# **Chapter 1 THE PROBLEM AND ITS SETTING**

**Introduction**

Inaccessible, costly, and time consuming – is the general description of every Filipino professional around the nation in terms of getting seminars and renewing their professional licenses. People who have been continuouslypracticing their professional skills and work, like nursing, teaching and other fields that requires license to serve and operate, necessitates CPD units that are acquired from their respective seminars and workshops. These seminars and workshops, then after completing these, they renew their licenses. But many Filipino professionals are struggled in completing their required units because of those three primary reasons, and sadly, this is the current state of the continuing Filipino professionals around the world.

Philippines are known to be globally competitive, and these professionals are well-trained, skilled and educated as they aspire to work for their country, and to other countries. And to sustain this status, the PRC, or also known as the Professional Regulatory Commission, mandates the Filipino professionals to train themselves through seminars and workshops in order to attain higher and innovated knowledge area of their field. In 2015, the Republic Act No. 10912, also known as the “Continuing Professional Development Act of 2016” was created. It states that “It is hereby declared the policy of the State to promote and upgrade the practice of professions in the country. Towards this end, the State shall institute measures that will continuously improve the competence of the professionals in accordance with the international standards of practice, thereby, ensuring their contribution in uplifting the general welfare, economic growth and development of the nation.” Meaning, Filipino professionals are encouraged to continuously improve and practice their skills and knowledge in relation to their respective fields. Filipino professionals’ competitiveness may not be questioned, but most them cannot attain, or rather, cannot continue to improve their practices, as they are constrained by their own resources, time, and the difficulty of accessibility to the PRC’s services.

PRC’s services include the seminar referrals, that the professional can inquire seminars and workshops relating to their field of expertise, and these seminars and workshops are the ones that are accredited by PRC, the renewal of license, and many more. PRC services and resources are available through office walk-ins and appointments and in online, depending on the kind of transaction.

Nowadays, people prefer to do transactions online, particularly in portable devices, like laptops and mobile phones. Luckily, Philippines’ very own PRC is on the trend, making most of its services available through online access. So now, people can have the ease of access in terms of accessing the PRC’s available online transactions in less time and less effort.

As the innovation of technology is consistent, the people in the society adjust, relying more on technology, because it currently gives the ease of access and portability to almost everything, and it is possible through the use of mobile phones and the internet. In line with this, the researcher conceptualized an idea that will help the Filipino professionