vocational training based on investment license;
- Malaysia: Temporary Engineer Registration allows foreign engineers to work on a per project basis;
- The Philippines: foreigners can work as professionals by obtaining a Special Temporary Permit;
- Thailand: registration as Adjunct Engineers.

Tourism professionals. Growth in the travel and tourism industry[17] experienced by certain destinations results from various factors - increase in tourist arrivals, spending, length of stay, and availability of quality tourism services (e.g., accommodation, meals, local travel, tours and visiting attractions). To sustain the increase in tourist arrivals, destinations must meet the

[16] According to NEDA (2014), the specific qualifications for mutual recognition of ASEAN professionals in engineering services requires: (1) an accredited engineering degree; (2) current and valid license or certificate from country of origin; (3) at least seven years of continuous practice after graduation, and at least two years responsible of significant engineering work.

[17] According to the 2018 report from the United Nations World Tourism Organization [UNWTO] (2019), international tourist arrivals grew by 6 percent (1.4 billion) in 2018. Based on current trends, economic prospects and the UNWTO Confidence Index, international arrivals are forecasted to expand 3 percent to 4 percent in the succeeding years, consistent with historical growth trends.

service needs of the increasing number of tourists. Thus, they must empower current tourism professionals to handle increased numbers and employ more people to work. According to Hickman and Irwin (2013), training is the key to enabling tourism staff and professionals to be more productive. However, as mentioned earlier, there is a huge variability in the qualifications in the tourism and hospitality profession. In fact, tourism professionals are not regulated. The quality of tourism professionals is highly dependent on the educational institution that professionals graduated from. Although, tourism programs in the baccalaureate level are composed of rigorous course works, cognates, and internship (local and/or abroad), there is no fixed set of standards among graduates. There is no licensure examination for graduates, and most often, standards are firm specific. Hence, it is challenging to regulate the profession unless a body sets a benchmark. This makes tourism professionals unique among all other professionals. Basa (2014) reported that "the eight MRA aims to facilitate the mobility of tourism professionals within ASEAN, based on competence-based tourism qualification."

Designed to achieve equilibrium in the supply and demand for tourism jobs across ASEAN, and to create a mechanism for the freer movement of skilled and certified tourism labor across the region, the MRA on tourism professionals was signed to agreement last 09 November 2012. Unlike the other MRAs, the arrangement on tourism professionals is treated as an agreement between two or more parties with the goal of mutually recognizing each other's standards. This translates to facilitating an agreement that establishes the equivalency of competencies to work in tourism in all AMS. In the MRA, tourism professional is referred to as an ASEAN national certified by the Tourism Professional Certification Board (TPCB).

A Foreign Tourism Professional (FTP) may be qualified to be employed in a host country if they obtain a tourism competency certificate for a specific job title as specified by the TPCB in an AMS, found in the Common ASEAN Tourism Curriculum (CATC). The FTP will then be subjected to the domestic laws and regulations of the host country. A summary of qualification is presented in Table 11.

Indeed, the 2006 ASEAN MRA on Tourism Professionals aims to promote tourism and hospitality, in which global players require unhampered movement of their chefs, managers, and other professional and technical staff to provide hotel services in foreign countries where they have established commercial presence. However, such implementation is hampered because tourism is not a regulated profession. That is, the degree of variability of qualifications among professional is wide. Specifically, training standards continue to differ across the region, and the path to harmonization is laden with discrepancies between national and regional standards. While efforts in streamlining the training of skilled labor have brought about some improvement in the national training systems of less advanced AMS, it is unfortunate that one key constraint in the education and training dimension is the lack of competent instructors and assessors.

Given that tourism professionals are unregulated, a framework of competencies or standards (i.e., the ASEAN Common Competency Standards for Tourism Professionals [ACCSTP]) was developed to comprise the shared qualifications of FTP of AMS. The ACCSTP outlines the "minimal" competencies essential for anyone wishing to apply in another AMS. The framework outlines the minimal competencies for each of the 32 job titles in six labor divisions.

As such, in a gap analysis conducted by Hickman and Irwin (2013), in adopting common regional qualifications and competencies based on an MRA for tourism professionals, AMS must recalibrate their national systems with respect to the requirements of the MRA. In the

attending to the challenges to the sustained growth of tourism, and constant improvement of training as a platform for healthy and sustainable tourism growth in ASEAN, there is a need to produce an ASEAN Qualifications Equivalence Matrix (AQEM) stipulating existing tourism professionals' qualifications in all AMS and comparing them to ACCSTP, CATC, and Regional Qualification Framework and Skills Recognition System (RQFSRS).

2.1.3. Issues, Opportunities, and Best Practices in AEC for each MRA

Accounting services. On the MRA in accounting services, the primary concern has been focused on the lack of progress among the AMS. To date, no ASEAN country has progressed from the step of officially submitting a notification of intention to participate in the MRA. While a joint coordinating body and a professional registry is already present, an establishment of secretariat is still lacking. To date, none of these offices are operating. On the other hand, at the national level, a regional authority, monitoring committee, and a government central authority is already present for all member states (Mendoza & Sugiyarto, 2017).

Medical practitioners. One of the key challenges in the successful implementation of the MRA for medical practitioners is the varying qualification processes imposed by the AMS: Four member states require foreign practitioners to earn a degree from a list of accredited institutions which limit the source of potential foreign applicants and licensees. Furthermore, seven countries impose English or local language proficiency for medical practitioners. The combination of these qualifications often leads to a practice of "double recognition" instead of mutual recognition that is espoused by the signing of MRA. With this, progress in the implementation of the MRA has focused on the exchange of information about regulatory and registration standards across ASEAN to foster benchmarking and transparency (Mendoza & Sugiyarto, 2017).

Architectural services. The uptake on the MRA on architecture, along with engineering, has progressed in terms of creating infrastructures to facilitate the mobilization of ASEAN professionals. As of 2017, the MRA has successfully established a regional joint coordinating body (i.e., AAC) and a professional registry (i.e., AAR), while the establishment of a secretariat is still pending. Similarly, at the national level, the AMS have successfully established their respective regulatory authorities and monitoring committees. However, the sector continues to experience backlogs in the registration of professionals. Despite this progress, regulatory bodies in member states, specifically the Philippines Board of Architecture (PBOA), has expressed concerns regarding the requirements for an individual to be considered an AA. These requirements were considered challenging for a lot of experienced architects to qualify, which may undermine their interest. Likewise, several qualified architects see insignificant benefits from becoming an AA given that they are restricted from working independently. Some concerns also arise from the varying levels of development among other member economies whose degree of adoption of the MRA may affect the uptake of the entire agreement. To address this, the Philippine government is seeking for a review of the MRA provisions (Asia-Pacific Economic Cooperation [APEC], 2017).

Engineering services. Similar to the progress of implementation of the MRA on architecture, the MRA on engineering services has successfully created a regional coordinating body (i.e., ACPECC) and a professional registry (i.e., ACPER). While the goal of these regional regulatory bodies is to streamline and centralize the certification processes, the sector still experiences backlogs in the registration of interested professionals. After a decade of implementation, only seven engineers were registered in host countries, but none have moved

to work where they were registered. It is only Malaysia and Singapore who have completed the steps to implement the engineering MRA (Mendoza & Sugiyarto, 2017). Despite implementation issues, opportunities can be observed as the number of ACPEs has been significantly increasing in recent years specifically from 2012, 2015, to 2016 (Hamanaka & Jusoh, 2016).

Tourism professionals. The MRA on Tourism is deemed to have the most comprehensive implementing structure at the regional level relative to other MRAs. The necessary regulatory bodies at the national level are also already present given that the majority of these offices have already existed before the MRAs were signed. Despite this progress, many of the components to facilitate the recognition process at the regional level are still overlooked. To date, no ASEAN Tourism Professional (ATP) has been listed in the MRA system.

On the other hand, best practices are observed in some of the member states including Cambodia and Indonesia. Characterizing the success stories of both countries are practices that include early government coordination with relevant agencies to establish a tourism infrastructure dedicated to implementing the MRA, crafting of policies and regulations that enable the implementation, a proactive approach to partnerships with institutions and donors, and constant communication to stakeholders regarding the information and benefits of MRA (ASEAN – Australia Development Cooperation Program – Phase II [AADCP II], 2004). Given this, it can be surmised that the over-all alignment process is still far from complete given that the AMS have varying levels of readiness in terms of developing the necessary framework and structure to implement the MRA (Mendoza & Sugiyarto, 2017). However, it has a potential to have significant impact given that tourism professions are unregulated (Hamanaka & Jusoh, 2016), which translates to granting ASEAN professionals in 32 tourism-related professions with instant recognition within the region (Papademtriou, Sugiyarto, Mendoza & Salant, 2015).

Table 12 summarizes the issues, challenges, opportunities, and best practices of AMS in implementing the MRAs for each of the professional service.

2.2. Readiness of Filipino skilled workers to participate in MNP

2.2.1. Skilled Labor Migration in the Philippines

The phenomenon of skilled labor migration has also become prevalent in the Philippines. In fact, migration and overseas employment are part of the lives of thousands of Filipinos. In 2013, the Commission of Filipinos Overseas (CFO) reported that there were an estimated 10 million Filipinos overseas either as permanent residents, temporary workers, or irregular migrants. On the other hand, according to the Philippine Overseas Employment Administration (POEA), close to 7,000 Filipinos are leaving daily, in 2016. Most of them are temporary workers known as Overseas Filipino Workers (OFWs[18]). Some 488,615 were deployed in Asia alone by various recruiting agencies in 2016. Meanwhile, some 39,740 and 35,841 new hire professionals were deployed in 2015 and 2016 respectively.

However, a significant number leave for tourism and other purposes then eventually overstay, seek employment, and become irregular workers. As such, the contributions of overseas employment cannot be undermined. Since 19070s, what began as a temporary solution for the

[18] According to Tullao, Cortez, and See (2007), "migrant worker refers to a person who is to be engaged, is engaged or has been engaged in a remunerated activity in a state of which he or she is not a legal resident; to be used interchangeably with Overseas Filipino Worker per Republic Act 8042 also known as the Migrant Workers and Overseas Filipinos Act of 1995."

rising unemployment domestically, overseas employment has become part and parcel of the culture of Filipino households.

The remittances received by households have enhanced their living standards and social status. According to the Bangko Sentral ng Pilipinas (BSP), at the macro level, remittance inflows of over USD 28 billion in 2018 represents more than 20 percent of the country's exports receipts and helped in maintaining the stability of the domestic currency (PHP)

Table 1: Deployment of Professional Technical and Related Workers

Profession	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Accountants	380	309	266	410	317	586	1,009	1,041	858	725
Architects and Town Planners	133	128	114	161	162	295	420	496	554	481
Dentists	58	62	40	89	70	71	102	111	139	109
Doctors	61	129	112	96	97	171	168	217	224	176
Medical Engineers*	2,653	2,456	2,080	2,562	3,004	4,824	6,529	8,545	6,948	6,463
Nurses	13,536	11,867	8,968	8,611	7,094	13,525	9,178	11,495	13,014	12,082
Professional Surveyors / Geodetic Engineers	188	235	166	166	247	481	568	746	625	571
Professional Technical and Related Workers	**97,517**	**99,688**	**78,956**	**94,147**	**60,317**	**41,258**	**43,225**	**49,649**	**47,886**	**41,835**

* Sum of Engineers Ship's, Engineers Mining / Mineral Mining, Engineers Mechanical, Engineers Industrial, Engineers Electrical and Electronics, Engineers Civil, Engineers Chemical, Engineers (NEC).
Note: As of February 2019, data available for OFW deployment per skill is from 1992 to 2010.
Source: Philippine Overseas Employment Administration (POEA) (https://poea.gov.ph)

Table 1 and Table 2 show the trend of the deployment of professionals since 2001. It can be seen that the deployment of professionals constitutes at least 9 percent of total deployment contributing at least 10 percent to total remittances (Table 2). Meanwhile, of the various professionals being deployed, professional nurses (see Tullao, Conchada & Rivera, 2011) have the most number of deployments followed by engineers. From 2001 to 2010, total deployment of professional technical and related workers has decreased, as seen from the POEA-data (Table 1).

Table 2. Distribution of OFWs by Major Occupation Group and Remittances – Professionals

Year	Number of OFWs – Professionals (in thousands)	% to total deployment	Total Cash Remittance of OFWs - Professional (in million PHP)	% to total receipts
2001	78.00*	9.49	5,123.40*	13.30
2002	86.00*	10.08	7,295.66*	15.73
2003	75.00	9.24	6,305.00	12.90
2004	67.00	7.05	5,549.00	9.88
2005	118.10	8.90	8,092.00	13.47
2006	130.29	8.60	9,119.00	12.02

2007	150.24	8.60	9,422.00	11.50
2008	192.19	9.60	15,122.00	14.55
2009	193.11	10.10	16,500.00	16.09
2010	202.26	9.90	13,512.00	12.89
2011	228.75	10.60	19,808.00	17.36
2012	275.28	12.40	24,784.00	20.63
2013	266.22	11.60	18,912.00	15.93
2014	264.48	11.40	20,545.00	16.20
2015	232.47	9.50	19,865.00	14.65
2016	203.84	9.10	19,840.00	13.59

* Figure covers April to September 2001.
Source: Survey on Overseas Filipinos (SOF), Philippine Statistical Authority (PSA) (https://psa.gov.ph)

2.2.2. Human Resource Drivers / Qualifications of Filipino skilled workers

Filipino professionals' global competitiveness is reflected in their readiness to compete in the international labor market. On one hand, Tullao (2000) enumerated perspectives that measures readiness: (1) facility of Filipinos to work abroad and compete with foreign professionals having akin competence and skillsets; (2) capacity of Filipinos to compete with foreign professionals working in the domestic economy; and (3) aptness of Filipino professionals to comply with foreign firms' standards and requirements. On the other hand, Aldaba (2013) identified human resource drivers wherein readiness and comparability of Filipino professionals can be evaluated with: (1) education and training, (2) assessment and examination, (3) continuing professional development, (4) experience, (5) accreditation, (6) certification and licensing, as well as (7) research and publication.

These measures and drivers are all about educational qualifications, licensing requirements, and continuing training programs, in comparison with regional standards for international benchmarking. These allow us to set criteria on how the playing field among AMS can be leveled. These also serve as requisites towards HRD of Filipino professionals.

Education, Curriculum, and Training. Education in the services sector has played a critical role in driving economic growth as founded by the studies of Schultz (1960) and Denison (1962). Its can be viewed as both a supplier of human resources and a major player in the trade liberalization process (Tullao, 2001). Furthermore, Tullao (2018) emphasized that mutual recognition arrangements are directly associated with education and training of individuals. Such finding set in motion the culture of migration and has affected the design and conduct of higher education and professionally oriented programs by educational institutions. While GATS is a means for liberalization of trade in services with its manpower requirements, it will be inevitable for sending countries to provide skilled and educated workers to host destinations. The required educational requirements of the host destination may be deemed having fulfilled based on the educational attainment of professionals from a sending country (Tullao, 2018).

According to Tullao, Conchada, and Rivera (2009), the rampancy of international labor migration encouraged those left in the country to also find employment abroad. It has increased the reservation wages of the labor force particularly those from remittance-dependent households. This engendered the culture of migration wherein remittance-receiving households prefer to take educational programs that will provide them higher chances of being employed abroad (Tullao & Rivera, 2009). Likewise, through consistent upgrade of the active labor force, which is a requirement to develop human resource (Tullao, Conchada & Rivera, 2009),

education with its curriculum and on-the job training programs become tools for trade liberalization process. Such programs enhance the knowledge and specific skills for technical competence of skilled workers.

Governments recognize the importance of education such that it remains a key challenge to enable all concerned stakeholders to participate in activities for education (Muller-Wirth and Yasunaga, 2006). Consequently, different economies consistently initiate programs to promote education through enhancing the learning environment such as "providing assistance to program development, maintaining strong linkage between industry and university, and providing support to research and development" (Tullao, Conchada & Rivera, 2009).

Yussof and Ismail (2002) suggest ensuring supply of manpower for an economy after they found the critical importance of the level of education. It must be a challenge to an economy to ensure high quality of education at different levels from the available resources. Furthermore, Khan (2007) posits the need to prioritize tertiary education for "corporate knowledge and market-driven multiple skills".

In developing countries, Bhatnagar (2006) posited that investing more on people would have an impact on education, making it as the primary goal and to be realized when addressing some of its restrictions and investing in science and technology, and thus "improving literacy and human resource development", regardless of economic status.

The Philippine educational sector is composed of three major modes, namely: basic education, higher education and technical education. Basic education of 12 years provides the "necessary formative skills in communication, numeracy and literacy" while technical education is for "livelihood and life-long learning" skills; and higher education is " geared towards professional training, higher levels of inquiry and provision of socially beneficial outcomes" (Tullao & Rivera, 2008).

The incidence of international labor migration supplemented by HRD and competitiveness allowed the Philippines to augment its educational system, through the implementation of the K-12 Educational System (K-12ES) sponsored by the Department of Education (DepEd) that started in the school year 2012 to 2013. Abueva (2018) underscored that the K-12ES is a necessary improvement to increase the quality of education, which is essential to the country's success, as espoused by Becker (1965) (i.e., investment in knowledge and skills will benefit the individual and increase the country's human capital resource pool and potential productivity). Likewise, Abueva (2018) also advanced that the K-12ES will allow Filipino graduates to be automatically recognized as professionals abroad as this is consistent with international education standard practiced by all economies. Hence, there will be no need for Filipino graduates to study again to qualify for international standards. Hence, Filipinos will improve its competitive edge with the K-12ES.

Meanwhile, even before the implementation of K-12ES, the Commission on Higher Education (CHED) has also carried out initiatives on enhancing the quality, efficiency, equity, and access to education as per the country's Medium Term Development Plan (MTDP). CHED also initiated internationalization programs that covers domain of business, curriculum, consortium, academic linkages, and global networking (Tullao, 2000). Also, CHED emboldens labor market linkages by establishing stronger ties among higher educational institutions (HEIs), professional organizations (POs), as well as industry practitioners and experts. For example, Tullao, Conchada, and Rivera (2009) cited that HEIs and private sector have entered into

unilateral agreements regarding practicum-training program wherein the private sector will permit a certain number of students to working on jobs that will help students apply the things they have learned. Of course, this is subject to company needs and the qualifications of the students. Similarly, Tullao, Conchada, and Rivera (2009) also discussed the partnership of CHED with DepEd, Philippine Chamber of Commerce and Industry (PCCI), Technical Education and Skills Development Authority (TESDA), Professional Regulation Commission (PRC), Department of Labor and Employment (DOLE), POEA, PhilExport, and Export Development Council (EDC) in reviewing the country's training policies. This assesses the various training needs, policies, and existing programs of the different industries (e.g., healthcare, tourism, and engineering). This partnership is intended to strengthen institutional linkages and cooperation by providing feedback mechanism for matching and training of graduates with industry demands. Consequently, this will create a long-term impact on private-public partnerships in the educational and labor supply/demand sector and on the employability of an economy's labor force in specific professions and industries. This practice allows graduates to get a head start with the required professional experience, as prescribed by certain MRAs.

The Philippines has already implemented the necessary curriculum development and industry-linkages that will bridge the gap between theory and practice. Consequently, as far as education, curriculum, and training are concerned, Filipino professionals are deemed ready to comply with MRA requirements. Revolutionizing the education sector is critical enable the Philippines reclaim its status as one of Asia's leading education centers that is competitive in the midst of globalization. (Asian Development Bank [ADB], 2004). Most importantly, a Filipino professional after investing in education, training, and other platforms of education will possess the necessary, but not yet sufficient, qualifications necessary for MRA comparability.

However, education is anchored on the qualifications of the faculty. Hence, it is also imperative to discuss the qualifications of faculty members to teach the disciplines covered in this study. These were lifted from information found in the CHED website. Appendix 1 enumerates the necessary faculty qualifications in the Philippines to teach the programs covered in this study. We can see that both graduate degree (particularly a Doctoral degree) and industry experience are required to be able to handle courses in professional degrees.

Of equal importance, the curricula of professional disciplines are also critical. The coverage of the curriculum should be significant relative to other countries. Hence, it is also necessary to present the curricula of various disciplines included in this study. These were lifted from information found in the CHED website. Appendix 2 showcases the curriculum for the professional degree programs covered by this study.

Assessment and Examination. With the rising competitiveness of the ASEAN labor market magnified by the increasing stringent qualifications and requirements, there is a need to level the playing field among AMS. Hence, it is necessary to appeal to the following regulatory measures and requisites to assessment and examination of Filipino professionals as enumerated by Mallea (1997): professional preparation, professional competency, continuing professional education (CPE), also known as continuing professional development (CPD), and quality assurance. Similarly, Tullao (2000) identified educational qualifications, licensing requirements, continuing training programs, and other components in comparison with ASEAN standards for international benchmarking as requisites for assessment and examination. These are important as undergraduate degree holders aspire professional

preparations that entail accreditation for specific programs, certifications attesting achievement of required standards in the discipline, and licensure granting permission to professional practice.

On quality assurance, Mallea (1997) underscored that it is being defined in terms of reciprocity and international norms and standards by professional bodies, accreditation agencies, HEIs, multilateral, and non-government organizations. The Philippines has a rigorous process for assessing and examining professionals through the PRC that regulates the practice of various professions in the country. Under the PRC are 43 Professional Regulatory Boards (PRBs), which exercise administrative, quasi-legislative, and quasi-judicial powers over their respective professions. Separate enabling laws created these and allowed for the performance of these functions subject to PRC's review and approval:

- Prepare the contents of licensure examinations.
- Determine, prescribe, and revise the course requirements
- Recommend measures necessary for advancement in their fields
- Visit and inspect schools and establishments for feedback
- Adopt and enforce a code of ethics for the practice of their respective professions
- Administer oaths and issue Certificate of Registration (COR)
- Investigate violations of set professional standards and adjudicate administrative and other cases against erring registrants
- Suspend, revoke, or reissue CORs for causes provided by law

In addition to the roles of PRC, Tullao (2003) underscored that the legislation of the PRC Modernization Act of 2000 gave the PRC additional powers and functions such as requiring an examinee to take refresher courses if he or she failed thrice in licensure examinations. Also, the PRC provides schools offering courses requiring licensure examinations copies of sample questionnaires on licensure examinations recently conducted within six months from the release of examination results. Likewise, the PRC also publishes the results of the performance of in licensure examinations using an instituted comprehensive rating system on the overall performance of their graduates in licensure examinations. Other than licensure examinations, the PRC Modernization Act of 2000 also touches on CPE requirement for the renewal of professional licenses. Appendix 3 enumerates the requirements Filipino professionals have to comply with to take the licensure examination as well as the coverage.

Continuing Professional Development. Considering the constant rise in the services sector resulting to higher demand for Filipino professionals to work overseas, it is necessary for Filipino professionals participating in the world labor market possess technical expertise that comply with the evolving international standards. Hence, on professional competency, some competency-based standards serve as framework to cover the requirements of the profession and the discipline's related industry. That is, the Philippines must ensure that Filipino professionals have to continuously improve their skillsets and competencies to remain at par with the international competition of trade in services. As suggested by Tullao (1999), improvement of competency has to involve: (1) improvements in the process of professional licensing; (2) reengineering professional regulation; and (3) capacity-building through continuing professional development (CPD) but more so on the enhancement of the educational sector and the training programs sufficient for the global competitiveness of Filipino professionals.

Experienced professionals in the Philippines are required to update their professional knowledge and improve their adaptability and flexibility to technological change, through CPD

– supplementary non-formal and informal education and training, after their completion of the formal education system (Tullao, 2000). As per the mandate of Executive Order (EO) 266 of 1995, the completion of CPD programs are required for the renewal of professional licenses. Moreover, the PRC administers the CPD with coordination with POs and private companies. Under the CPD Act, professionals can earn units from various programs and activities as part of their CPD such as participation in seminars, conventions, completion of advanced academic degrees, creation of self-directed learning packages, authorship, invention, innovation, in-service training, and other approved value-adding engagements. Furthermore, the PRC requires that all licensed professionals with bachelor's degree must complete a minimum of 60 units of CPD credits within three years. Meanwhile, non-degree holders must complete a minimum of 30 units. According to Medenilla (2018), CPD is a pre-requisite for the renewal of professional license (i.e., Professional Identification Card [PIC]).

Although CPD is a requirement for Filipinos to comply with MRA requirements (Fukunaga, 2015), there have been numerous complaints against the implementation of the CPD Law[19], which was implemented in July 2017 (Medenilla, 2018). Many professionals are averse to the law because of the cost that they have to shoulder to undergo trainings and seminars to earn the necessary CPD units. According to the PRC (2018), the "renewal of PIC without full CPD compliance is accepted until December 2020." That is, professionals renewing their PRC IDs are not mandated to fully comply yet with the required CPD units until December 2020. For now, PRC (2018) as cited by Medenilla (2018) only requires "an undertaking to complete the required CPD credit units for the next compliance period." Thus, professionals will be allowed to renew their PRC IDs even if they have not complied with the CPD credit units as long as they submit an Affidavit of Undertaking.

Recently, the CPD program was criticized for being expensive and not realistic (Hapal, 2018). It was argued that seminars and trainings that PRC requires under the CPD are costly and are not accessible to busy professionals. From the report of Hapal (2018), professional migrant workers are concerned with accessibility, cost, and long processes of CPD compounded by short validity of documents in the Philippines. For instance, unlike professionals working in the Philippines, professional migrant workers have no access to local seminars so they resort to taking online courses to comply with CPD requirements. However, the exorbitant costs of these online courses have been a limiting factor. Likewise, Hapal (2018) quoted migrant workers arguing that the CPD makes life harder for professionals who have been unemployed or were compelled to choose a different career path due to shortages of job opportunities in their field.

Given these criticisms on CPD, Tullao (2003) argued that the significance of CPD should not be undermined. Recent call for the abolishment of CPD as a requirement for license renewal should be reevaluated. Repealing the CPD Act may pose serious consequences, as CPD is "one of the pillars of domestic regulation of professionals enshrined under the GATS" (Tullao, 2003, p. 25). Tullao (2003) underscored that restructuring both programs and its accompanying accreditation system towards graduate studies, research and development, invention and innovation, and technological development are needed rather than emphasis on attending seminars, workshops, and conferences.

[19] As discussed by Medenilla (2018), the CPD Law took effect on 2016. It was fully complied with by PRBs on July 2017 with the release of its Implementing Rules and Regulations (IRR) that mandates professionals to obtain the necessary CPD units as prescribed by their respective PRB to renew their PIC. Tullao (2000) mentioned that failure to comply warrants removal from the list of professionals authorized to practice in the Philippines.

Appendix 4 compares the coverage of CPD in the Philippines and Singapore. Note that CPD in Singapore is very structured with clear guidelines and systems on how it can be availed.

Experience. Learning from the success of export-driven East Asian economies, it can be construed that success can be attributed to HRD. When economies invest in their labor force, it makes them more productive and competitive in the global market. One requirement to develop human resource is to consistently upgrade the active labor force not only through general education but also through on-the job training (OJT) programs that allows them to gain more significant experience. According to ADB (2004), the process of learning-by-doing transforms workers by making their learning curves steeper thereby increasing their productivity. Likewise, it can be construed from Beresford (2005) that the combination of actual work experience, schooling, internships, and part-time work can produce a well-rounded professional.

Although there are identified platforms in which experience can be gained, it is still scarce because it is dependent on the willingness of firms to accommodate professionals particularly the newbies. Likewise, the experience required by MRAs, like in architectural and engineering services may be too much given the scarcity of opportunities. In fact, according to Basa (2014), the ASEAN job agreements shun newbie architects and engineers.

Accreditation. Accreditation is the process in which certification of competency and credibility is presented. It officially recognizes a professional's proficiency ensuing in the approval and authority to execute specific tasks and offer specific services in support of official duties. The process guarantees that certification practices are satisfactory and ensures competence of bodies to validate and certify that third parties act ethically and execute appropriate quality assurance. Establishments that confer credentials or certify third parties against official standards are themselves formally accredited by accreditation bodies (also known as accredited certification bodies) such as the International Accreditation Service (IAS).

In the Philippines, the PRC accredits POs (i.e., CPD providers and programs). Only those accredited can issue CPD units. In fact, the PRC regularly releases a comprehensive list of CPD accredited providers (https://www.prc.gov.ph/cpd-accredited-providers), which includes accountancy, medicine, architecture, and engineering (aeronautical, electrical, agricultural, electronics, mechanical, chemical, geodetic, civil, sanitary).

Likewise, the ASEAN also accredits established professional association in the country to enforce standards and best practices such as the Philippine Institute of Certified Public Accountants (PICPA) for accounting services; Philippine Medical Association (PMA) for medical practitioners; United Architects of the Philippines (UAP) for architectural services; Institute of Electronics and Communications Engineers of the Philippines (IECEP), Philippine Society of Mechanical Engineers (PSME), Philippine Institute of Chemical Engineers (PIChE), Philippine Institute of Civil Engineers (PICE), Institute of Integrated Electrical Engineers (IIEE), among others for engineering services (ASEAN, 2012). For tourism professionals, the ASEAN has set forth tourism standards (e.g., ASEAN Clean Tourist City Standard, ASEAN Green Hotel Standard, ASEAN Tourism Standards Book); guidelines for tourism and hospitality organizations, tourism education and training providers, tourism professionals, and common ASEAN tourism curriculum; ACCSTP covering hotel services, food and beverages, and travel services; and common and specific competencies for six tourism labor divisions (ASEAN, n.d.).

Certification and Licensing. It is important to note that certification (i.e., professional certification, professional designation, trade certification, or qualification) is different from licensing (i.e., professional or occupational licensure). Certification is a designation earned by professionals to assure qualification to perform a job. It is a third-party recognition of an individual's level of knowledge or proficiency in a certain profession. Meanwhile, licensure is a form of state regulation requiring license to practice a profession for compensation (McGrath, 2008). Table 3 details the difference between certification and licensing. Meanwhile, Table 4 lists some certifications that professional (licensed) services covered by this study can obtain.

In the Philippines, it is again the PRC who is in charge of accrediting POs issuing certifications, administering licensure examinations, and issuing licenses to professionals who pass prescribed standards. A country must have a rigorous regulatory body to enforce standards and best practices among professionals. This is indispensable to ensure that professionals working in the domestic economy and would be deployed to partner economies are of superior quality delivering excellent services. This will have implications on the country's reputation as a service provider.

Table 3. Differences between certification and licenses

	Certification	Licenses
Issuing body	Awarded by authorities in the field, such as professional societies, HEIs, or private certificate-granting agencies	Issued by government agencies (i.e., PRC, Supreme Court [SC] for the legal profession),
Manner of obtaining	Obtaining is voluntary in some fields (for others, certification from a government-accredited agency may be required to perform certain jobs).	After graduation or after a few years of industry experience; require a certificate after about three to five years and so on thereafter.
Assessment process	The assessment process for certification may be more comprehensive than that of licensure, though sometimes the assessment process is very similar or even the same, despite differing in terms of legal status.	Research jurisdiction since each sets its own requirements for licensure. Earn a Degree. Report Experience. Pass the Licensure Exam. Apply for a License.
Endorsement	Created or endorsed by professional associations, but are typically independent from membership organizations.	Governed by PRC's PRBs, which exercise administrative, quasi-legislative, and quasi-judicial powers over respective professions
Renewal	Most are time-limited; some expire after a specific period of time while others are renewable indefinitely as long as certain requirements are met.	Renewal usually requires ongoing education to remain up-to-date on advancements in the field, evidenced by earning the specified number of CPD units from approved professional development courses.
Fields	Common in fields such as aviation, construction, technology, environment, industrial sectors (healthcare, business, real estate, finance).	All disciplines requiring a board exam or fields governed by the PRC.

Implications	Raises industry standards	Creates a regulatory barrier to entry into licensed occupations, resulting in higher income for those with licenses and usually higher costs for consumers. Protects the public interest by keeping incompetent and unscrupulous individuals from working with the public (according to McGrath [2008], there is little evidence that licenses affect the overall quality of services provided to customers by members of the regulated occupation).

Source: Compiled by Authors from Various Professional Associations and Regulatory Commissions.

Table 4. Selected certifications for professional services covered by this study

Professional Service	Description	Areas / Examples
Accounting Services	There are various professional bodies for accountants and auditors. A number of them are legally recognized in their jurisdictions.	• Accounting and external auditing • Internal auditing and fraud combat • Finance • Investments • Personal finance • Public finance
Medical Practitioners	Board certification is the process by which a physician illustrates mastery of knowledge and skills of a medical specialization. Considered as a vital measure of a physician's knowledge, experience, and skills to provide quality health care within a given specialty.	• Medical licenses • Membership of the Royal College of Physicians • Fellowship of the Royal College of Physicians and Surgeons of Canada
Architectural Services	Certifications for architects serve as seals of approval for architectural services that are innovative. Such certifications have become increasingly important, and are leading to big salaries for those who can earn them.	• AIA (Member, American Institute of Architects) and FAIA (Fellow, American Institute of Architects) conferred by American Institute of Architects • RA (Registered Architect) conferred by National Council of Architecture Registration Boards • NCARB (Certified) issued by National Council of Architecture Registration Boards allowing for state-state reciprocity.
Engineering Services	Professional engineering is any act of applying engineering principles that concerns the safeguarding of life, health, property,	• P. Eng. (Professional Engineer), conferred by provincial licensing bodies in Canada, Board of Engineers Malaysia (BEM), Pakistan Engineering Council (PEC), and state licensing bodies in the USA.

	economic interests, the public interest or the environment.	• EUR ING (European Engineer), conferred by the European Federation of National Engineering Associations (FEANI). • C. Eng. (Chartered Engineer), conferred by professional engineering institutions in the UK and commonwealth.
Tourism Professionals	Process of assuring customers that the assessed hospitality and tourism professional has met or exceeded baseline standards to deliver excellent service.	• CHA (Certified Hotel Administrator) conferred by American Hotel & Lodging Association • CMP (Certified Meeting Professional) conferred by Convention Industry Council • CEM (Certified in Exhibition Management) conferred by International Association of Exhibitions and Events

Source: Compiled by Authors from Various Professional Associations.

Research and Publication. Other than skills training, HEIs also creates knowledge through the conduct of research. According to Tullao, Conchada, and Rivera (2009), there is a significant link between university research and productivity growth in developed economies. For instance, Martin (1998) found that research and development enhanced productivity of human capital by accounting for the differential income of university graduates. It also enhanced productivity of the rest of the economy especially for firms that finance a good portion of university research. This created spillover effects that benefited other firms and enhanced the supply of human capital, particularly graduate students with specialization in science and technology. Moreover, according to Lynch and Aydin (2004) and Frenkel and Leck (2006), university researches served as one of the forces behind the development of the United States of America (USA) by allowing the development of knowledge for the creation of new technology to aid the country to lead in digital information. Furthermore, the studies of Pande (2003) and Shamounki and Orme (2003) revealed that East Asian economies have experienced sharp increases in national income and standards of living due to an increased investment in education, research for skills development, and technology adoption. In other words, economies that engaged in technology-oriented curriculum as subset of an export-led development strategy providing demand signals for the skills required for improving competitiveness.

Indeed, the formation of knowledge capital through innovative activities, research and development, and technological development are facilitating factors towards international competitiveness thereby contributing to productivity growth. That is, according to Tullao, Conchada, and Rivera (2009), the stock of scientists and technicians in an economy is imperative. For instance, South Korea is unique among developed economies as it has nearly five times as many research and development scientists and technicians per capita as the other economies in the region followed by the People's Republic of China and Viet Nam having the next largest stock of scientists and technicians per capita (Deolalikar, 1997). Therefore, research and technological development are critical contributors to economic growth, efficiency, productivity, and competitiveness.

On this driver, the Philippines is lagging behind as the country needs 19,000 more scientists to be a significant force in research and development, according to Senator Paulo Benigno Aquino, as quoted by Rappler (2017). Moreover, the country only has 189 scientists per

million, far from the ideal figure prescribed by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), which is a ratio of 380 scientists per every million population[20]. The scarcity of scientists would have repercussions on the country's publication success. Erfanmanesh, Tahira, and Abrizah (2017) measured the publication success of 102 countries as measured by the number of published journals in Elsevier Scopus for the year 2014. Of the 22,581 journals, 48.9 percent and 27.7 percent are from Western Europe and North America, respectively. Contributions from ASEAN are relatively small (i.e., Malaysia – 79; Thailand – 26; the Philippines – 22; and Indonesia – 16). In 2015, according to Tecson-Mendoza (2015), from 22 journals for the Philippines, it has increased to 28 scientific journals, out of 777 Philippine scholarly journals, are indexed in Clarivate Analytics (formerly Thomson Reuters), Elsevier Scopus, or both. Of these scientific journals, 13 were published by HEIs, two by government institutions, 10 by POs, and three by private organizations.

Likewise, Table 5 shows the number of publications of each AMS in Elsevier Scopus for the period 1996 to 2017. It can be seen that the Philippines is lagging behind in many of the other AMS in almost all professions. This warrants the need to increase the number of facilities, incentives, and opportunities for researchers, experts, scientists, and academe to contribute more to the formation of knowledge capital.

Similar to the scientific journals of other AMS, Philippine-journals are also facing a number of hindrances, as per Tecson-Mendoza (2015) – getting indexed in Clarivate Analytics, Elsevier Scopus, or both; securing funding; reaching a wider readership; achieving higher impact factors; competing for manuscripts; and increased submission of manuscripts from outside the country. To address these concerns and to promote the development of Philippine-journals, the National Academy of Science and Technology (NAST) Philippines has providing outstanding publication awards for scientific papers published in local journals for the past 20 years. Likewise, CHED has also accredited and provided monetary incentives to local journals that are indexed in journal master lists. In addition, there was also provision of training workshops on scientific writing and editorial management for researchers and editors by HEIs, professional, and government organizations. It is also important to note that a network of Philippine science editors has been formed to work together to upgrade and modernize selected journals to international standards.

It must be noted that although publication is not required in the practice of a profession, the faculty of these disciplines should be experts in their respective fields. Otherwise, they become merely trainers and cannot articulate on the nuances and developments of their respective fields. With expert professors the appropriate training and education of our professionals is thus ensured.

Table 5. Indicator of knowledge capital – number of publications in Elsevier Scopus journals (1996-2017)

Country	Accounting	Architecture	Chemical Engineering	Engineering	Medicine	Tourism
Brunei Darussalam	6	4	6	6	909	6
Cambodia	4	2	9	4	1,924	9
Indonesia	149	146	80	149	10,506	80

[20] Philippine population according to statistics by the World Bank is at 104.9 million as of 2017.

Lao PDR	-	2	10	-	1,025	10
Myanmar	-	-	-	-	831	-
Malaysia	915	485	505	915	38,565	505
the Philippines	146	17	28	146	6,952	28
Singapore	803	588	336	803	54,582	336
Thailand	130	183	253	130	50,902	253
Viet Nam	43	66	48	43	8,217	48

Source: Scimago Country Rank (http://www.scimagojr.com/countryrank.php)

2.2.3. Challenges to complying and implementing MRAs

From the above discussion anchored on the human resource drivers of Aldaba (2013), it can be construed that the Philippines has made the necessary steps to improve its educational system and install the sufficient facilities and regulatory bodies to ensure the Filipino professionals are educated and trained well to meet national standards. With the AFAS in place, the education, training, professional experience, requirements met, certifications and licenses granted to Filipino professionals and service-providers may be recognized by AMS for certification and licensing purposes.

On a macro level, Aldaba (2013) cited that in order to align and support the specific MRAs, domestic policies must be amended to consider variations and gaps in educational systems, legal frameworks, institutional mechanisms, and social conditions. This can be done through the cooperation between private and public sectors, and the collaboration between the Department of Labor and Employment (DOLE) and PRC to establish facilities that will implement the MRA in the country. As far as educational qualifications, training, CPD, certifications, and licenses are concerned, Filipino professionals are ready to comply. However, there is a challenge of acquiring significant work experience. Likewise, policy and regulatory frameworks (e.g., Constitutional restrictions, partial recognition) are also not yet robust to implement the MRAs. Table 6, culled from the study of Aldaba (2013) shows the challenges of implementing the MRAs covered by this study.

Notice that challenges are apparent for professions that are regulated and highly regulated, as per the groupings made by Hamanaka and Jusoh (2016). Challenges are mostly concerned with the need for guidelines and mechanisms for MRA implementation. For unregulated professions specifically tourism professionals, even before MRAs existed, the profession already have a detailed structure both at the national and regional levels. The only challenge for tourism professionals is to institute the recognition process of an ATP.

Table 6. Challenges to MRA implementation

Professional Service	Environment (Aldaba, 2013)	Challenges to MRA
Accounting Services	Regulatory environment at national level	Various disconnects between national agencies, negotiating bodies, and professional regulatory bodies in establishing systems, mechanisms, technical attributes, policy formulation, information gathering, information dissemination, and advocacies.

	Implementation process at national level	Lack of initiatives among professional groups; MRA is not a priority of professional sectors.
	Implementation process at regional level	Inadequacy of opportunities for PRBs and POs, to interact with foreign counterparts.
Medical Practitioners	Regulatory environment at national level	According to Porcalla (2008), the Physicians Act of 2007 has already been approved on third reading to replace the Philippine Medical Act of 1959 that will promote honesty, responsibility, and reliability among medical practitioners. Institutionalization of the Professional Regulatory Board of Medicine that will handle the examination, registration, and licensing of medical practitioners; inclusion of a 1-year clinical internship and clerkship in the current 5-year medical course; introduction of new subjects to the curricula; institutionalization of the issuance of certifications of registrations and PIC, among others.
	Implementation process at national level	A coordinating body that would provide information on the MRA, its objectives, mechanics, and implications is needed.
	Implementation process at regional level	No existing mechanism aimed at MRA implementation.
Architectural Services	Regulatory environment at national level	Although all AMS practice the issuance of a temporary special permit to foreign architects, all foreign architects are required to work with a local registered architect. This restricts independent work and undermines complete borderless practice. A comprehensive program and guidelines are needed to address MRA implementation.
	Implementation process at national level	The assessment statement submitted needs to be revised to look into issues with the composition of the MC.
	Implementation process at regional level	There is a need to reconcile the varying levels of competencies and requirements for licensure. Language barrier is also a challenge among AMS.
Engineering Services	Regulatory environment at national level	The Philippines has a number of engineering specializations with distinct and separate interests resulting to conflicts and overlaps in practices.
	Implementation process at national level	
	Implementation process at regional level	There is a need for guidelines necessary to design seamless processes, systems, and mechanisms at the regional level.

Note: The contents of this table have been directly culled from Aldaba (2013).

2.3. Research Gap

Despite the increasing significance of MRAs in trade policy for various sectors, particularly the services sector, scholarly knowledge on the role, impact, and issues of MRAs is still limited.

From the literature review, we have seen the need to identify and bridge the gaps between the educational curriculums; training modules; equivalency; MRA requirements; and the implementation of MRA related components in AMS. This will cover existing qualifications, hard infrastructures, and soft infrastructures – must be built on competency standards and equivalences. Hence, we augment the literature by conducting a conceptually informed qualitative analysis of the ASEAN approach to MRAs.

3. Conceptual Framework

In answering our research problem and addressing our objectives, we are guided by the Technology-Organization-Environment (TOE) Framework (see Figure 2) that is very useful in identifying determinants, best practices, and challenges that impact readiness of professionals to participate in the mobility of skilled labor in the ASEAN. It can provide a comprehensive understanding of the implementation decision of MRAs among economies. The TOE Framework, despite being organizational-level, as what Tornatzky and Fleischer (1990) claimed, the technological context, organizational context, and environmental context can explain innovations in HRD towards free labor movement via MNP.

According to Tornatzky and Fleischer (1990), technological context refers to physical capital that is relevant to the organization. These refer to both that are already present in the organization, as well as those, that are available in the marketplace but not currently in use. Meanwhile, organizational context refers to the characteristics and resources of an organization, specifically these include the linking structure between employees, communication process, organization dimension, and amount of resources. Lastly, environment context refers to the arena in which an organization conducts business among multiple stakeholders. These are external forces exerted by different government agencies, other organizations, as well as public mass.

However, Baker (2011) studied the limitations of the TOE Framework, primarily the lack of theoretical development one of which is that the TOE Framework is a generic theory. According to Baker (2011), this reason seems appropriate considering that this framework can be modified based on the researcher's needs. The freedom to alter the factors or measures for each new research context makes the TOE framework adaptable. Hence, researchers that used this framework have seen little need to adjust or refine the theory. Due to this limitation, we modified the TOE framework as seen in Figure 3.

Figure 2. TOE Framework by Tornatzky and Fletcher (1990)

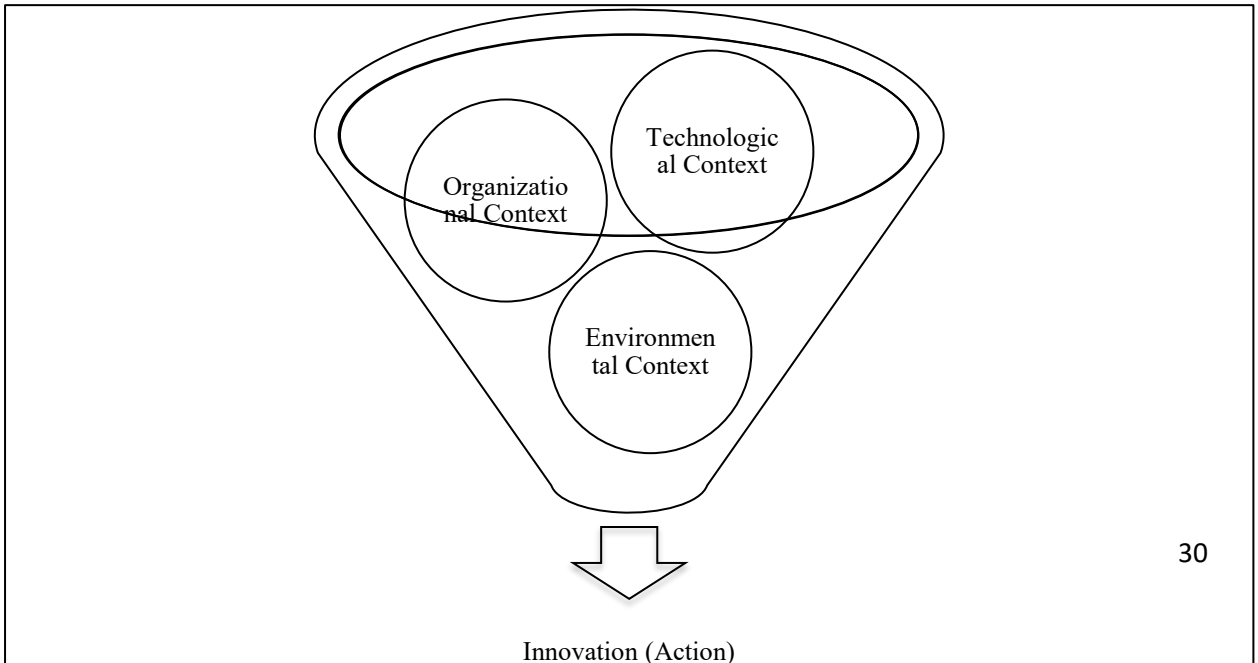


Figure 3. Modified TOE Framework

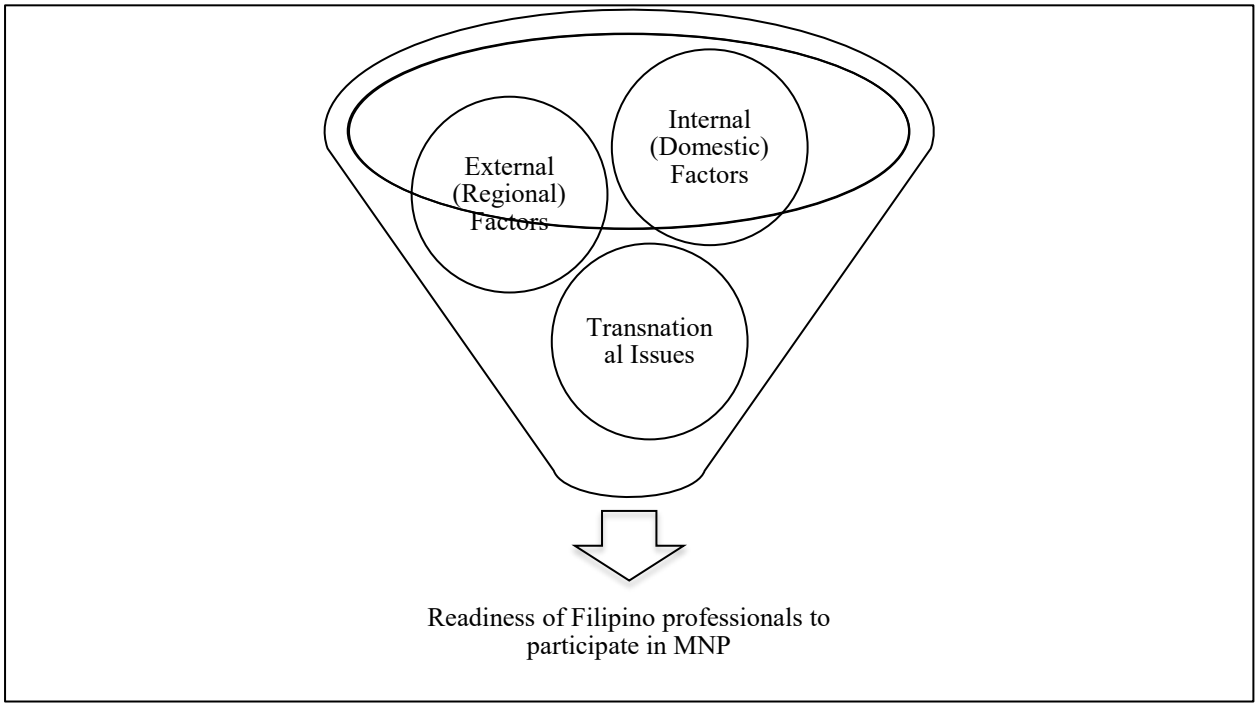
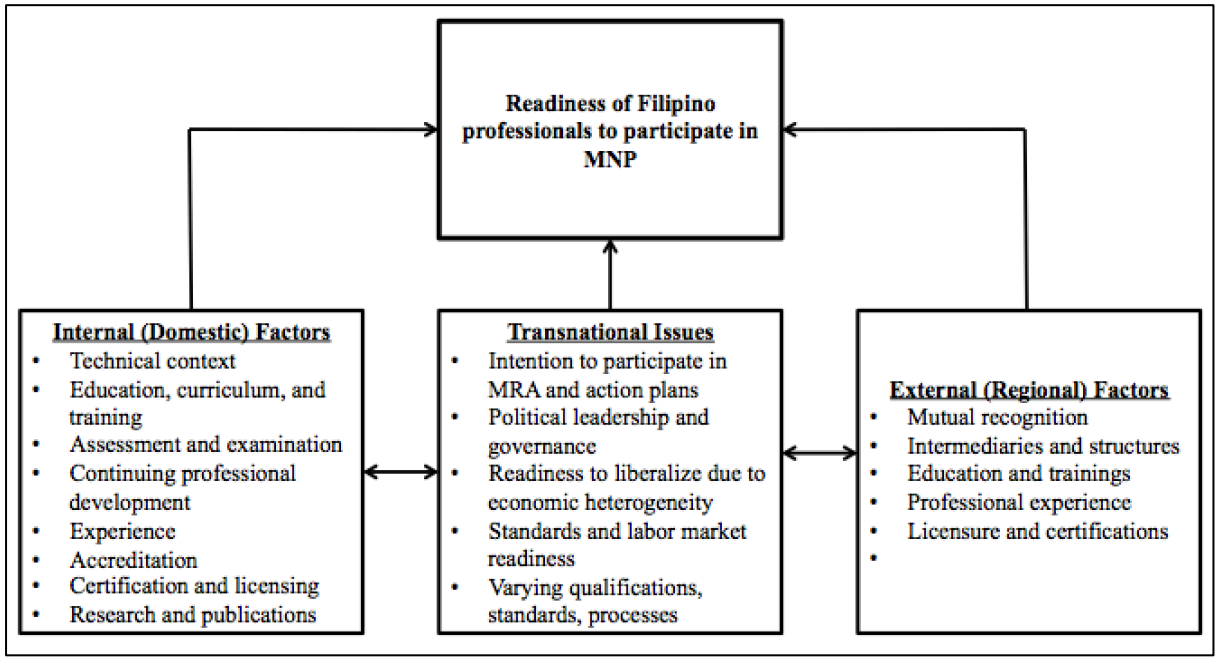


Figure 4. Factors affecting readiness of Filipino professionals to participate in MNP



From the TOE Framework, we argue that the readiness of Filipino professionals to participate in MNP is influenced by three factors and their components as seen in Figure 4: (1) external factors; (2) internal factors; and (3) transnational issues. *External factors* are the regional factors that facilitate or impede the readiness of Filipino professionals to participate in MNP. These include mutual recognition, education and training, professional experience, and licensure and certification. We have seen from Section 2.1.2 the several qualifications per professional service for mutual recognition, summarized in Table 11.

Meanwhile, *internal factors* are domestic factors (i.e., human resource drivers) enumerated by Aldaba (2013) where we can evaluate the readiness and comparability of Filipino professionals as seen in Table 13.

At the same time, *transnational issues* intervene between internal and external factors – these are issues that slow down the readiness of Filipino professionals to participate in MNP. These are issues that AMS have to settle so that skilled workers can freely move within the region to take advantage of lucrative opportunities in other AMS, with the motive of recovering their investments in human capital and at the same time providing for their families in their countries of origin.

We have seen from Section 2.1.2 that although best practices are seen in some AMS, it can be construed from the various identified issues and challenges (e.g., readiness to liberalize, varying qualifications, standards, and processes) that there has been a slow progress among AMS to officially express intent to participate in the MRA. According to Lenn and Campos (1996) as cited by Iredale (2001), "internationalization of the profession generally implies a convergence towards international standards and procedures away from nationally defined standards and national forms of regulation" (p. 10). That is, not all AMS are ready to give up their control over standards (e.g., who enters a profession is determined at the national level), as they are deeply involved in the process, rather than just an inexorable outcome of labor market internationalization (Meyer, Kaplan & Charum, 2001). Hence, although Filipino professionals are deemed ready to participate as per MRA, such arrangement also requires a concurrence that the standards and protocols of a profession are similar across AMS, which is challenging to arrive at, as seen in Table 6.

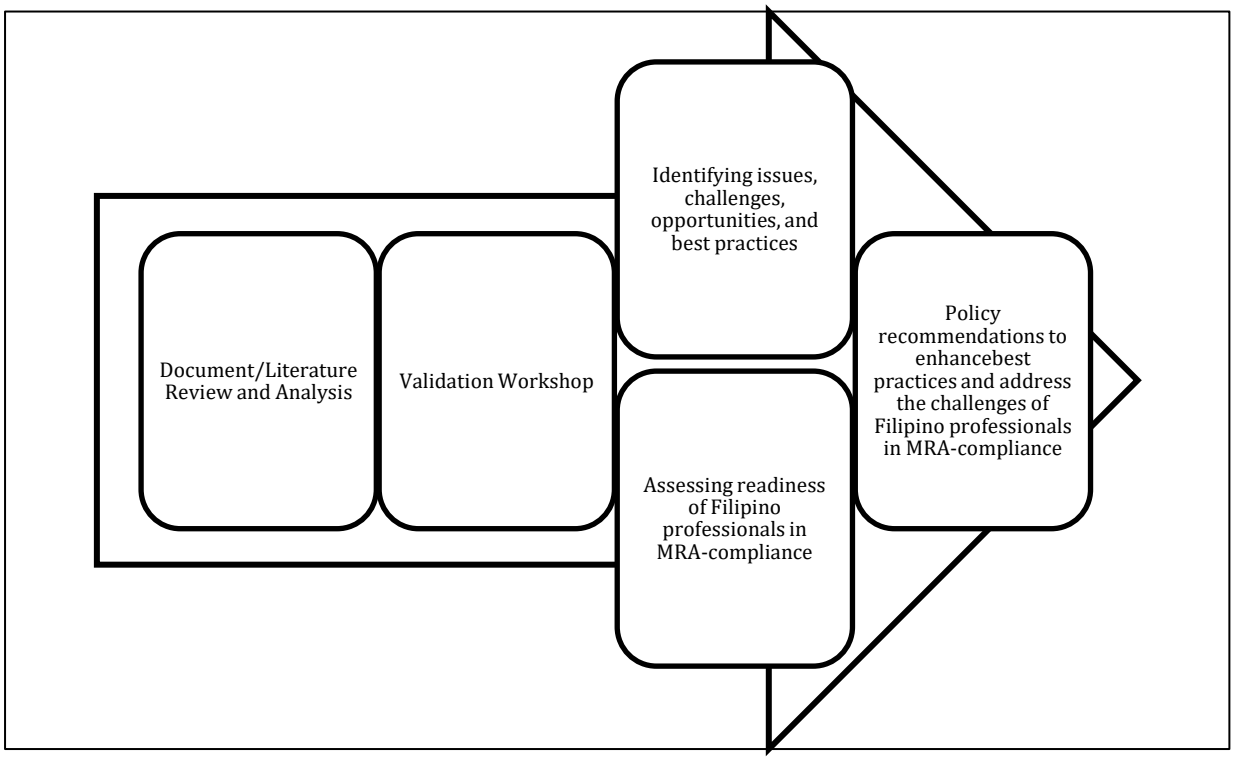
4. Research Design and Methodology

Driven by the objectives and nature of our study, a comprehensive literature review and consultation with industry practitioners was conducted following the primary approach framework of Hossain and Chan (2015). Our philosophical position is that reality is subjective and multiple as seen by stakeholders, experts, and practitioners. Hence, a qualitative methodology will be used. According to Hossain and Chan (2015), this approach allows for the collection of primary data while getting numerous interpretation of a similar concept from different respondents and perspectives.

Likewise, this research design suits well to new branches of research wherein factors and variables that are borrowed from existing literatures need to be verified by industry practitioners. Moreover, in this kind of research design, exploration of new factors is expected. Hence, we have utilized the following methods for qualitative research: (1) document/literature review and analysis; and (2) validation workshop with experts and stakeholders. Hossain and Chan (2015) emphasized that this methodology is compatible for studies that have inadequate and few supporting theories as it provides relevant insights from respondents which could increase the reliability of the study. Figure 5 illustrates the outcomes of our methodology.

4.1. Document Review and Analysis

Figure 5. Methodological outcomes



We have examined the following baseline documents – the official ASEAN MRAs, as listed in Table 7. Furthermore, we have also examined the pertinent documents and publications in line with MRAs on skilled professionals particularly on its contributions in improving the quality of professionals in ASEAN and readiness of professionals to participate in skilled labor mobility. In addition, it is also imperative to look into the issues, challenges, opportunities, and best practices in the areas of accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals in the Philippines that can be shared with other professionals so they can also attain regional and international comparability and eventually compliance. This includes circulars as well as other related documents and reports related to the accountancy services, medical practitioners, architectural services, engineering services, and tourism professionals.

Table 7. ASEAN MRAs covered by this study

ASEAN MRA on:	Date of Signing	Place of Signing
Engineering Services	09 December 2005	Kuala Lumpur, Malaysia

Architectural Services	19 November 2007	Singapore City, Singapore
Medical Practitioners	26 February 2009	Cha-am, Thailand
Accounting Services	13 November 2014	Nay Pyi Taw, Myanmar
Tourism Professionals	09 November 2012	Bangkok, Thailand

4.2. Validation Workshop

After reviewing pertinent documents, we have conducted a validation workshop with experts for each of the professions covered in this study. Validation workshops are used not only to gather insights from various perspectives and opinions of different parties involved in the phenomenon under study, but also to validate and augment the findings gathered from the document/literature review and analysis.

The overarching objective of the validation workshop is to explore the views and opinions of accountancy, medical, architecture, engineering, and tourism professionals regarding MNP readiness. The validation workshop was able to achieve the following: (1) solicit experts' comments on this study's document review, analysis, and initial findings; (2) substantiate on what is currently happening in their respective fields that will generate findings that are theoretically and practically sound; and (3) gather information and other data that are not available from government agencies. Guide questions in the conduct of the validation workshop are found in Table 8.

Table 8. Guide questions for Validation Workshop

Discussion Area	Guide Questions
On Faculty	In your profession, the minimum requirement for teaching in your discipline is the completion of MA/MS degree. Do you think the HEIs offering degrees in your profession have fulfilled this requirement? What do you think is the proportion of faculty members in a typical HEI offering degree programs in your profession has MA/MS and the proportion of faculty members with doctoral degrees?
	How far are the Filipino professors in your discipline differ in terms of regional (ASEAN) standards? Are the professors in your discipline lagging behind, at par, or advanced in qualifications relative to other ASEAN countries?
On Curriculum	Are the professional courses and academic programs offered by HEIs on your respective fields comparable with regional/international standards?
On Continuing Professional Education	Do you think the current CPE programs in your profession sufficient for Filipino professionals to be comparable with the regional MRAs?
	What alternative and relevant CPE programs will make Filipino professionals competitive with regional counterparts that will enable them to participate in the regional mobility of professionals?
On Research	What is the role of enhancing knowledge capital through research, publication, and graduate education in making Filipino professionals competitive in the regional mobility of professionals?
On Licensure Examination	Do you find it appropriate to allow fresh graduates in your discipline to take the licensure examination immediately? How many years of work experience do you deem appropriate for a fresh graduate in your field to take the licensure examination?

	What do you think of requiring work experience before taking a licensure examination in your profession?
On Conclusions and Recommendations	Given the support of the MRA in your profession, are Filipinos professionals ready to participate in the mobility of skilled professionals in ASEAN? Are our conclusions and recommendations consistent with what is happening in your respective professional organization?

The validation workshop was attended by at least one representative from each of the professional groups we have covered. Specifically, we have the following participants during the validation workshop coming from the academe, industry, and professional organizations (see Table 9). The participants were identified and selected based on their expertise, experience, and participation in the planning and HRD in the Philippines. Their answers and perspectives can enhance the understanding of the overall situation and direction of education and training that would provide guidelines in enabling professionals to be ready in the ASEAN labor market.

Table 9. Profile of Validation Workshop participants

Professional Service	Institutional Affiliations of Validation Workshop Participants
Accountancy	Accountancy Department, Ramon V. Del Rosario College of Business, De La Salle University; Alfredo M. Velayo College of Accountancy, University of Santo Tomas National Association of CPAs in Education
Medical Practitioners	Philippine Medical Association
Architectural Services	Palafox Associates, Inc.
Engineering Services	Mechanical Engineering Department, College of Engineering, De La Salle University; Philippine Institute of Chemical Engineers – Laguna Chapter
Tourism Professionals	AIM Conference Center Manila; College of International Tourism and Hospitality Management, Lyceum of the Philippines University; Dr. Andrew L. Tan Center for Tourism, Asian Institute of Management; Rajah Travel Corporation; The Asia Foundation

We summarize the responses of the experts who participated in the validation workshop (see Table 10). We can see the varying standards being adapted and implemented across professional groups. There have been issues with compliance with national standards primarily because of the constraint in the supply of faculties with advanced degrees complemented by significant and high-value industry experience (see Appendix 5 for distribution of faculties with advanced degrees in Philippine HEIs). Likewise, such reality creates slow progress in advancing the state of research and publications making knowledge creation sluggish. Despite these issues, the Philippine government together with the HEIs, professional organizations, regulators, and policymakers are coming together to improve and strengthen the design, delivery, and quality control of professional degree programs. It has indeed become a multi-stakeholder approach in ensuring that Filipino professionals will remain comparable with other ASEAN professionals and our national standards at par with regional and international qualifications.

Table 10. Results of Validation Workshop

Professional Service	Discussion Area	Remarks and Comments from Validation Workshop Participants
Accountancy	On Faculty	Although required, not all schools follow the CHED Memorandum Order wherein all faculties must have at least an MA (e.g., in DLSU, 100% have at least an MA; in UST, 95% have at least an MA)
	On Curriculum	The Philippine Accountancy curriculum is at par with ASEAN countries (i.e., DLSU and FEU) as its design is inspired by the International Federation of Accountants (IFAC) - the global organization for the accountancy profession.
	On Continuing Professional Education	CPEs are sufficient for the Accountancy profession as they are aligned with the prospective plans in the profession, which is headed by the National Association of CPAs in Education (NACPAE)
	On Research	Research and publication in Accountancy in the Philippines is lagging behind its ASEAN neighbors.
	On Licensure Examination	**T**aking licensure exams without experience is allowed although they can only use the license in practice after three years. It would be better if they take the board exams after gaining some experience.
	On Conclusions and Recommendations	In Accountancy, benchmarks for standards comparability are the Philippines. Malaysia is for professional qualifications; Singapore is for education; Indonesia if for faculty credentials (i.e., even secretaries are PhD degree holders); while Thailand is always average.
Medical Practitioners	On Faculty	All medical schools are controlled by the Philippine Medical Association (the primary medical association of the Philippines, covering medical practitioners and component medical groups from the entire country). All faculties should hold the Doctor of Medicine (M.D.) degree from accredited schools of medicine. The Philippine medical professionals are comparable with other ASEAN economies with the standards of the Medical Association of Southeast Nations.
	On Curriculum	Degrees offered by Philippine medical schools are recognized by international bodies such as the WHO, ECFMG, USA, and IMED. Medical institutions in the country are among the top 200 institutes in Asia and have the friendliest and helpful staff and the latest technology required in teaching medicine. The system and pattern of education followed is based on the US model of teaching thus ensuring an advanced and scientific way.
	On Continuing Professional Education	Adhere to the Mexico Principle – medical institutions' interactions are professional exchanges designed to benefit patients and to enhance the practice of medicine. These are based on the foundation that a healthcare professional's care of patients should be based solely on each patient's medical needs and the healthcare

		professional's medical knowledge and experience. Likewise, medical institutions are committed to education and training on the safe, appropriate, and effective use of their medicines (i.e., CSR of pharmaceutical companies in the form of free seminars); and they ensure that all relevant personnel and agents acting on their behalf are appropriately trained in the requirements of local, national, and regional industry ethics codes. Law should be liberalized so that CPE implementation will not be by PRC; CPE should not be in seminar form; promote licensing globally and acquire certificates (e.g., TESDA certification) for orthopedic nurses, for instance.
	On Research	Research and publication in medical profession in the Philippines is lagging behind its ASEAN neighbors.
	On Licensure Examination	At least one-year hospital experience before taking the licensure examination.
	On Conclusions and Recommendations	Filipino medical professionals are ready to participate in skilled labor mobility especially when they applying to host economies where they earned experience
Architectural Services	On Faculty	In Singapore, all faculties teaching architecture are required to have both MA and license. In the Philippines, this is not required (as long as faculty has a license and industry experience) (e.g., in DLS-CSB and UST, approximately 40% of architecture faculties have MA).
	On Curriculum	Architectural education in the Philippines is comparable with regional and international standards. It provides students with knowledge and skills in planning, designing and constructing buildings, taking into account the principles of utility, strength, and aesthetics. The curriculum comprises of CHED-mandated general education courses; technical subjects in Math, Science and Basic Engineering; and professional Architecture courses presented through lectures, laboratory classes, and studio design activities. The first three years put emphasis on providing opportunities for the students to draw and design with a sense of quality and technical expertise; to develop visual perception, and to understand construction as a means of communication of principles. The last two years are used to plan actual projects and explore the more detailed spatial and visual considerations and to gain knowledge in computer science as applied to Architecture. Special emphasis is given on the importance of research as evidenced by the thesis requirement for the course. Additionally, the knowledge and understanding of the ethical guidelines of the profession is a significant component of the program. Keeping abreast with the current trends in Architectural industry, most schools provide technologically upgraded studio facilities for the study of computer-aided

		designs. However, not all architectural schools possess state-of-the-art facilities to deliver the courses, which remains to be a challenge to be hurdled.
	On Continuing Professional Education	The 2016 law, sponsored by Sen. Antonio F. Trillanes, IV, requires 45 CPD points from architecture professionals for the renewal of their licenses every three years. As in most professions, doing CPD is obligatory as it helps Filipino architects to stay competent, professional, capable, and resilient. It is deemed sufficient, for now, as these seminars develop, sustain, and improve professional skills needed for the proper preservation, adaptation, management, and maintenance of the country's built heritage.
	On Research	Research and publication in architecture in the Philippines is lagging behind its ASEAN neighbors.
	On Licensure Examination	It is one of the best practices. Architects are allowed to take the licensure examination only after two years of architectural experience.
	On Conclusions and Recommendations	Filipino architects are ready to participate in skilled labor mobility, as the standards in the profession are comparable with regional and international standards. This is even reinforced with significant number of years of relevant experience.
Engineering Services	On Faculty	The minimum requirement for mechanical engineering to be able to teach is not an MS Mechanical Engineering (MSME), but a professional license from the PRC. However, if indeed an MSME were a requirement for all faculties, this would not have been fulfilled. Approximately 30% to 50% of faculties in Engineering have advanced graduate degrees (need to be validated by CHED statistics) In general, Filipino Engineering professors are at par with ASEAN economies.
	On Curriculum	There is a standard for all curricula in Engineering according to the CHED minimum requirements. It is deemed that Philippine Engineering curricula is comparable with international standards, especially now that Philippine basic education is at 12 years (i.e., K-12 Program).
	On Continuing Professional Education	CPEs are sufficient for the Engineering profession, despite being lowered to 45 CPD units only, as they are aligned with the prospective plans in the profession. Likewise, ASEAN engineers have reciprocity among countries as many engineers practice in the region. For alternative or relevant CPD programs, topics on Artificial Intelligence, Smart Electricity/Grids, Robotics, Internet of Things, Block chain Technology, Additive Manufacturing, Nanotechnology, Data Science and Analytics, among others.

	On Research	Research and publication in engineering is catching up but is lagging behind its ASEAN neighbors. It is very important in the profession as it plays a critical role in stimulating technology innovation, development, and deployment.
	On Licensure Examination	In the UK and the US, license is given to practice very specific areas of expertise/work (e.g., energy engineering, power plant engineer, AI engineer, design engineer, refrigeration engineer, etc.) and not than just general practice (e.g., chemical engineering, mechanical engineering). This should be the practice and if implemented should at least require 2 to 5 years of prior relevant experience.
	On Conclusions and Recommendations	Engineering professionals are ready participate in mobility of skilled professionals in the ASEAN region. From faculty and curriculum to CPE and research, all of which are comparable with regional and international standards.
Tourism Professionals	On Faculty	Since the profession is unregulated and under TESDA, and not PRC, there is limited offering of MAs and PhD; profession is flexible (i.e., a graduate of any field can practice tourism and hospitality); practitioners need TESDA national certification to be able to apply in the ASEAN Tourism Registry. Thailand is the benchmark for tourism and hospitality education because they offer PhD. In the Philippines, only Lyceum of the Philippines University and Philippine Women's University offer doctoral degrees in tourism and hospitality. There is a limited number of HEIs offering MA/MS in tourism and hospitality management, much less a doctoral degree. So most with MA/MS degree holders in the Philippines have taken it outside of the country. Those teaching advanced degrees in tourism and hospitality have MA/MS in allied fields and confined to teaching subjects that they are allowed to teach. The Philippines is comparable (or even higher) in educational standards (i.e., high paper qualification, but not necessarily the same with experience) with the exception of Singapore and some parts of Thailand and Malaysia.
	On Curriculum	Note that the CMO 62 for tourism and hospitality management was passed in 2018 for implementation. Curriculum is now outcomes-based instead of subject-based. This should have positive impact than previous.
	On Continuing Professional Education	There are CPE Programs for certain professions in Tourism and Hospitality, but more for Hospitality. It is just now, that CPE Programs for tourism are being developed. That being said, the MRAs for Tourism is also not as developed as that of the Hospitality.

		An alternative option some HEIs are doing, are immersion programs or exchange programs that give exposure to certain professionals. Again, this is not the same for all job descriptions.
	On Research	This should be a very high priority for the academe and the industry. This is a bud that needs to grow extensively in the field of tourism and hospitality. Being empowered with data and analysis and studies, we build on gaining expertise.
	On Licensure Examination	There are no licensure exams required. But there are certifications that give professionals that recognition. For tourism and hospitality professionals, instead of licensure examination, they have certifications. There are professionals called near-hires, since based on an internal standard they do not meet the qualifications needed for certain functions. Then there are certain functions they are asked to be certified on especially on running certain tasks such as reservations systems. Once certified, it gives them an advantage in getting employed and getting a higher pay level.
	On Conclusions and Recommendations	Professionals under tourism and hospitality have great chances of mobility. They have been hired not just in ASEAN but also around the world, especially the Middle East. Hence, it can be deemed that they are more than ready to continue to participate in labor mobility. Upgrading human resource to what seems to be progressive now, is what it does. It does not and cannot address disruptive technology that totally replaces certain human functions at the moment. Tourism and hospitality is one of the most progressive in this regard but also the most resilient. The tourism and hospitality industry average to contribute 1 out of 5 jobs and in 2030, it will rise to 1 out of 4 jobs. In comparison, other fields have fallen to provide 1 out of 10 job. This is because; certain professions in tourism and hospitality have already transformed low output jobs to higher output jobs or irreplaceable functions. Hence, it can be a case that mobility is not just a geographic endeavor; it is also a job-to-job endeavor. We also need to identify what are considered low output jobs that will be phased out soon.

We have also seen during the validation workshop that across all professional degree programs this study has covered, the MRAs have encouraged HEIs to upgrade their educational systems and curriculum. It has also pushed Filipino professionals to continuously improve their disciplines and constantly upgrade their technical skills. Professional organizations and regulatory bodies have also enhanced their training, accreditation, licensing, certifications, and frameworks to impose higher standards in the delivery of professional services. All of which are geared towards being comparable with regional and international standards as well as being

consistently at par with an ever-changing labor market landscape characterized by rapid technological development and emergence of numerous disruptive innovations.

It is also important to note that the results of the validation workshop have underscored the readiness of Filipino professionals, across all fields we have covered, to participate in regional labor mobility through the comparability of requirements and not necessarily compliance. However, as one expert from the tourism and hospitality profession mentioned, it is also important to consider that readiness for labor mobility is not just a geographic endeavor but also a job-to-job endeavor. There is a need to transform low output jobs into higher output jobs not only by being adept with technology but also by continuously developing innovative approaches to restructuring specific human tasks that technology will never be able to replace and automate or less susceptible to computerization. According to Frey and Osborne (2017), these human tasks are: (1) perception and manipulation tasks - tasks that relate to an unstructured work environment; (2) creative intelligence tasks - ability to come up with ideas or artifacts that are novel and valuable, which involves making unfamiliar combinations of familiar ideas that requires rich store of knowledge; and (3) social intelligence tasks – wide range of work tasks involving negotiation, persuasion and care.

All professional fields we have covered have areas that will allow them to be continuously comparable, competitive, and less susceptible to computerization. One way to achieve this is through the generation of knowledge from research that stimulates technological development and the creation new practices that upgrade human resource practices. However, although not all researches are practicable, these can generate patents, innovations, and new methodologies that can contribute to the development of society in the long run. To sustain the readiness of Filipino professionals, there is a need to continuously augment and improve on the education of faculties handling professional degree programs not only through developmental CPD but also through research and publication. Likewise, it is not also just the technical aspect that needs to be developed for Filipino professionals to be able to participate in labor mobility. They also need to hone their creative and social skills.

5. Challenges and Moving Forward

In the conduct of literature and document review, we summarize in Table 11 the qualifications that Filipino professionals must satisfy for them to be able to participate in MNP as per the specific MRA in their profession. These qualifications are: (1) education and training, (2) professional experience; and (3) licensure and certifications. From Table 11, we can see that all regulated professions, with the exception of tourism professionals (unregulated), require the completion of a degree (i.e., degree-holders). Likewise, all regulated professions require some years of professional experience. On the other hand, all professions require competency licenses and certificates accompanied by having no record of malpractice.

Table 11. Summary of qualifications per professional service for mutual recognition

Professional Service	Qualifications		
	Education and Trainings	**Professional Experience**	**Licensure and Certifications**
Accounting Services	Completed accountancy degree or professional accountancy examination program	At least 3 years within a 5-year period	Valid professional registration certificate issued by the country of origin Certification that he or she has no record of any serious

	Compliance with Continuing Professional Policy of the country of origin		violations applicable to practice of accountancy
Medical Practitioners	Granted a medical qualification	At least 5 years of continuous active practice in the country of origin	Valid license/certificate Certification that he or she has no record of any serious violations applicable to practice of medicine
Architectural Services	Accredited architectural degree that is at least 5 years in duration Compliance with Continuing Professional Policy of the country of origin	At least 10 years of continuous practice after graduation: where 5 years of which is after licensure, and at least 2 years include architectural works (stated in the MRA)	Valid license/certificate Certification that he or she has no record of any serious violations applicable to practice of architecture
Engineering Services	With accredited engineering degree Compliance with Continuing Professional Policy of the country of origin	At least 7 years after graduation, with at least 2 years of significant engineering work (stated in the MRA)	Valid license/certificate Certification that he or she has no record of any serious violations applicable to practice of engineering
Tourism Professionals			Tourism competency certificate specific for a job title

Source: Compiled by Authors from Various MRA documents

Despite AMS having signed various MRAs, there are still issues with mutual recognition, which reflects the challenge of verifying common elements of qualifications and filling gaps in qualification requirements (see Table 12). Likewise, AMS have varying levels of readiness in terms of developing the necessary framework and structure to implement the MRA. Appendix 6 also provides details of MRA implementation and AMS' best practices and constraints as culled from Fukunaga (2015) and Dagooc (2017).

Table 12. Summary of issues, challenges, opportunities, and best practices in MRA-implementation

Professional Service	Issues/Challenges	Opportunities	Best Practices
Accounting Services	Lack of progress among the AMS – no AMS has officially submitted a notification of intention to participate in the MRA.	At the national level, a regional authority, monitoring committee, and a government central authority is already present for all AMS.	–

Medical Practitioners	Varying qualification processes imposed by the AMS. Leads to "double recognition".	–	–
Architectural Services	Continues to experience backlogs in the registration of professionals. Requirements were considered too difficult for many experienced architects to qualify. Qualified architects perceive few benefits from becoming an AA.	–	Successfully established a regional joint coordinating body and a professional registry. At the national level, AMS have successfully established their respective regulatory authorities and MCs.
Engineering Services	Continues to experience backlogs in the registration of professionals. After a decade of implementation, only seven engineers were registered in host countries, but none have moved to work where they were registered.	Number of ACPEs has been significantly increasing in recent years.	Successfully established a regional joint coordinating body and a professional registry. Only Malaysia and Singapore have completed the steps to implement the engineering MRA.
Tourism Professionals	To date, no ATP has been registered in the MRA system. AMS have varying levels of readiness in terms of developing the necessary framework and structure to implement the MRA.	Significant impacts are expected since tourism professions are unregulated, which translates to granting ASEAN professionals in 32 tourism-related occupations with automatic recognition within the region.	Characterizing the success stories of Cambodia and Indonesia, their practices include early government coordination with relevant agencies to establish a tourism infrastructure dedicated to implementing the MRA Proactive approach to partner with institutions and donors, and constant communication to stakeholders regarding the information and benefits of MRA.

Such finding is trivial because of the nature of the services sector – qualifications and licensing requirements play a critical role, which Hamanaka and Jusoh (2016) deemed to be a huge barrier to trade in services. Moreover, this is exacerbated by recognition being either partial or full. As discussed by Hamanaka and Jusoh (2016), partial recognition indicates that an AMS' qualification system has common requirements in some areas, but that unique requirements also exist in another AMS' qualification system, which must be complied. On the other hand, full recognition means that an AMS's qualification requirements is equivalent to another AMS'

qualification requirements. That is, professionals that hold the agreed required qualification should be allowed to supply services domestically without additional requirements. For this to be addressed, there is a need for AMS to officially declare intention to fully comply with the MRAs that will allow for the establishment and strengthening of the necessary and sufficient facilities (i.e., regional authority, monitoring committee, regulatory committees, coordinating body, professional registry) for all professional services.

The readiness of Filipino professionals to participate in the mobility of skilled workers is assessed against the human resource drivers enumerated by Aldaba (2013) (see Table 13). We can see that Filipino professionals are ready to participate in MNP with education, training, certification, and licenses on hand. However, acquiring an extensive experience and CPD remains to be a challenge. This challenge is exacerbated by the fact that the Philippines' domestic laws, processes, regulations, and mechanisms that will facilitate mobility are not totally ready (see Appendix 7 and Appendix 8 for Philippine laws governing labor migration). However, the Philippines has been working on its domestic policies to address these shortcomings, although it is moving at a protracted pace.

Table 13. Assessing comparability and readiness of Filipino professionals

Human Resource Drivers	Description	Readiness of Filipino Professionals	Challenges
Education and Training	Improvements in educational systems are necessary to increase the quality of education, which will fuel an economy's success. An educational system that is consistent with international education standards practiced by all economies would allow graduates to be automatically recognized as professionals abroad.	The implementation of the K-12ES that created adjustments in basic, secondary, and tertiary levels of education will allow Filipino graduates to be automatically recognized as professionals in ASEAN as the educational system is now consistent with international education standard practiced by all economies. There will be no need for Filipino graduates to study again to qualify for international standards.	Continuous improvement in the design and delivery of curriculum
Assessment and Examination	As bachelor's degree holders aspire professional preparations, assessment and examinations leading to certifications and licenses attesting to the achievement of required standards in the discipline, granting permission to professional practice.	The Philippines has a rigorous process for assessing and examining professionals through the PRC that regulates the practice of various professions in the country. Under the PRC are 43 PRBs, which exercise administrative, quasi-legislative, and quasi-judicial powers over their respective professions.	Institute a progressive system of determining the competence of professionals by credible and valid licensure examinations and standards of professional practice that are globally recognized.

Continuing Professional Development	Economies must ensure that professionals have to continuously improve their skillsets and competencies to remain at par with international standards, trends, and competition.	Filipino professionals are required to update their professional knowledge and improve their skillsets through CPD, which is a requisite for the renewal of licenses.	Enhancing the CPD programs by identifying those that truly update professional knowledge and skillsets – capacity building programs rather than traditional conferences and seminars.
Experience	Learning-by-doing transforms workers by making their learning curves steeper thereby increasing their productivity. It comprises actual work experience, schooling, internships, and part-time work to produce well-rounded professionals prepared for the technical field.	CHED strengthens labor market linkages by fostering stronger ties among HEIs, POs, and industry practitioners and experts to provide OJT programs that allow for the accumulation of significant experience.	Incentivize HEIs, POs, and firms who are willing to establish linkage in designing OJT programs for newbies and developing an environment that will allow for the accumulation of significant experience for professionals.
Accreditation	Ensures that certification practices are acceptable (i.e., test and certify that parties behave ethically and employ suitable quality assurance.	PRC regularly accredits POs that can issue CPD units. At the same time, the ASEAN also accredits established professional association in the country to enforce standards and best practices among its professionals.	Continuous review, evaluation, and upgrading of standards for re-accreditation of existing POs and applicants to mitigate proliferation of redundant POs.
Certification and Licensing	Although there is a distinction between certification and licensing, both are geared towards the assurance that quality management process employed by professionals meet applicable standards,	PRC accredits POs issuing certifications, administering licensure examinations, and issuing licenses to professionals who pass prescribed standards.	Preparing professionals to undertake local and international certification and licensing through robust education, training, and review.
Research and Publication	Creation of knowledge through innovative activities, research and development, and technological development	The Philippines has 28 scientific journals listed in the master journal lists published by universities, government institutions, POs, and private organizations.	Produce and train more scientists; build the capacity of researchers and editors on scientific writing and editorial management in parallel with the incentives provided by

		HEIs and government; upgrade and modernize selected journals to international standards

Despite Filipino workers readiness to participate in labor mobility to take advantage of lucrative opportunities, certain geographical factors also have to be considered. From Table 14, we can see the developments in the circulation of ASEAN nationals in the region. It can be seen that Thailand, followed by Malaysia and Singapore, are considered top destinations of ASEAN migrant workers. Due to the proximity and accessibility of Cambodia and Myanmar to Thailand, they are cited to have the highest number of migrants and workers moving to Thailand. As for the Philippines, Malaysia and Singapore are considered the top labor market. Nonetheless, it can be construed that Singapore, Malaysia, and Thailand are able to take advantage of the variety of skillsets available in the region. However, they are also the economies implementing strict enforcements of their domestic regulations.

Table 14. Bilateral Migration Matrix in ASEAN (2013)

Origin	Destination									
	BRD	CAM	IND	LAO	MAL	MYN	PHL	SIN	THL	VNM
BRD		-	-	-	5,975	-	82	-	-	121
CAM	-			1,201	13,876	-	40	-	750,109	2,485
IND	352	108	-	-	1,051,227	-	3,325	152,681	645	7,671
LAO	-	265	-	-	-	-	-	-	926,427	4,284
MAL	643	175	1,979	-	-	-	798	1,044,994	1,191	-
MYN	-	53	-	282	247,768	-	424	-	1,892,480	9,783
PHL	3,468	156	3,517	-	21,345	-	-	14,176	1,196	292
SIN	2,285	125	19,681	-	78,092	-	825	-	632	466
THL	25,451	31,472	19,681	-	78,092	-	342	17,644	-	512
VNM	-	37,225	-	11,447	85,709	-	416	-	5,966	-
Total	32,199	69,579	44,858	14,582	1,512,129	-	6,252	1,229,495	3,578,646	25,614
ASEAN share of International Migrants (%)	15.62	92.08	15.18	66.89	61.24	-	2.93	52.92	96.16	37.51

BRD - Brunei Darussalam; CAM – Cambodia; IND – Indonesia; LAO – Lao PDR; MAL – Malaysia; MYN – Myanmar; PHL – The Philippines; SIN – Singapore; THL – Thailand; VNM – Viet Nam
Source: International Labour Organization. Migration in ASEAN in Figures: The International Labour Migration Statistics Database in ASEAN 2016, pp. 13-14.

The signing of the MRAs across different professional groups has propelled the mobility of professionals among AMS. However, despite efforts to foster the movement of professionals through reciprocity principles, specific delimiting factors such as regulatory policies and frameworks, accreditation, and over-all processing requirements remain present. That is, the implementation of MRAs is dependent on the individual regulatory bodies of AMS wherein the application of reciprocity is on a case-to-case basis. Professionals still has to comply with

the existing requirements to practice one's profession in another economy. Visa requirements to practice also serve as additional layer of hurdle (see Appendix 9).

6. Conclusions, Recommendations, Lessons for APEC Economies

From the document and literature reviews conducted, we have underscored the importance of HRD as a facilitating factor towards competitiveness and comparability of Filipino professionals with MRA requirements (i.e., accounting services, medical practitioner, architectural services, engineering services, and tourism professionals – professional services we have covered). Establishing the AEC was meant for the mobility of laborers including skilled workers (i.e., regulated professions) through MRAs. To open a very restrictive environment, AMS entered into MRAs allowing for comparability of competencies among skilled labor of each AMS.

In addressing our general objective, we reviewed the HRD dimension of the various ASEAN MRAs to which the Philippines is a signatory. We have seen that the competencies of Filipino professionals are comparable with other AMS allowing them to participate in the regional mobility of skilled labor. We have also seen areas where competencies of Filipino professionals can still be augmented to ease further mobility. In line with MNP, which is meant to assist and enhance trade in services, AMS can harness the benefits of abundance of a specific labor in another economy as well as the advantages of having diverse skillsets (i.e., hard and soft) and work ethics.

For example, international engineering companies can employ various engineering professionals that can serve an international clientele. Similarly, with an emerging medical tourism industry, some medical practitioners, who are having difficulty securing a plantilla position in local hospitals, can be hired by international hospitals. Likewise, because of the market presence of the Big Five accounting firms (i.e., Ernst & Young, Delotte & Touche, Arthur Andersen, Klynveld Peat Marwick Goerdeler, and PricewaterhouseCoopers) with different branches in other economies, they are able to hire, say Filipino CPAs, to practice in other economies like Singapore and Thailand since they have comparable qualifications. This will further expand the industry experience of professionals allowing them to learn also the specific business practices, work ethics, and culture of another AMS.

In addressing our specific objectives, we reviewed existing literature on how MRAs contributed to the quality improvement of professionals. **We found that the MRAs compelled sending countries to upgrade their educational systems, training, accreditation, certifications, licensing, and professional regulatory frameworks to enforce higher standards in the conduct of professional service.** Likewise, **through MRAs, professionals were obliged to continuously improve on their respective crafts.**

We also looked into the issues, challenges, and best practices of other AMS in attaining regional and international comparability. We found that **no single AMS serves as benchmark for best practices.** For instance, in the field of engineering services, only Malaysia and Singapore have completed the steps to implement the MRA. For tourism professionals, Cambodia and Indonesia are models for having early government coordination with relevant agencies to establish a tourism infrastructure dedicated to implementing the MRA. Meanwhile, all AMS have successfully established their respective regulatory authorities and MCs for architectural services.

For issues and challenges, we have seen a lack of progress among the AMS in submitting a notification of intention to fully participate in the MRA (particularly for accounting services). This is evidenced by the varying qualification processes and additional layers of requirements each AMS has set for other ASEAN professionals to be qualified in practicing in a host AMS, making MRA implementation more challenging. This is indicative of: (1) the AMS varying levels of readiness in terms of developing the necessary framework and structure to implement the MRA; and (2) the varying levels of development among AMS resulting to the lack of willingness to relinquish full control over their professional standards.

In addressing our research question, we found that on the aspects of: education, curriculum, training; assessment and examination; accreditation; and certification and licensing, Filipino professionals are ready for MNP – **Filipino professionals are already comparable with most of the requirements of the different MRAs.** Note that recognizing an MRA is an initial step towards comparability. The educational system of the Philippines is now comparable with other AMS. Likewise, qualifications including education and licensure are also comparable but it does not necessarily mean that a professional can easily migrate and practice in another AMS since recognition will still depend on the domestic regulations of the host economy – MRA implementation depends on an AMS' regulatory bodies; foreign professionals are accepted on a case-to-case basis (i.e., a professional has to comply with the existing domestic requirements to practice one's profession in another economy). **Hence, there is a need to reform domestic regulations to liberalize highly restrictive professions.** Moreover, to successfully ensure the ease of mobility, **there is a need to review, amend, and modify existing rules and regulations not only in specific regulatory bodies but also in all other related agencies** (i.e., Visa processing, immigration).

One of the critical issues raised in the validation workshop is the difficulty of earning sufficient experience, exorbitant cost of acquiring CPDs, and dearth of new technology, infrastructure, and effective regulatory framework in different fields hampers readiness to participate in labor mobility. Addressing such issues can facilitate the formation of a stronger skill base. One of the reliable ways to address such is through **the generation of knowledge via research that stimulates technological development and the creation new practices that upgrade human resource practices.** Incidentally, the roles of knowledge creation and technological development through research are vital in enhancing the conduct of professional practice. **Although not all researches are practicable, it can generate patents, innovations, and new methodologies that can contribute to the development of society in the long run.** However, with the state of research and publication in the Philippines, there is still work to do in also underscoring knowledge capital alongside social and human capital.

Equally, to enhance the readiness of Filipino professionals, they must be able to secure opportunities to have continuous active practice of their profession in the Philippines by refining how CPD is conducted and earned – **we argue that it should be developmental rather than regulatory**. To mitigate the high likelihood of professionals attending trivial seminars and redundant training programs to simply collect CPD points, there should be a strong academe-industry linkage (i.e., HEIs, POs, and industry practitioners and experts) allowing only CPD programs that are developmental, value adding, and impactful.

Hence, **we espouse that through developmental CPD as well as research and publication, the competencies of faculties handling professional degree programs can be continuously augmented and improved.**

Since mobility of professionals is facilitated and hampered by domestic regulations, there is still value in looking into MRAs as an enabling factor of labor mobility. **MRAs play a role in improving the human resource dimensions of professionals.** Despite the unresolved issues with MRA implementation, harmonization of regulatory frameworks, and standardized certification frameworks, MRAs are still relevant because it created ripples in improving human resources. It forces domestic professionals to improve their craft. With professionals possessing high competencies, we can make an economy more attractive to foreign investors. The apparent issue now is the hesitation of AMS in giving up their domestic regulation and nationally defined standards towards accrediting and licensing professionals

While AMS are working towards harmonization and standardization of regulatory and certification frameworks, developing economies can put importance on the role of education in enabling its professionals to be comparable with MRA requirements. **We have emphasized on the link between MRAs and HRD through the development of social capital but more so human and knowledge capital among our professionals.** APEC economies can learn from the ASEAN experience through the strengthening of the educational sector. Like the ASEAN University Network (AUN), **there is a need to strengthen associations of APEC universities towards benchmarking of curriculum, pedagogies, and learning standards**. HEIs can cooperate to improve and design new curricula that are comparable with regional and international standards.

Another lesson that APEC economies can learn from the ASEAN experience is the **creation of laws and policies that make it easier for foreign professionals to integrate themselves in the host economy.** Labor mobility is not just on making qualifications comparable. It is also concerned with how national treatment is applied to foreign workers. Through the ASEAN Integration in Services facilitated by GATS and AFAS, AMS are able to provide environments for foreign skilled workers that are conducive for living and working. Although this has yet to achieve seamlessness, enhanced cooperation in services among AMS has progressively improved the competence and competitiveness of ASEAN skilled labor; and has effectively diversified productive capacities, supply, and distribution of services within the region. Hence, for APEC economies to further realize a freer trade in services the scope of liberalization measures have to be expanded going beyond those initiated by individual member economies. The expanded scope may include comparable technical requirements (such as those stipulated in MRAs), immigration policies, and facilities that will ease social integration. This will have impacts on the accessibility and continuous development of quality service sectors (e.g., healthcare, professional services, education); thereby allowing them to contribute to the achievement of some of the Sustainable Development Goals (SDGs) particularly on human development, poverty alleviation, and employment.

It is also important that APEC economies **continue to maximize the economies of scale brought about by rapid technological developments** (e.g., business process outsourcing, block chain technology, cloud facilities). The ASEAN has demonstrated that technological advances have increased not only the efficiency of goods and services mobility within the region, but also the array of services provided – shared financial services, travel and tourism, education, medical services, consultancy, and other professional services – of which most, if not all, transactions are executed through electronic channels and networks.

Another important lesson for APEC is the **harmonization of regulatory frameworks (i.e., uniformity of technical guidelines) among member economies towards professional mobility.** This will eventually result to the convergence of regulations (i.e., technical

cooperation leading to policy alignment) wherein regulatory requirements across member economies become comparable and aligned due to the steady embracing of regionally and internationally accepted principles, common practices, and standard operating procedures, adoption of regulatory mechanisms that may be specific to a local and legal context but aligns with shared principles in meeting a shared objective.

APEC member economies may also explore **crafting their national certification framework** (i.e., quality-assurance guidelines system that recognizes competencies in terms of knowledge, skills, attitudes, and values, based on prescribed competency standards for specific professions). In determining the qualification level of a professional, **there is a need for a harmonized and streamlined process by which the training needs of professionals with competency gaps are identified and addressed.** To do this, APEC economies must establish a competency assessment system of accumulating evidence and crafting judgments on whether competency has been realized by a professional relative to a unit or cluster of units of competency. Also, such system should recognize a professional's currently possessed competencies acquired from prior educational, training, and professional experiences.

Ultimately, in developing further the region's human resources, as well as assessing competencies, HEIs should begin talking to one another and discuss potential areas of cooperation. However, HEIs cannot progress on this alone. **The coming together of regulators and professional organizations should complement the discussions of HEIs so that together, they can strengthen the program design, delivery, and quality control of professional degree programs accompanied by advances in technology**.

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8. Bibliography

Abueva, A.T. (2018, September). *Why does the Philippines need the K-12 Education System.* Retrieved from https://soapboxie.com/social-issues/The-Implementation-o-the-K-12-Program-in-the-Philippine-Basic-Education-Curriculum

Aldaba, R.M. (2013). *ASEAN Economic Community 2015: Labor mobility and mutual recognition arrangements on professional services* (PIDS Discussion Paper No. 2013-04). Makati City, Philippines: Philippine Institute for Development Studies.

ASEAN – Australia Development Cooperation Program – Phase II (AADCP II). (2004). *National Implementation of the Mutual Recognition Arrangement (MRA) on Tourism Professionals: Success Stories and Best Practices*. Indonesia: The ASEAN Secretariat.

ASEAN Mutual Recognition Arrangements on Accountancy Services. (2014)
ASEAN Mutual Recognition Arrangements on Architectural Services. (2006)
ASEAN Mutual Recognition Arrangements on Engineering Services. (2005).
ASEAN Mutual Recognition Arrangements on Medical Practitioners. (2009).
ASEAN Mutual Recognition Arrangements on Tourism Professionals. (2012).
Asia-Pacific Economic Cooperation (APEC). (2017). *Enhancing Mutual Recognition and Regional Cooperation for Skills and Job Qualifications in the APEC Region*. Singapore: APEC Secretariat.
Asian Development Bank (ADB). (2004). *Reforming the Philippines' higher education body.* Retrieved http://www.adb.org/Documents/News/2003/nr2003021.asp
Association of Southeast Asian Nations (ASEAN). (n.d.). *ASEAN Agreement on the Movement of Natural Persons.* Retrieved from http://investasean.asean.org/index.php/page/view/asean-free-trade-area-agreements/view/757/newsid/869/asean-agreement-on-the-movement-of-natural-persons.html
----------. (n.d.). *ASEAN Mutual Recognition Arrangements.* Retrieved from http://investasean.asean.org/index.php/page/view/asean-free-trade-area-agreements/view/757/newsid/868/mutual-recognition-arrangements.html.
----------. (n.d.). *ASEAN Tourism Ministers Meeting (M-ATM).* Retrieved from https://asean.org/asean-economic-community/asean-tourism-ministers-meeting-m-atm/other-documents-2/
----------. (2012). *Established professional association in the Philippines.* Retrieved from https://asean.org/?static_post=established-professional-association-in-the-philippines.
Austria, M.S. (2013). Challenges facing the ASEAN economic integration. *Asia Pacific Business & Economics Perspectives, 1*(2), 98-117.
Baker, J. (2011). The Technology-Organization-Environment Framework. In Y. Dwivedi, M. Wade, and S. Schneberger (Eds.). *Information Systems Theory: Explaining and Predicting Our Digital Society.* NY: Springer.
Bangko Sentral ng Pilipinas (BSP). *Overseas Filipinos' Cash Remittances*. Retrieved from http://www.bsp.gov.ph/statistics/keystat/ofw2.htm
Basa, M. (2014, October 28). ASEAN job agreements shun newbie architects, engineers. *Rappler.* Retrieved from https://www.rappler.com/world/specials/southeast-asia/asean-journey/73353-asean-mutual-recognition-agreements-architects-engineers.
Becker, G.S. (1965). A theory on the allocation of time. *The Economic Journal*, *75*(299), 493-517.
Beresford, D.M. (2005). *Private sector commission and national working group on MDGs* (Final Report). Private Sector Commission Guyana.
Bhatnagar, M. (2006). *Exports and their linkages to literacy.* Retrieved from http://www.economicswebinstitute.org/essays/expliteracy.htm#qua
Commission on Filipinos Overseas (CFO). Yearly Stock Estimation of Overseas Filipinos. Retrieved from: http://www.cfo.gov.ph/program-and-services/yearly-stock-estimation-of-overseas-filipinos.html
Dagooc, E.M. (2017, June). MRA system in ASEAN unlikely to happen soon. *The Freeman.* Retrieved from https://www.philstar.com/the-freeman/cebu-business/2017/06/27/1714212/mra-system-asean-unlikely-happen-soon
Denison, E. (1962). *The sources of economic growth in the United States and alternatives before the US*. New York: Committee of Economic Development.
Domondon, A.T. (1997). *GATS, APEC, AFAS: The Triad for Globalized Practice*.
Erfanmanesh, M., Tahira, M., T Abrizah, A. (2017). *The publication success of 102 nations*

in Scopus and the performance of their Scopus-indexed journals. Springer. DOI 10.1007/s12109-017-9540-5
Frey, C.B., & Osborne, M.A. (2017). The future of employment: How susceptible are jobs to computerization. *Technological Forecasting and Social Change, 114*(C), 254-280.
Fukunaga, Y. (2015). *Assessing the progress of ASEAN MRAs on professional services* (Discussion Paper 2015-21). Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia. Retrieved from: http://www.eria.org/ERIA-DP-2015-21.pdf.
Furman, J.L., & Hayes, R. (2004). Catching up or standing still?: National innovative productivity among 'follower' countries, 1978–1999. *Research Policy*, *33*(9), 1329-1354.
Gilley, J.W., & Eggland, S.A. (1989). *Principles of human resource development*. New York, USA: Addison-Wesley.
Goka, K. (1997). Deregulation and employment/unemployment problems. *Japanese Economy, 25*(5), 3-44.
Hamanaka, S., & Jusoh, S. (2016). *The emerging ASEAN approach to mutual recognition: A comparison with Europe, Trans-Tasman, and North America* (No. 618). Institute of Developing Economies, Japan External Trade Organization (JETRO).
Hapal, D.K. (2018, February). For struggling professionals, CPD is expensive and not realistic. *Rappler.* Retrieved from https://www.rappler.com/nation/195581-cpd-act-continuing-professionals-education-woes-not-realistic
Hayes, A. (2019, July). *Skilled labor.* Retrieved from https://www.investopedia.com/terms/s/skilled-labor.asp
Hickman, A., & Irwin, J. (2013). *Gap analysis on implementation of MRA on tourism professionals.* Jakarta, Indonesia: ASEAN Secretariat.
Hossain, M.A., & Chan, C. (2015). *Open data adoption in Australian government agencies: An exploratory study.* Retrieved from https://arxiv.org/pdf/1606.02500.pdf.
Iredale, R. (2001). The migration of professionals: Theories and typologies. *International Migration, 39*(5), 7-24.
Kagan, J. (2019, May). *Unskilled labor.* Retrieved from https://www.investopedia.com/terms/u/unskilled-labor.asp
Khan, M.A. (2007). Role of human capital in attracting Foreign Direct Investment: A South Asian Perspective. *SAARC Journal of Human Resource Development, 3*(1/3). Retrieved from http://www.shrdc-isb.org.pk/SAARC-Journal/SAARC-JHRD-V3.N1/3.%20Dr.%20Aslam-Pakistan.pdf
Koty, A.C. (2016, May 13). Labor Mobility in ASEAN: Current Commitments and Future Limitations. *ASEAN Briefing*. Retrieved from https://www.aseanbriefing.com/news/2016/05/13/asean-labor-mobility.html
Mallea, J. (1997). *International trade in professional and educational services: Implications for the professions and higher education.* Paris, France: OECD.
McGrath, L. (2008, April). *A primer on occupational licensing*. Institute for Justice.
Medalla, F.M., & Yap, J.T. (2008). *Policy issues for the ASEAN Economic Community: The rules of origin* (Discussion Paper Series No. 2008-18). Makati: Philippine Institute for Development Studies.
Medenilla, S.P. (2018, February). PRC to undertake review of CPD law's operational guidelines amid complaints. *Business Mirror.* Retrieved from https://businessmirror.com.ph/2018/02/07/prc-to-undertake-review-of-cpd-laws-operational-guidelines-amid-complaints/
Mendoza, D.R., & Sugiyarto, G. (2017). *The Long Road Ahead: Status Report on the Implementation of the ASEAN Mutual Recognition Arrangements on Professional Services*. Manila: Asian Development Bank.

Meyer, J.B., Kaplan, D., & Charum, J. (2001). Scientific nomadism and the new geopolitics of knowledge. *International Social Sciences Journal, 53*(168), 309-321.
Muller-Wirth, P., & Yasunaga, M. (2006). *Workshop on Public-Private Partnerships in Education for All.* Retrieved from http://portal.unesco.org/fr/ev.phpURL_ID=33868 &URL_DO=DO_TOPIC&URL_SECTION=201.html
National Economic Development Authority (NEDA). (2014). "Skills challenge" seen with free flow of ASEAN Professionals. *NEDA DevPulse, 17*(1). Retrieved from http://www.neda.gov.ph/2015/01/08/skills-challenge-seen-free-flow-asean-professionals/.
Papademtriou, D. G., Sugiyarto, G., Mendoza, D. R., & Salant, B. (2015). *Achieving skill mobility in the ASEAN economic community: Challenges, opportunity, and policy implications.* Manila: Asian Development Bank.
Philippine Overseas Employment Administration (POEA). OFW Statistics. Retrieved from http://www.poea.gov.ph/ofwstat/ofwstat.html.
Porcalla, D. (2008, May). House okays bill amending Medical Act of 1959. *The Philippine Star.* Retrieved from https://www.philstar.com/headlines/2008/05/10/61152/house-okays-bill-amending-medical-act-1959
Professional Regulation Commission (PRC). (2018, December). *CPD Compliance.* Retrieved from https://www.prc.gov.ph/advisories/notice-public.
Rappler. (2017, May). PH lacks 19,000 scientists in research and dev't – Bam Aquino. *Rappler.* Retrieved from https://www.rappler.com/nation/169716-philippines-lack-scientists-bam-aquino.
Raza, W. (2018). Mode 4 trade in services: Promoting temporary labour mobility via the trade détour? *Innovation: The European Journal of Social Science Research, 31*(3), 227-250.
Read, D.M.Y., & Parton, K.A. (2009). Economic deregulation and trade liberalization in Kenya, Tanzania, and Uganda: Growth and Poverty. *Journal of Economic Issues, 43*(3), 567-586.
Rivera, J.P.R. (2013). Evaluating the effects of taxing the remittances of skilled workers on capital accumulation and aggregate income using an overlapping generations model. *Journal of Economics and Economic Education Research, 14*(3), 1-20.
Ryan-Bacon, W., & Delisle, G.Y. (2001). Recognition of substantial equivalence of engineering competence: The Canada-France mutual recognition agreement. *European Journal of Engineering Education, 26*(3), 219-230.
Santos-Paulino, A. (2002). Trade liberalization and export performance in selected developing countries. *Journal of Development Studies, 39*(1), 140-165l.
Schultz, T.W. (1960). Capital formation by education. *The Journal of Political Economy*, *68*(6), 571-583.
Son, H.H. (2010). Human capital Development. *Asian Development Review, 27*(2).
Tecson-Mendoza, E.M. (2015). Scientific and academic journals in the Philippines: Status and challenges. *Sci Ed, 2*(2), 73-78.
Tornatzky, L., & Fleischer, M. (1990). *The process of technology innovation.* Lexington, MA: Lexington Books.
Tullao, T.S. (1999). *The liberalization of professional services* (CBE Working Paper Series 1999-03). Manila, Philippines: Center for Business and Economics Research and Development, De La Salle University.
Tullao, T.S. (2000). *An evaluation on the readiness of Filipino professionals to meet international competition* (CBE Working Paper Series 2000-01). Manila, Philippines: Center for Business and Economics Research and Development.
Tullao, T.S. (2003). Domestic regulation and the trade in service: The role of the

Commission on Higher Education (CHED) and the Professional Regulation Commission (PRC). In T.S. Tullao (Ed.). *Education & Globalization* (17-162). Makati: Philippine Institute for Development Studies and Philippine APEC Study Center Network.

Tullao, T.S. (2018). Exploring the potential of Mutual Recognition Arrangements in professional services in deepening ASEAN economic integration. In *ASEAN: Fifty Years Hence*. Diliman, Quezon City: Institute of International Legal Studies, UP Law Center, University of the Philippine.

Tullao, T.S., & Cabuay, C.J.R. (2014). *Challenges and opportunities in developing R&D capacity under the ASEAN Economic Community* (Manuscript). Manila, Philippines: Angelo King Institute for Economic and Business Studies.

Tullao, T.S., Conchada, M.I.P., & Rivera, J.P.R. (2009). *Trade and human resource development policies for inclusive growth: A literature review and a case study of the Philippines* (Manuscript). Asia-Pacific Research and Training Network on Trade.

Tullao, T.S., Conchada, M.I.P., & Rivera, J.P.R. (2011). *The Philippine labor migration industry for health and educational services: Regulatory and governance structures and implications for national development* (Manuscript). World Bank.

Tullao, T.S., Cortez, M.A.A., & See, E.C. (2007). *The economic impacts of international migration: A case study on the Philippines.* Bangkok, Thailand: East Asian Development Network.

Tullao, T.S., & Rivera, J.P.R. (2009). Impact of temporary labour migration on the demand for education: Implications for human resource development in the Philippines. In H. Eggins (Ed.). *Occasional Paper 16 Research Summaries on Sharing Research Agendas on Knowledge Systems* (122-132). Paris, France: United Nations Educational, Scientific and Cultural Organization.

United Nations World Tourism Organization (UNWTO). (2019). *International tourist arrivals reach 1.4 billion two years ahead of forecasts.* Retrieved from http://www2.unwto.org/press-release/2019-01-21/international-tourist-arrivals-reach-14-billion-two-years-ahead-forecasts

Weeks, J. (1999). Trade liberalization, market deregulation and agricultural performance in Central America. *The Journal of Development Studies, 35*(5), 48-75.

Wong, M., & Pellan, M.I. (2012). *Trade facilitation: The way forward for ASEAN and its FTA partners* (ERIA Policy Brief 2012-04). Jakarta: Economic Research Institute for ASEAN and East Asia.

World Trade Organization (WTO). (n.d.). *Movement of Natural Persons.* Retrieved from https://www.wto.org/english/tratop_e/serv_e/mouvement_persons_e/mouvement_persons_e.htm.

Yussof, I. and Ismail, R. (2002). Human resource competitiveness and inflow of Foreign Direct Investment to the ASEAN Region. *Asia-Pacific Development Journal, 9*(1). Retrieved from http://www.unescap.org/drpad/publication/journal_9_1/ishak.pdf

9. Appendices

Appendix 1. Faculty qualifications in the Philippines

Degree Program	Faculty Qualifications
Accountancy (Bachelor of Science in Accountancy)	The faculty should possess the educational qualifications, professional experience, classroom teaching ability, computer literacy, scholarly research productivity, and other attributes essential for the successful conduct of the undergraduate accounting program. All faculty teaching accounting courses should possess the following qualifications: 1. Registered Professional Accountants in the Philippines with current PRC Cards; 2. Holder of a valid Certificate of Accreditation as Accounting Teacher from the BOA/PRC; 3. Holder of at least a master's degree in accountancy, or other related area of studies as identifies in Section 5.5* hereof; 4. Must have earned 12 units of professional education subjects or equivalent program (e.g. teaching and learning philosophies, test and measurements); 5. Three years of relevant practical experience (in the fields of public practice, commerce and industry, or government); 6. Member in good standing of the accredited professional organization for CPAs; and 7. Must be of good moral character. Any tenured/full time/full load faculty who does not meet the qualifications 3 and 4 above shall be required to comply with the same within a period not exceeding three years from the date of the issuance of the CMO. Qualifications 2 and 3 above do not apply to special lecturers or adjunct faculty. ***Sec. 5.5 Allied Fields in Business and Economics.** Accountancy is functionally related to the fields of business administration and management, advertising, agri-business, banking and finance, business entrepreneurship, commercial and mercantile law, customs administration, economics, educational administration/management, entrepreneurial management, hotel and restaurant management, legal management, marketing management, office administration / management, public administration / management, real estate management, tourism, and travel management.
Medical (Doctor of Medicine)	The medical school shall have a competent teaching staff. Appointment to the faculty shall be based on academic and professional qualifications, teaching ability and/or research potentials. The academic ranks and their corresponding minium qualifications, in addition to existing rules and regulations of the institution, specifically, on pedagogic skills, are as follows:

	a. Instructor – A licensed Doctor of Medicine or a graduate of a relevant or related discipline with at least a Master's degree; b. Assistant Professor - At least three (3) years successful tenure as instructor; c. Associate Professor - At least three (3) years successful tenure as Assistant Professor or an equivalent training and experience and must be a co-author of at least one publication in a peer reviewed scientific journal; d. Full Professor - At least three (3) years successful tenure a Associate Professor or an equivalent training and experience, and must have shown outstanding achievement in scholastic and research as evidenced by being author of at least three (3) scientific papers published in a peer reviewed scientific journal or book. The appointment of faculty member at any level of the academic ranks may be without passing through antecedent ranks if warranted/justified by the applicant's training, productivity including research publications, demonstrated ability, maturity or eminence in the particular field of study without violating existing college/university regulations.
Architecture (Bachelor of Science in Architecture)	The architectural institution shall have an established procedure for recruitment of new faculty members which shall involve the administration and qualified members of the staff and faculty. a. Academic Preparation. A qualified faculty member shall have earned a Bachelor of Science degree in Architecture and Master's Degree in Architecture or in any architecture-related field. b. Professional Preparation. A qualified member shall be a registered architect by the PRC and have acquired three (3) years' experience in professional practice. c. Involvement in Associations. A qualified faculty member shall be an active member of a professional architectural organization duly accredited by the PRC and have proven exemplary participation in convention, seminars, education pursuits, leadership and professional enrichment training.
Engineering (e.g., Bachelor of Science in Chemical Engineering)	There must be adequate number of competent and qualified faculty to teach all of the curricular areas of the Chemical Engineering program and appropriate student-faculty ratio to effectively implement dynamic minimum program requirements set by CHED and the PRC. All faculty members teaching professional courses in BS Chemical Engineering program must have the following qualifications: 1. Holder of BS Engineering degree 2. Registered Chemical Engineer with valid PRC ID In addition, by AY 2018-2019, all full-tine faculty members must be holders of Master's and preferably Doctoral degree in Chemical Engineering must be holders of Master's and preferably Doctoral degree in Chemical Engineering or allied or related fields.

	Faculty members teaching Chemical Engineering Design and other professional courses in Chemical Engineering must preferably have relevant industry training or experience.
Tourism and Hospitality (Bachelor of Science in Tourism Management; Bachelor of Science in Hospitality Management)	The minimum qualification of the faculty members should be any of the following: a. At least a Master's Degree holder either in Tourism, HRM/HM or any of the indicated Allied Programs and must have a Bachelor's degree in Hospitality Management or related fields either in the undergraduate or graduate studies; with at least one (1) year of experience in the tourism and hospitality industry. b. Industry practitioners who do not possess the above-mentioned qualifications may still teach part-time in the programs provided if: • They possess at least a Bachelor's Degree in Tourism, HRM or allied programs, and has three (3) years of relevant industry experience, or • They are qualified using Professional Faculty Equivalency Table Other Faculty Requirements a. All full-time faculty members teaching the professional subjects must be a Master's Degree holder. b. Full time faculty members must handle at least 60% of the total number of units of professional subjects. c. For research subjects, Faculty members must either be a PhD holder, or an MAMS graduate (thesis track) or have a research output in the last five years that was presented or published in a journal.

Source: The contents of this table have been dirtectly culled from the Commission on Higher Education (CHED); http://www.ched.gov.ph

Appendix 2. Curriculum of professional degrees in the Philippines

Box 2.1. *For Accountancy (Bachelor of Science in Accountancy)*. The curriculum for BS in Accountancy Program is designed to support aspiring professional accountants to develop the appropriate entry-level technical competence, professional skills, values, ethics and attitudes to successfully completed their studies, pass their professional certification assessment/examination and the practical experience period. It is composed of a minimum of 173 units, including the required General Education (GE) curriculum, and covers all major areas required by the profession such as:

1. Accounting, finance and related knowledge;
2. Organizational and business knowledge; and
3. Information technology, knowledge and competencies.

The 173 units are broken down into the following components:

CHED CMO 27-Series of 2017- BS Accountancy	
Courses	**Minimum Units Prescribed**
General Education (GE) Courses	36
NSTP	6
Physical Education (PE) Courses	8
Common Business and Management Education Courses	6
Core Accounting Education Courses	81
Cognates/Major/Professional Courses	36
Total Units	**173**

This curriculum is vertically aligned with the Accounting and Business Management (ABM) strand of the senior high school academic track. The following courses cover all the major functional areas of business, and provide the foundational knowledge of the environment and the context in which professional accountant work.

Common Business and Management Education Courses		
Course	**Code**	**Minimum Units Prescribed**
Operations Management and TQM	CBME1	3
Strategic Management	CBME2	3
Total Units		**6**

The following component of the curriculum provides the students with core technical foundation essential to a successful career as professional accountants. It further develops and integrates the knowledge, skills and professional values, ethics and attitudes, which they obtained from the other components of the curriculum. It gives students the necessary theoretical and technical accounting knowledge and intellectual skills, including an understanding of professional values and ethics.

Core Accounting Education Courses		
Course	**Code**	**# of units**
Law on Obligations and Contracts	AE1	3
Business Laws and Regulations	AE2	3
Regulatory Framework and Legal Issues in Business	AE3	3
Management Science	AE4	3
International Business and Trade	AE5	3
Accounting Research Methods	AE6	3
Accounting Internship	AE7	6
Accountancy Research	AE8	3

Statistical Analysis with Software Application	AE9	3
Governance, Business Ethics, Risk Management, and Internal Control	AE10	3
Managerial Economics	AE11	3
Economic Development	AE12	3
Financial Accounting and Reporting	AE13	3
Conceptual Framework and Accounting Standards	AE14	3
Intermediate Accounting 1	AE15	3
Intermediate Accounting 2	AE16	3
Intermediate Accounting 3	AE17	3
Financial Markets	AE18	3
Financial Management	AE19	3
Accounting Information System	AE20	3
IT Application Tools in Business	AE21	3
Cost Accounting and Control	AE22	3
Strategic Cost Management	AE23	3
Strategic Business Analysis	AE24	3
Business Tax	AE25	3
Income Taxation	AE26	3
Total Units		**81**

The following professional courses complement the technical competencies of the business and management education, and accounting education courses, and the intellectual, interpersonal, communication, and organizational and management skill developed in general education. Together with the business and management education and the accounting education courses, the professional courses complete the technical, competencies, skills, professional attitude, ethics and values required under IFAC'S latest International Education Standards that qualifies the graduate to take any global certification assessment in Accountancy.

Cognates/Major/Professional Courses		
Course	**Code**	**# of units**
Auditing and Assurance Policies	PrE1	3
Auditing and Assurance: Concepts and Applications 1	PrE2	3
Auditing and Assurance: Concepts and Applications 2	PrE3	3
Auditing and Assurance: Specialized Industries	PrE4	3
Auditing in a CIS Environment	PrE5	3
Accounting for Special Transactions	PrE6	3
Accounting for Business Combinations	PrE7	3
Accounting for Government and Non-profit organizations	PrE8	3
Professional Electives	Elec#	12
Updates in Financial Reporting Standards		
Human Behavior in Organizations (HBO)		
Operations Auditing		
Valuation Concepts and Methods		
Principles and Methods of Teaching Accounting		
Total Units		**36**

Box 2.2. *For Medical Education (Doctor of Medicine).*
The objectives of the undergraduate curriculum are:

1. To provide students with the core knowledge needed by a primary care physician to: promote the health of communities; prevent onset of disease; cure disease and/ or mitigate its consequences; utilize the broadest range of health interventions to achieve the foregoing;
2. To develop in the students the following skills/ attitudes: critical thinking and problem-solving skills; decision-making and leadership ability; communication and technical skills; commitment for life long self-learning and professional development; desirable attitudes, moral values and ethical behavior including love of country, social responsibility, honesty, integrity and justice, and sensitivity to the world of the patient; capability to use the holistic approach to patient care; team spirit and ability to work with other health personnel and community workers

The curriculum shall have the following characteristics:

1. Competency-based and student-centered
2. Promotes learning of principles and processes rather than mastery of facts
3. Encourages self-directed learning
4. Utilizes evidence-based medicine, promotes research and allows students to choose from electives
5. Allocates adequate time for both theory and practice

The curriculum shall be at least four (4) years, the fourth year of which shall be a full clinical clerkship. The following disciplines shall be included in the curriculum:

1. Human Anatomy (including Gross and Microscopic Anatomy, and Developmental Anatomy)
2. Anesthesiology (including Pain Management)
3. Biochemistry, Molecular Biology, Genetics, and Nutrition
4. Legal and Forensic Medicine, Health Economics and
5. Bioethics
6. Internal Medicine
7. Microbiology, Parasitology and Immunology
8. Neurosciences (basic and clinical)
9. Obstetrics-Gynecology (including Women's Health)
10. Ophthalmology and Otorhinolaryngology
11. Pathology (Clinical and Anatomic)
12. Pediatrics (including Child Protection)
13. Pharmacology and Therapeutics (including Alternative Medicine)
14. Physical Medicine and Rehabilitation
15. Human Physiology
16. Family and Community Medicine (including Preventive
17. Medicine)
18. Behavioral Medicine (Psychiatry)
19. Radiological Sciences (including Imaging Modalities)
20. Surgery
21. Research and Clinical Epidemiology

The teaching-learning activities shall be held in variety of appropriate settings. These shall include adequately lighted, ventilated and equipped classrooms and laboratories; ambulatory care clinics, hospital wards and other units, community and family settings, etc. Overcrowding in the classroom, laboratory and other venues for instruction, needless to say, is not conducive to learning, and must not be allowed. For practicum in the clinical departments and Community and

Family Medicine, the setting shall be as similar as possible to actual intended future places of practice.

Medical schools may affiliate with hospitals and health facilities/ clinics accredited for undergraduate medical education by the Technical Committee for Medical Education. Clinical instructions shall be primarily case-based utilizing the problem-solving approach and emphasizing direct patient care under the guidance of a preceptor.

No rigid curriculum for accomplishing the aforesaid objectives can be prescribed. On the contrary, it is essential that there shall be a continuous study of the curriculum by the faculty and school administration with the introduction of modifications and new methods and materials to take proper cognizance of the advances in medical sciences and medical education including the changing pattern of medical practice. The existence of a functioning Curriculum Committee or its equivalent is highly desirable.

Box 2.3. *For Architecture (Bachelor of Science in Architecture).*
The BS Architecture program has a total of 205 credit units. The program comprises of general education, technical courses (mathematics, natural sciences, basic engineering sciences, professional, allied, and specialization courses). Shown below is a sample curriculum.

Classification/Field/Course	Total No. of Hours		Total No. of Units
	Lecture	Lab/Studio	
I. TECHNICAL COURSES			
Mathematics			
Sold Mensuration	2	0	2
Differential and Integral Calculus	3	0	3
Sub-Total	**5**	**0**	**5**
B. Basic Engineering Courses			
Statics and Rigid Bodies	3	0	3
Strength of Materials	3	0	3
Theory of Structures	3	0	3
Steel and Timber Design	3	0	3
Architectural Structure	3	0	3
Surveying	2	3	3
Sub-Total	**17**	**3**	**18**
C. Allied Courses			
Architectural Visual Communications 1 - Graphics 1	1	6	3
Architectural Visual Communications 2 - Visual Techniques 1	1	3	3
Architectural Visual Communications 3 - Graphics 2	1	6	3
Architectural Visual Communications 4 - Visual Techniques 2	1	3	3
Architectural Visual Communications 5 - Visual Techniques 3	1	3	3
Sub-Total	**5**	**21**	**12**
D. Professional Courses			
Architectural Design 1 – Introduction to Design	1	3	2
Architectural Design 2 – Creative Design Fundamentals	1	3	2
Architectural Design 3 – Creative Design on Architectural Interior	1	6	3
Architectural Design 4 – Space Planning 1	1	6	3
Architectural Design 5– Space Planning 2	1	9	4
Architectural Design 6 – Site Development Planning and Landscaping	1	9	4
Architectural Design 7 – Community Architecture and Urban Design	1	12	5
Architectural Design 8 – Design of Complex Structures	1	12	5
Architectural Design 9 – Thesis Research Writing	1	12	5
Architectural Design 10 – Thesis Research Application	1	12	5
Architectural Interiors	1	1	2
Theory of Architecture 1	1	1	2
Theory of Architecture 2	2	0	2
Building Technology 1 – Building Materials	3	0	3
Building Technology 2 – Construction Drawings in Wood, Steel ar Concrete (1 Storey Building)	2	3	3
Building Technology 3 – Construction Drawings in Wood, Steel ar Concrete (2 Storey Building)	2	3	3
Building Technology 4 – Specification Writing and Quantity Surveying	2	3	3

Classification/Field/Course	Total No. of Hours		Total No. of Units
	Lecture	Lab/Studio	
Building Technology 5 – Alternative Building Construction System	2	3	3
Building Utilities 1 (BU 1) – Plumbing and Sanitary Systems	2	1	3
Building Utilities 2 (BU 2) – Electrical, Electronics and Mechanical Systems	2	1	3
Building Utilities 3 (BU 3) – Acoustics and Lighting Systems	2	1	3
History of Architecture 1	2	1	3
History of Architecture 2	2	0	2
History of Architecture 3	2	0	2
History of Architecture 4	2	0	2
Professional Practice 1 (Laws Affecting the Practice of Architectu	3	0	3
Professional Practice 2 (Administering the Regular Services of the Architecture)	3	0	3
Professional Practice 3 (Global Practice for the 21st Century)	3	0	3
Planning 1 – Site Planning and Landscape Architecture	3	0	3
Planning 2 – Fundamentals of Urban Design and Community Architecture	3	0	3
Planning 3 – Introduction to Urban and Regional Planning	3	0	3
Computer-Aided Design & Drafting for Architecture 1	1	3	2
Computer-Aided Design & Drafting for Architecture – 2/BIM	1	3	2
Research Methods for Architecture	3	0	3
Tropical Design	2	0	2
Housing`	2	0	2
Business Management & Application for Architecture 1	3	0	3
Business Management & Application for Architecture 2	3	0	3
Sub-Total	**70**	**111**	**111**
F. Specialization Courses			
Specialization 1	3	0	3
Specialization 2	3	0	3
Specialization 3	3	0	3
Sub-Total	**9**	**0**	**9**
TOTAL (Technical Courses)	**109**	**135**	**155**
II. NON-TECHNICAL COURSES			
A. General Education Core Courses			
Understanding the Self	3	0	3
Readings in Philippine History	3	0	3
Mathematics in the Modern World	3	0	3
The Contemporary World	3	0	3
Ethics	3	0	3
Science, Technology, & Society	3	0	3
Purposive Communication	3	0	3
Art Appreciation	3	0	3
Sub-Total	**24**	**0**	**24**
B. General Education Elective Courses			
GE Elective 1	3	0	3
GE Elective 2	3	0	3
GE Elective 3	3	0	3
Sub-Total	**9**	**0**	**9**
C. Mandated Subject			

Classification/Field/Course	Total No. of Hours		Total No. of Units
	Lecture	Lab/Studio	
Life and Works of Rizal	3	0	3
TOTAL (Non -Technical Courses)	**36**	**0**	**36**
III NON- ACADEMIC (MISCELLANY) COURSES			
PE 1	2	0	2
PE 2	2	0	2
PE 3	2	0	2
PE 4	2	0	2
NSTP 1	3	0	3
NSTP 2	3	0	3
Sub-Total	**14**	**0**	**14**
TOTAL (Non – Academic Courses	**14**	**0**	**(14)**
GRAND TOTAL (including P.E./NSTP)	**252**	**135**	**205**
GRAND TOTAL (excluding P.E./NSTP)	**238**	**135**	**191**

Box 2.4. *For Engineering (e.g., Bachelor of Science in Chemical Engineering - BSChE)*

The curriculum must develop engineers who have a background in mathematics, natural physical and allied sciences. As such the curriculum contains courses in mathematics, physics, chemistry, materials and environmental sciences.

The Chemical Engineering curriculum also contains mandated general education and elective courses as connected to the desired program outcomes. This is to ensure that the Chemical engineering graduate can understand and articulate the nature of his/her special role in society and the impact of their work on the environment.

The curriculum is designed to guarantee a certain breadth of knowledge of the Chemical Engineering disciplines through a set of core courses and to ensure depth and focus in certain disciplines through track specialization elective courses. A minimum of 240 hours of immersion in chemical engineering activities outside the institution and a capstone project in chemical engineering design are the final requirements of the curriculum.

Below is the minimum curriculum of the BSChE program. The institution may enrich the minimum curriculum depending on the needs of the industry and community, provided that all prescribed courses are offered and pre-requisite and co-requisite are observed.

Classification/Field/Courses	Minimum No. of Hours/week		Minimum Credit Units
I. TECHNICAL COURSES			
A. Mathematics and Physical Sciences			
Calculus 1	3	0	3
Calculus 2	3	0	3
Engineering Data Analysis	3	0	3
Differential Equations	3	0	3
Chemistry for Engineers	3	3	4
Physics for Engineers	3	3	4
Sub-total	**18**	**6**	**20**
B. Basic Engineering Sciences			
Computer Fundamentals and Programming	0	3	1
Computer-Aided Design	0	3	1
Engineering Economics	3	0	3
Engineering Management	2	0	2
Sub-Total:	**5**	**6**	**7**
C. Allied Courses			
Analytical Chemistry	4	3	5
Organic Chemistry	4	3	5
Basic Electrical & Electronics Engineering	2	3	3
Fundamentals of Materials Science And Engineering	3	0	3
Environmental Science and Engineering	3	0	3
Engineering Mechanics	3	0	3
Sub-Total	19	9	22
D. Professional Courses			
Advanced Engineering Mathematics in Chemical Engineering	3	0	3
Physical Chemistry for Engineers	4	2	6
ChE Calculations	2	3	3
ChE Thermodynamics	2	3	3
Solution Thermodynamics	2	3	3

Classification/Field/Courses	Minimum No. of Hours/week		Minimum Credit Units
Momentum Transfer	2	3	3
Chemical Process Industries	3	0	3
Chemical Process Lab	0	3	1
Heat and Mass Transfer	3	3	4
Particle Technology	2	3	3
Separation Processes	2	3	3
Chemical Engineering Lab 1	0	3	1
Chemical Engineering Lab 2	0	3	1
Chemical Reaction Engineering	3	3	4
Biochemical Engineering	3	0	3
Process Dynamics and Control	2	3	3
Industrial Waste Management and Control	3	0	3
Chemical Engineering Design 1	1	3	2
Chemical Engineering Design 2	2	3	3
Chemical Engineering Laws and Ethics	1	0	1
Process Safety	1	0	1
Field Trips and Seminar	0	3	1
Computer Applications in ChE	0	3	1
Methods of Research	1	0	1
Chemical Engineering Immersion	0	240	2
Track Specialization 1	3	0	3
Track Specialization 2	3	0	3
Track Specialization 3	3	0	3
Sub-Total:	**51**	**116**	**71**
TOTAL TECHNICAL COURSES	**93**	**27**	**120**
II GENERAL EDUCATION /ELECTIVE AND MANDATED COURSES			
A. General Education Courses	3	0	3
Science, Technology, and Society	3	0	3
Contemporary World	3	0	3
Readings in Philippine History	3	0	3
Understanding the Self	3	0	3
Art Appreciation	3	0	3
Purposive Communication	3	0	3
Mathematics for the Modern World	3	0	3
Ethics	3	0	3
Sub-Total:	**24**	**0**	**24**
B. General Education Electives			
Technopreneurship	3	0	3
GE Elective	3	0	3
GE Elective	3	0	3
Sub-Total:	**9**	**0**	**9**
C. Mandated Courses			
Life and Works of Rizal	3	0	3
P.E. 1,2,3,4 (2 units each)	0	8	8
NSTP 1 & 2 (3units each)	0	6	6
Sub-Total:	**3**	**14**	**17**
TOTAL GENERAL EDUCATION ELECTIVE / AND MANDATED COURSES	**36**	**0**	**50**

Classification/Field/Courses	Minimum No. of Hours/week	Minimum Credit Units
GRAND TOTAL		**170**

Below are suggested track of specializations:

Food and Drug Manufacturing	Food Processing Technologies Pharmaceuticals Soaps/Detergents Cosmeteuticals
Packaging Technologies	Fundamental Principles of Packaging Packaging Materials and Components I Packaging Materials and Components II
Environmental Management	Air Pollution Control Solids Waste Management Hazardous Waste Management
Petrochemical Engineering	Introduction to Petroleum Engineering Polymer Engineering Plastics Technology
Energy Engineering	Renewable Energy Technologies Energy Management Green Boiler Technology
Biotechnology	Molecular Biology Enzyme Technologies
Paints & Coating Technology	Paints and Coatings Ink Technology
Materials Science and Engineering	Microelectronic Materials for ChE Nanotechnology
Technopreneurship	
Emerging Technologies	Courses Specifications for the Emerging Technologies of the Technical electives shall be developed by the HEIs in accordance with their needs bur shall likewise be submitted to CHED

Below is the summary of the BSChE curriculum:

Classification/Field	Total No. of Hours		Total No. of Units
	Lecture	Laboratory	
TECHNICAL COURSES			
A. Mathematics and Physical Sciences	18	6	20
B. Basic Engineering Sciences	5	6	7
C. Allied Course	19	9	22
D. Professional Courses	54	294	71
Sub-Total	**96**	**312**	**120**
GENERAL EDUCATION ELECTIVES / MANDATED COURSES			
A. General Education Courses	24	0	24
B. General Electives	9	0	9
C. Mandated Courses	3	14	17
Sub-Total	**36**	**0**	**50**
GRAND TOTAL	**132**	**325**	**170**

Box 2.5. *For Tourism and Hospitality (Bachelor of Science in Tourism Management – BSTM) and Bachelor of Science in Hospitality Management – BSHM)*

The curriculum should bring together the major elements of tourism, travel, hospitality and food service at the very least. Removing one or two components from the curriculum will be detrimental to the interest and prospects of the students. It should only prescribe core courses that will allow students to gain an understanding of the different fields related to the tourism industry. This guideline develops electives that are needed by industry based on the needs of the community, or feedback from graduates. It allows a school to define its own curriculum according to its resources and capabilities but subject to the guidelines of this PSG. The curriculum should encourage opportunities for students to explore competencies that the industry may require. Below is curriculum framework for tourism and hospitality.

Structure	The components of the curriculum has been segmented based on clusters that will develop knowledge, skills, values and attitudes from a general perspective to specific area. • Common core. All the programs share a set of common core competencies. Under the general umbrella of Tourism and Hospitality, graduates of these programs possess a common set of core and specific competencies developed from the general education, business and tourism/hospitality subjects. • Professional Courses. These are required courses and deemed essential of study geared towards a specific discipline - tourism or hospitality whose competence can usually be measured against an established standards. • Professional Elective. These are courses that a student can select from several alternatives of studies or enhancement that may lead to a specific focus. • Specialization. For eligible HEIs to offer specialization, they may select electives for a particular track/course of study or major that offers advanced, technical and specialized studies. Consequently, the program nomenclature may bear a specialization name (e.g., BS Hospitality Management specializing in Culinary Arts Management; BS Tourism Management specializing in Leisure and Recreation).
Competency-based	Competencies are matched with the competency standards required by the industry based on the job positions that the graduates will eventually occupy upon graduation. Inputs from various academic and industry professionals and organizations as well as international agreements such as the ASEAN MRA-TP were incorporated. The K-12ES from the Department of Education was also considered.
Industry-driven.	Industry practitioners participated in the identification of job positions and the development of competency standards.
Ladderized Curriculum Design.	The design of the curriculum in this CMO encourages HEIs to follow the concept of Ladderized Education Program (LEP) which espouses seamless integration between technical-vocational qualifications and collegiate curriculum as enshrined in the R.A. 10647 otherwise known as the "Ladderized Education Act of 2014." Should HEI opt to implement a full blown LEP to establish interface between TESDA TVET qualifications and BSHM/BSTM curriculum, the HEI can refer to IRR for RA 10647 LEP, issued September 21, 2015 for specific guidelines for implementation and align with the level descriptors of PQF. Consider also undertaking assessment and certification given by the Tourism Professional Certification Board that may be part of the portfolio of students.

Macro and Micro Orientation.	This set of policies and standards organizes all programs in tourism, hospitality management and related fields into a rational structure with the two orientation: the macro and the micro. • The macro orientation does not address the operation of any one particular sector nor enterprise; rather the programs provide the students an aggregate perspective of the tourism industry. These are reflected in the subjects that are shared among all tracks, in the Business and Tourism and Hospitality clusters. • The micro orientation pertains to the sectoral perspective. Programs with this orientation prepare the students for a career in management and/or entrepreneurship. They develop competency (knowledge, skills and attitude) necessary to perform required tasks, manage and operate effectively, efficiently and profitably, the different enterprises in the various sectors comprising the tourism industry. These are reflected in the unique subjects for each specific track in tourism and hospitality.
Flexibility.	Mindful of the ever-changing landscape within which the tourism and the hospitality sectors operate, the curricula leave room for innovation and enhancement and address emerging sectors that may not yet addressed by the current PSG. HEIs are encouraged to consider the national, regional and global milieu in responding to the needs of their environment.

Curricula in Tourism and Hospitality discipline should follow the curriculum structure below:

Courses	Minimum Units Prescribed
General Education (GE) Courses – The subjects under the GE Courses are found in CMO20 series of 2013.	36
National Service Training Program (NSTP) courses	6
Physical Education (PE) courses	8
Business and Management Education Courses (BMEC) – Operations Management; Strategic Management; Total Quality Management	6
Tourism and Hospitality Core	30
Professional Core Courses in Tourism and Hospitality	30
Professional Electives	15
Practicum-BSTM and BSHM (min. of 600 hours)	6
Program Major/Specialization (with eligibility requirements)*	(15)
Total units for ABM Track	**137**
Total units for eligible HEIs to offer Specialization for ABM	**152**

For non-ABM academic strand students, HEIs should offer five (5) ABM courses as defined specialization courses in K-12 ABM strand. The prescribed subjects are as follows:

- Fundamentals of Accounting/Business and Management - 3 units
- Organization and Management - 3 units
- Business Marketing - 3 units
- Business Finance - 3 units
- Applied Economics - 3 units

Below are the distribution of courses for tourism and hospitality.

Tourism and Hospitality Core	30 units
Professional Courses	30 units

Professional Elective Courses	15 units

Practicum serves as a venue to experience industry standards whereby students should be able to bridge the gap between lecture/laboratory activities and industry practice. Thus, students earn academic units in the performance of their training. It is highly encouraged that the practicum venue should be accredited by the DOT or their equivalent, both for local and international placements. It is necessary that the current Practicum PSGs governing, both for local and international, should be used as a reference. The practicum units may be broken into 2 subject offerings, assigned to different semesters, in different areas or in different levels of operation. It is highly encouraged that placements be in relevant areas as reflected in the course plan, and part of the program outcomes.

COURSES	Units	Lee	Lab	TOTAL
Practicum-BSTM and BSHM (min. 600 hours) •	6		6	**6**

Source: The contents of this table have been dirtectly culled from the Commission on Higher Education (CHED); http://www.ched.gov.ph

Appendix 3. Coverage of Assessment and Licensure Examination in the Philippines

	Requirements: • BS Accounting Graduate • PSA Birth Certificate • PSA Marriage Contract • Transcript of Records • Valid NBI Clearance • After 2 failures, refresher course (effective October 1976) • Conditioned/Removal Examination – to be taken withing two years form the date of examination • Payment: PHP 900.00 – complete; PHP 450.00 for conditioned/removal • Weight: 1 **Source:** Professional Regulation Commission (PRC)
Accountancy *Certified Public Accountant Licensure Exam (CPALE)*	**CPALE Coverage** (proportion of theoretical and practical component)**:** • Auditing (50-50) • Management Advisory Services (30-70) • Taxation (30-70) • Regulatory Framework for Business Transactions (70-30) • Financial Accounting and Reporting (30-70) • Advanced Financial Accounting and Reporting (30-70) • The October 2018, May 2019, and October 2019 CPALE will cover the new and old provisions of Tax Reform for Acceleration and Inclusion (TRAIN) Law, PFRS 9 on Financial Instruments, and PFRS 15 on Revenue from Contracts with Customers • Beginning the May 2020 CPALE, only the new provisions will be covered and included in such exam. **Source:** Board of Accountancy (BOA)
Medicine *Philippine Physician Licensure Examination (PPLE, aka Philippine Medical Boards)*	**Requirement:** • Holder of the degree of Doctor of Medicine or its equivalent. • Holder of a valid Certificate of Registration duly issued to him by the Board of Medical Examiners • Citizen of the Philippines or a citizen of any foreign country who has submitted competent and conclusive documentary evidence, confirmed by the Department of Foreign Affairs (DFA) showing that his country's existing laws permit citizens of the Philippines to practice medicine under the same rules and regulations governing citizens thereof. • Of good moral character (usually with a certificate from the Dean of medical school or an immediate superior at work) • No charges involving moral turpitude have been filed against the candidate or are pending in any court in the Philippines. **Source:** Article III, Section 9 of Republic Act 2382 (Medical Act of 1959)
	PPLE Coverage:

	During the entirety of the examination (4 days), the following topics are included:
	• Day 1
	  ○ Biochemistry
	  ○ Anatomy and Histology
	  ○ Microbiology
	• Day 2
	  ○ Physiology
	  ○ Legal Medicine, Ethics, and Medical Jurisprudence
	  ○ Pathology
	• Day 3
	  ○ Pharmacology and Therapeutics
	  ○ Surgery, Ophthalmology, Otolaryngology, and Rhinology
	  ○ Internal Medicine
	• Day 4
	  ○ Obstetrics and Gynecology
	  ○ Pediatrics and Nutrition
	  ○ Preventive Medicine and Public Health
	Source: Section 6 of the Medical Act of 1959

Architecture
Architecture Licensure Examiation (ALE)
	Requirements:
	• BS Architecture Graduate
	• PSA Birth Certificate
	• PSA Marriage Contract
	• Transcrpt of Records
	• Valid NBI Clearance
	• College Diploma (first timer)
	• PTR, IAPOA Number of Architect Mentor (first timer)
	• BS Architecture – Two years of diversified training and experience after graduation
	  ○ Logbook of Diversified experience
	  ○ Affidavit of Experience signed and sealed by a registered Architect with updated ID
	• Masters Degree in Architecture – one year of practical experience
	  ○ Affidavit of Experience signed and sealed by a registered Architect with updated ID
	• Payment PHP 900.00 – complete
	• Weight: 5
	Source: Professional Regulation Commission (PRC)

	ALE Coverage (and exam weights)**:**
	• History and Theory of Architecture; Principles of Planning; Architectural Practice (30%)
	• Utilities Systems / Structural Conceptualization / Building Materials and Construction (30%)
	• Architectural Design and Site Planning – 40%
	• On the second day of the Board Exam, the candidate must bring the following items in order to complete the exam:
	  ○ Architect scales (English and Metric Scales)
	  ○ 30 x 60 and 45-degree triangles
	  ○ Protractors

	○ Non-programmable calculators ○ Pencils, drawing pens, erasers, graphed paper and other tools for sketching purposes ○ Copy of Rules VII and VIII of the 2004 Revised IRR of Presidential Decree (PD) No. 1096 / 1977 National Building Code of the Philippines (NBCP) **Source:** Professional Regulation Commission (PRC)
Engineering *Aeronautical, Agricultural, Chemical, Civil, Electronics and Communication, Geodetic Engineering Licensure Examination (ELE)*	**Requirements:** • Engineering Degree • PSA Birth Certificate • PSA Marriage Contract • Transcrpt of Records • Valid NBI Clearance • Payment: PHP 900.00 – complete; PHP 450.00 for conditoned/removal • For Agricultural Engineering ○ After three failures, refresher course of one year. • For Civil Engineering ○ Two certificates of good moral character from any of the following: barangay, Church, school, employer • For Electronic Engineering ○ One removal exam only, period not specified • For Geodetic Engineering ○ After three failures, rest one year – fopr validation – FTB. **Source:** Professional Regulation Commission (PRC)
	ELE Coverage (and exam weights)**:** • **For Aeronautical Engineering** ○ Aircraft Structures and Design (20%) ○ Aircraft Construction, Repair, and Modification (15%) ○ Aerodynamics (25%) ○ Mathematics (10%) ○ Aircraft Power Plant (20%) ○ Engineering Economics and Management, Laws and Ethics (10%) • **For Agricultural Engineering** ○ Rural Electrification, Agricultural Processing, Agricultural Structures, Allied Subjects (1/3) ○ Soil and Water Resources Development and Conservation, Irrigation, Drainage, and Allied Subjects (1/3) ○ Agricultural Mechanization, Agricultural Power, Agricultural Machinery and Equipment, and Allied Subjects (1/3) • **For Chemical Engineering** ○ Physical and Chemical Properties (30%) ○ Chemical Engineering Principles (40%) ○ General Engineering, Ethics, and Contracts (30%) • **For Civil Engineering**

	○ Mathematics, Surveying, and Transportation Engineering (35%) ○ Hydraulics and Geotechnical Engineering (30%) ○ Structural Engineering, Design, and Construction (35%) • **For Electronics and Communication Engineering** ○ Mathematics (20%) ○ General Engineering and Applied Sciences (20%) ○ Electrionics Engineering (30%) ○ Electronic Systems and Technologies (30%) • **For Geodetic Engineering** ○ Laws, Rules, and Regulations (20%) ○ Mathematics (20%) ○ Theory and Practice of Surveying (20%) ○ Geodesy (20%) ○ Cartography (20%)

Source: The contents of this table have been dirtectly culled from the Professional Regulation Commission; http://prc.gov.ph

Appendix 4. Comparing CPD in Philippines and Singapore

Professional Service	Philippines	Singapore
Accounting Services	Technical Competence: Financial Accounting and Reporting Assurance & Auditing Related practice statements & interpretations Pronouncement related to Taxation Professional Skills: Oral & Written Communication Presentation, Negotiation & Facilitation skills Teamwork enhancement Professional Values, Ethics and Attitudes Code of Ethics Quality Standards Governance Principles and Intervention Social responsibility, principles, interventions	***For all public accountants:*** Financial Reporting Standards and Pronouncements Ethics and Professionalism Auditing Standards, Pronouncements and Methodology ***For those public accountants who are registered only for the purpose of becoming judicial managers and do not perform audits:*** Financial Reporting Standards and Pronouncement Ethics and Professionalism Insolvency and Restructuring ***For those public accountants who are also approved liquidators:*** Financial Reporting Standards and Pronouncements Ethics and Professionalism Auditing Standards, Pronouncements and Methodology Insolvency and Restructuring **Source:** Accounting and Corporate Regulatory Authority (ACRA)
Medical Professionals	Ethics: Profession's Code of Ethics and Applications Regional and International Ethics Standards of Professional Practice: All related laws, rules, and regulations, of the Department pf Health Enhancement of Professional Practice and Technical Competence: Updates, Capacity and Credential Building Environmental Factors Affecting the Profession: Gender and Development Personality Development Environment Concerns Social Responsibility	Anaesthesiology Aviation Cardiothoracic Surgery Dermatology Diagnostic Radiology Emergency Medicine Endocrinology Family Medicine Gastroenterology General Surgery Geriatric Medicine Haematology Hand Surgery Infectious Diseases Intensive Care Medicine Internal Medicine Medical Oncology Neonatology Neurology Neurosurgery Nuclear Medicine Plastic Surgery Psychiatry

		Public Health Respiratory Medicine Rheumatology Obstetrics and Gynaecology Occupational Medicine Ophthalmology Orthopaedic Surgery Otorhinolaryngology Paediatric Palliative Medicine Pathology Sports Medicine Urology **Source:** Singapore Medical Council
Architectural Services	Design: Art and architectural history, theory and criticism Building Types Community Design Housing Human Settlements Site Design and Planning Practice: Ethics Business of Architecture Standards of Professional Practice Procurement and Project Delivery Firm Management Business of Architecture Building Science: Building Science & Technology Energy and Materials Energy Efficiency Building Materials Acoustics and Lighting Environment and Sustainability: Sustainable Structures Disaster Resilience Green Architecture Renewable Energy Building Conservation Heritage Conservation Others	Certificate in Contract Administration Construction Contract Drafting & Dispute Resolution Good Industry Practices - Drywall Installation including Wet Areas Application Good Industry Practices - Aluminium Window Good Industry Practices - Drywall Installation including Wet Areas Application Building Plan and Management Only seminars & courses organised by approved Service Providers under the Board of Architects-Singapore Institute of Architects (BOA-SIA) CPD programme are eligible for accreditation for CPD points. Note: A centralized system by SIA organizes all CPD programs, points, and the respective profiles of registered professional architects. The schedule of accredited programs, number of points, and fees are all available in the system. **Source:** Singapore Institute of Architects
Engineering Services	**Aeronautical** Technical Competence (TC): Continuing airworthiness management or fleet technical management; structural engineering, major repairs and maintenance Reliability engineering; Flight dispatch and operations; Aircraft	CPD activities are activities which a PE chooses to participate in. As a PE may be operating under circumstances which are unique to him/her, the focus of the CPD activities is best left to each PE to

Professional Practice (PP):
Design and manufacture of aircraft, engines and its components;
Development and use of aircraft design software and programs;
Research on modern aircraft and aerospace technology
Standards, Education and Values (SEV):
Regulations, memoranda, advisories and amendments from aviation authorities
PRB/PRC resolutions/circulars and other government agency requirements;
Management practices and techniques;
Methods and styles in aviation training and education;
Social-cultural activities that relate to development of the community/society

Agricultural
Ethics:
Code of Ethics (including CSC, Ombudsman, ASEAN, IPR, etc.)
Standards of Professional Practice:
PAES and other related standards
Enhancement of Professional Practice and Technical Competence:
Emerging technologies, Perfecting of Craft, Career Specialization, etc.
Environmental Factors Affecting the Profession:
Gender and Development, Personality Development Branding, etc.

Chemical (General Matrix of CPD Activities)
Operational guidelines are still not available

Civil
Ethics:
Professional Practice (e.g. laws, rules, PRB/ Commission Issuances):
Attendance to PRB-sponsored learning activities
Enhancement of Professional Practice in Civil Engineering:
General civil engineering practice
Enhancement of Technical Competence in chosen field of Specialization:
Civil engineering practice in the chosen field of specialization

decide. The principle that applies is that the CPD activities chosen must be relevant to the scope of practice of each PE.
The Board therefore allows each PE the flexibility to select from amongst a broad range of activities.
The range of activities in this CPD programme is not intended to be inclusive but to act as a general guide. The activities that would be relevant are those that will enable one to:
• Maintain, improve, or expand technical skills and knowledge;
• Keep abreast of changing procedures and standards;
• Understand and apply advances in technology;
• Better serve the engineering profession, community and environment;
• Develop communication and management skills; and
• Broaden into related fields, such as those covering management, financial or legal aspects.
There are two types of CPD activity:
• Structured activity refers to an activity that has been qualified for PDU.
• Unstructured activity refers to an activity that involves self-directed learning, reading, discussion or participation. The activity does not qualify for PDU.

The PEB's CPD Committee qualifies structured activities such as formal study courses, conferences, workshops, seminars and in-house training for the purpose of CPD programme.

Source: Professional Engineers Board Singapore

Environmental Factors Affecting the Profession (e.g. Gender and Development, Personality Development): Awareness of the environmental factors affecting the profession

Electronics (General Matrix of CPD Activities)
Field of Specialization:
Telecommunications
Microelectronics
Power Electronics
Biotech/Biomedical Electronics
Instrumentation and Control
Broadcasting
Information and Communication Technology
Computer
Standard of Professional Practice:
Electronics Code
Building Code
Commercial Buildings
Industries
Commercial Arts
Institutional
Computer-aided design
System Analysis
Design Analysis
Operation and Maintenance
Building Science and Technology
Energy
Energy Efficiency
Acoustics
Others
Laws, Ethics and Management:
ECE Laws
Professional Laws of allied professions
PRB resolutions and issuances
Ethics
Business and Electronics Engineering
Technopreneurship
Procurement and Project Delivery
Firm Management
Global and Collaborative Practice
Project and Construction Management
Environment, Sustainability and Social Responsibility:
Sustainable Structures
Disaster Resilience
Green Engineering
Renewable Energy

	Building Power Conservation Socio-Civic Activities Others **Geodetic** (General Matrix of CPD Activities) Operational guidelines are still not available	
Tourism Professionals	N/A	The Training Industry Professionals in Tourism (TIP-iT) supports tourism companies in employee upgrading and talent and leadership development. The TIP-iT is open to all Singapore registered businesses/companies. Proposed projects should fall under one of the following categories: Employee Upgrading - Provides incentives for training and course development in tourism-related skill sets which enhances the capability and productivity of the workforce. Scope of training supported includes New/Specialised Skills, Multi-skilling, and Enhanced Service Delivery. Tourism Talent and Leadership Development - A scholarship scheme which aims to attract young talents into the tourism sector and groom middle management leaders of tourism companies to be leaders of tomorrow. **Source:** Singapore Tourism Board

Source: The contents of this table have been dirtectly culled from the Professional Regulation Commission; http://prc.gov.ph and Various Professional Boards in Singapore.

Appendix 5. Distribution of Faculties by Highest Degree Attained and Institution Type (AY 2016-2017)

HEI Type	BS/BA	%	MS/MA	%	PhD	%	Total	%
SUCs	25,117	16.61	20,287	13.41	7,765	5.13	53,169	35.15
LUCs	4,208	2.78	2,811	1.86	798	0.53	7817	5.17
OGS	200	0.13	126	0.08	38	0.03	364	0.24
Private HEIs	40,514	26.79	37,840	25.02	11,548	7.63	89,902	59.44
Total	70,039	46.31	61,064	40.37	20,149	13.32	151,252	100.00

Source: Commission on Higher Education (CHED); http://www.ched.gov.ph

Appendix 6. Summary of MRA implementation and AMS' best practices and challenges

Professional Group	Regional Implementation	National Implementation	Best Practices	Challenges
Accounting Services (Fukunaga, 2015)	An accountant in an AMS should register first with the regional level as an ACPA via the national monitoring committee of the home country. Regional qualification standards (accreditation, professional certificate, and a 3-year practical experience) are set in the arrangement An ACPA can then apply to a host country authority to be registered as an RFPA.			The ASEAN Economic Minister (AEM) has not yet signed the MRA as of this writing. Procedure for RFPA registration is not provided in the arrangement. A regional coordinating committee and a regional secretariat is not yet established as of this writing.
Medical Professionals (Dagooc, 2017)	MRA on Medical Professionals underscores the exchange of information and expertise to promote adoption of best practice on standards and qualifications; and Provide opportunities for capacity building and training of healthcare professionals PMRAs to grant temporary			MRA implementation remains to be a challenge as al AMS are apprehensive in accepting a fully integrated sector. Philippines: Despite the availability of world-class and most creative medical professionals, the country lags behind Singapore and

	license to ASEAN medical practitioners who apply for practice and training purposes, subject to fulfilment of the criteria of the MRA and relevant domestic regulations			Thailand, due to technology adaption in the profession.
Architectural Services (Fukunaga, 2015)	A professional architect registered and certified in his home country shall be eligible for regional registration as an AA. An AA shall be eligible to apply in the host country as an RFA (allowed to work either in independent practice or in collaboration with a local licensed architect). The AAC and its secretariat, facilitates the process. Successfully implemented: establishment of the AAC; setting up of the AAC Secretariat; establishment of registration procedures for AA; establishment of the AAC website; developing, monitoring, maintaining, and	MRA assessment at the national level is divided into two parts: (1) the stages of MRA implementation for each AMS – examining the progress in the following: submission of notification of participation; establishment of a monitoring committee; preparation and submission of an assessment statement; screening of domestic applicants; approval for domestic applicants by the AAC; and establishment of a system to authorize RFAs. (2) preparation of the regulatory environment in each AMS	Brunei Darussalam reported completion of regulatory changes, Malaysia, the Philippines, Singapore, and Thailand have fully completed all the required phases up to the establishment of an RFA system Myanmar's regulatory revisions are still under revision or waiting for enactment. Lao PDR has various regulations to be amended or enacted for full compliance with the regional framework. All AMSs have established national websites	Constraints for ASEAN MRAs to adopt best practices are: For Cambodia and Malaysia: language barrier, concern about the competition between local and foreign architects as to protect local employment For the Philippines: different codes of practice among AMSs, issue of accreditation of educational institutions For Cambodia and Indonesia: low enthusiasm and interest to apply as ASEAN architects when there are so many ongoing development

	promoting mutually acceptable standards and criteria; and developing strategies and encouraging AMS to streamline procedures for granting the AA registration to a professional who is already in his/her home country.		for information dissemination. Among ASEAN countries whose official language is not English, Brunei Darussalam, Cambodia, and Thailand reported that their regulations are all available in English while Viet Nam, Lao PDR, and Myanmar are still working simultaneously on the translation and regulatory revisions. Achievement: Full participation of all AMS.	projects at home Lack of collaboration and awareness among stakeholders; availability of information in English. Identification of, and encouragement to implement best practices in assessing architects.
Engineering Services (Fukunaga, 2015)	Is a 3-step registration system: home country registration, ASEAN registration, and host country registration. A professional engineer can apply to become an ACPE if he meets the qualifications provided in Article 3.1. (i.e., engineering degree, a national registration or certification, seven-year experience after graduation, two-year experience of	The MRA assessment at the national level is divided into two parts: (1) the stages of MRA implementation in each country – examining the progress in the following items: submission of notification of participation, establishment of a monitoring committee, preparation and submission of assessment statement, screening of domestic	Brunei Darussalam, Malaysia, the Philippines, Singapore, and Viet Nam have completed all the preparations. Malaysia and Thailand have completed their regulatory revisions to bring them in full conformity with the regional framework while closely following are Brunei Darussalam, Viet Nam, and Cambodia at high levels. The Philippines and	Indonesia, Lao PDR, and Myanmar are challenged in regulatory preparedness (i.e., various regulations need to be revised or enacted). Viet Nam has newly enacted regulations not yet translated. Indonesia and Myanmar have not translated any regulations. Indonesia has not established a system to

	significant engineering work, compliance with CPD, and no record of a serious violation of technical, professional, or ethical standards). All AMSs have submitted their respective official notifications of participation. All AMSs have set up their monitoring committees (including Lao PDR and Myanmar recently). All AMSs have their respective assessment statements approved by the ACPECC. Nearly **800** ACPEs are registered from seven AMSs excluding those from Cambodia, Lao PDR, and Thailand. The large number of more than 100 ACPEs comes from Singapore, Malaysia, Indonesia, and Viet Nam.	applicants, approval of domestic applicants by ACPE, and establishment of a system to authorize RFPEs. (2) regulatory environment preparation in member states – looks at the regulatory environments. PRAs in Brunei Darussalam, Malaysia, the Philippines, Singapore, and Viet Nam have established systems to authorize foreign ACPEs as RFPEs.	Singapore, which have established the RFPE registration systems and thus completed all the steps required for implementation by the MRA, are expected to be near completion. Brunei Darussalam, Cambodia, Malaysia, the Philippines, Singapore, and Thailand have translated the relevant domestic regulations into English. Lao PDR has been making progress but still has to translate other regulations. All AMSs have undertaken public outreach activities, except for Myanmar. All AMSs have developed national websites to disseminate MRA-related information, except for Brunei Darussalam, Lao PDR, and Myanmar. The Philippines and Viet Nam have made the progress in	authorize foreign ACPEs as RFPEs as there is no incentive to do so because Indonesian engineers have no interest to apply as RFPEs.

			developing such website.	
Tourism Professionals (Fukunaga, 2015)	The MRA on Tourism Professionals emphasizes common competency standards and a common curriculum. Based on the ACCSTP, ASEAN establishes a CATC. Using the toolboxes for each job title, master trainers and master assessors are trained at the regional level, followed by national training for trainers and assessors. These regionally recognized trainers and assessors would train tourism professional candidates. After completion of training, a professional is assessed and certified by a TPCB Only then can the professional be recognized as an FTP.	Indonesia, Malaysia, Myanmar, the Philippines, Singapore, and Thailand have completed required national actions in accordance with Article 9.2.	Tourism professions' cover as many as 32 job titles. Note that tour guide was intentionally dropped from the scope as it is a regulated profession in some economies to ensure the tour guide's knowledge and understanding of local history and culture. ASEAN establishes the ATP Registration System, which is a web-based facility to register foreign tourism professionals.	The MRA has not been implemented as of this writing.

Source: The contents of this table have been culled by the Authors from Various Sources as indicated.

Appendix 7. Laws Governing Labor Mobility in the Philippines

Laws	Description
The Philippine Constitution, Article 12, Sec. 14	The practice of all professions in the Philippines shall be limited to Filipino citizens, except in cases prescribed by law.
Labor Code, Article 40	The law states that "non-resident aliens may be admitted to the Philippines for the supply of service after a determination of non-availability of a person in the Philippines who is competent, able and willing at the time of application to perform the services for which the alien is desired." The law therefore stipulates that the labor market test (LMT) is a prerequisite for legitimate alien employment in the country. The law suggests the role of the Department of Labor and Employment (DOLE) to regulate the inflow of foreign workers. DOLE is responsible of alien employment registration and certification.
An Act Prescribing Permanent Residence and Reciprocity as Qualifications for any Examination or Registration for the Practice of any Profession in the Philippines or RA 5181	Requires permanent residence (at least three years) and reciprocity to qualify for any examination or registration for the practice of any profession in the Philippines, provided that the practice of said professions is not limited by law to Filipino citizens.
PRC Modernization Act of 2000 or RA 8981	The law allows exceptions by allowing foreign professionals to work in the Philippines pursuant to foreign reciprocity provisions. The law further mandates the role of the Philippine Regulatory Commission (PRC) in governing and regulating foreign professionals in the country. Section 7J of RA 8981 states that upon recommendation of the concerned Professional Regulatory Board (PRB), the PRC may approve registration of and authorize issuance of certificate of registration/license and professional identification card, with or without examination, to a foreigner who is registered under the laws of his state/country and whose certificate of registration issued therein has not been suspended/revoked.

Source: The contents of this table have been dirtectly culled from the Legal Documents available online

Appendix 8. Laws Governing Specific Professions in the Philippines

Professional Service	Law/s	Description
Accounting Services	Accountancy Act of 2004 RA 9298	Under the Foreign Reciprocity Provision, limitations in the practice of profession of persons who are not citizens of the Philippines are provided.
Medical Professionals	Medical Act of 1959 RA 2382	Section 12 states that certificates of registration shall not be required from foreign physicians employed as exchange professors in special branches of medicine or surgery whose service may in the discretion of the Board of Medical Education, be necessary.
Architectural Services	Architecture Act of 2004 RA 9266	Sec. 38 governs the coverage of temporary/special permits. This specifies that foreign nationals who have gained entry in the Philippines to perform professional services shall secure a special/temporary permit from the Board subject to approval of the Commission.
Engineering Services	Philippine Agricultural Engineering Act of 1998; RA 544 as amended by RA 1582 (An Act to Regulate the Practice of Civil Engineering in the Philippines); Presidential Decree (PD) 1570 (Regulating the Practice of Aeronautical Engineering in the Philippines); RA 318 (An Act to Regulate the Practice of Chemical Engineering in the Philippines, and for other purposes); RA 7920 (New Electrical Engineering Law; An Act Providing for a More Responsive and Comprehensive Regulation for the Practice, Licensing, and Registration of Electrical Engineers and Electricians); RA 495 (An Act Regulating the Practice of Mechanical Engineering in the Philippines); PD 1536 (Metallurgical Engineering Law); RA 4565 (An Act to Regulate the Practice of Naval Architecture and Marine Engineering in the Philippines); and RA 1364 (An Act to Regulate the Practice of	All the different fields of engineering specialization and each has its own regulations, which often lead to conflicts of interests and overlaps in practices.

	Sanitary Engineering in the Philippines).	
Tourism Professionals	Tourism Act of 2009 RA 9593	Section 12 states the role of the Department of Tourism – Office of Industry Manpower Development in governing and regulating tourism professionals. This includes the development, implementation and monitoring of job-placement and career programs for the professionals.

Source: Compiled by Authors directly from Various Legal Documents

Appendix 9. Specific Visa Regulations relating to Mobility among AMS

AMS	Variation Work Visa Processing
Brunei Darussalam	Two types of visa for foreign workers: (1) issued for the purpose of work or expertise awarded in the kingdom, and (2) employment visa issued for regular employment.
Cambodia	
Indonesia	Two different types of working permit: (1) ITAS (*Izin Tinggal Sementara*) is a temporary living permit valid for two years and can be extended twice, which gives it a maximum allowance of six years, and (2) ITAP (*Izin Tinggal Tetap*) is a long-term stay visa that is valid for five years and can be extended indefinitely. To qualify for ITAP, a foreign worker must have lived in Indonesia for five consecutive years.
Malaysia	Three types of visa: (1) employment pass which requires the applicant to have a minimum salary of MYR5,000 per month, (2) temporary employment pass, and (3) professional visit pass is issued on a more ad-hoc basis wherein foreigners are still employed within their home country but are required to provide certain services in Malaysia. Foreign professionals must be18 years old and no more than 45 years old. Employers are also required to prove that local citizens are not available in order to hire a foreign worker.
Myanmar	
Lao PDR	
The Philippines	Two types of visas: (1) commercial visa is open to everyone who will engage in any lawful occupation whether for wages or salary or other forms of compensation. (2) Non-commercial visa is valid for those who will engage in missionary work, social work, or rehabilitation work, etc. Furthermore, there is a special visa that requires a foreigner to employ at least 10 Filipino workers in a lawful and sustainable enterprise after the visa has been granted.
Singapore	Three types of visa: (1) employment pass which requires applicants to have a fixed income of at least SGD3,300 per month; (2) Entre pass is for potential entrepreneurs; and (3) Personalized employment pass is an upgraded version of the employment pass.
Thailand	Companies must have a certain amount of capital and must hire a certain number of Thai workers per foreign worker.

	For foreign professionals, they must earn THB50,000 per month while a married one must have a minimum salary per month of THB60,000.
Viet Nam	Two types of visa: (1) short term is for those who will be staying less than three months, they need to obtain either visa B2, B3, or B4. These visa types are specifically given to those foreign talents who are working on investment projects, Vietnamese enterprises, or Vietnamese branch offices. (2) Long-term visa is for those who are working more than three months, a work permit is required, which can be valid for three years' maximum stay. Holders of a valid work permit can request for temporary residence cards which allow individuals to enter and exit Vietnam freely within the valid period.

Source: The contents of this table have been dirtectly culled from Various AMS Embassies

Appendix 10. List of Abbreviations

AA	ASEAN Architect
AAC	ASEAN Architect Council
AADCP	ASEAN – Australia Development Cooperation Program
AALS	Alternative Approach to Liberalization of Services
AAMNP	ASEAN Agreement on the Movement of Natural Persons
AAR	ASEAN Architect Register
ABM	Accountancy, Business, and Management
ACCSTP	ASEAN Common Competency Standards for Tourism Professionals
ACPA	ASEAN Chartered Professional Accountant
ACPACC	ASEAN Chartered Professional Accountant Coordinating Committee
ACPAR	ASEAN Chartered Professional Accountant Register
ACPE	ASEAN Chartered Professional Engineer
ACPECC	ASEAN Chartered Professional Engineer Coordinating Committee
ACPER	ASEAN Chartered Professional Engineers Register
ACRA	Accounting and Corporate Regulatory Authority
ADB	Asian Development Bank
AEC	ASEAN Economic Community
AEM	ASEAN Economic Ministers
AFAS	ASEAN Framework Agreement in Services
AFTA	ASEAN Free Trade Area
AIA	American Institute of Architects
ALE	Architecture Licensure Examination
AMS	ASEAN Member States
APEC	Asia-Pacific Economic Cooperation
APSC	ASEAN Political-Security Community
AQEM	ASEAN Qualifications Equivalence Matrix
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of Southeast Asian Nations
ATP	ASEAN Tourism Professional
BEM	Board of Engineers Malaysia
BOA	Board of Accountancy
BOM	Board of Medicine
BSP	Bangko Sentral ng Pilipinas
CATC	Common ASEAN Tourism Curriculum
CCS	Coordinating Committee on Services
CEM	Certified in Exhibition Management
CEPA	Comprehensive Economic Partnership Agreements
CEPT	Common Effective Preferential Tariff
CET	Certified Engineering Technologist
CFO	Commission of Filipinos Overseas
CHA	Certified Hotel Administrator
CHED	Commission on Higher Education
CMO	CHED Memorandum Order
CMP	Certified Meeting Professional
COR	Certificate of Registration
CPA	Certified Public Accountant
CPALE	CPA Licensure Examination
CPD	Continuing Professional Development
CTS	Council for Trade in Services

CPE	Continuing Professional Education
DepEd	Department of Education
ELE	Engineering Licensure Examination
EO	Executive Order
EUR ING	European Engineer
FAIA	Fellow, American Institute of Architects
FDI	Foreign Direct Investment
FTA	Free Trade Areas
FTP	Foreign Tourism Professional
GATS	General Agreement on Trade in Services
GE	General Education
HBO	Human Behavior in Organization
HEI	Higher Educational Institutions
HM	Hotel Management
HRD	Human Resource Development
HRM	Hotel and Restaurant Management
IAS	International Accreditation Service
IECEP	Institute of Electronics and Communications Engineers of the Philippines
IFAC	International Federation of Accountants
IIEE	Institute of Integrated Electrical Engineers
IRR	Implementing Rules and Regulations
K-12ES	K-12 Educational System
LUC	Local University and Colleges
MC	Monitoring Committee
MNP	Movement of Natural Persons
MRA	Mutual Recognition Agreements
MTDP	Medium Term Development Plan
MTDP	Medium Term Development Plan
NAB	National Accounting Body
NAST	National Academy of Science and Technology
NBI	National Bureau of Investigation
NCARB	National Council of Architecture Registration Boards
NEDA	National Economic Development Authority
OFW	Overseas Filipino Workers
OJT	On-the Job Training
PBOA	Philippines Board of Architecture
PCCI	Philippine Chamber of Commerce and Industry
PE	Professional Engineer / Physical Education
PEBS	Professional Engineers Board Singapore
PEC	Pakistan Engineering Council
PHP	Philippine Peso
PIC	Professional Identification Card
PICE	Philippine Institute of Civil Engineers
PIChE	Philippine Institute of Chemical Engineers
PICPA	Philippine Institute of Certified Public Accountants
PMA	Philippine Medical Association
PMRA	Professional Medical Regulatory Authority
PO	Professional Organizations
POEA	Philippine Overseas Employment Administration
PPLE	Philippine Physician Licensure Examination
PRA	Professional Regulatory Authority

PRB	Professional Regulatory Boards
PRC	Professional Regulation Commission
PSA	Philippine Statistical Authority
PSG	Policies, Standards, Guidelines
PSME	Philippine Society of Mechanical Engineers
RA	Registered Architect / Republic Act
RFA	Registered Foreign Architect
RFPA	Registered Foreign Professional Accountant
RFPE	Registered Foreign Professional Engineer
RFRA	Registered Foreign Recipient Accountant
RQFSRS	Regional Qualification Framework and Skills Recognition System
SC	Supreme Court
SDG	Sustainable Development Goals
SIA	Singapore Institute of Architects
SMC	Singapore Medical Council
SOF	Survey on Overseas Filipinos
STB	Singapore Tourism Board
SUC	State University and Colleges
TOE	Technology-Organization-Environment
TPCB	Tourism Professional Certification Board
TQM	Total Quality Management
TVET	Technical and Vocational Education and Training
UAP	United Architects of the Philippines
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNWTO	United Nations World Tourism Organization
USA	United States of America
WPPS	Working Party on Professional Services
WTO	World Trade Organization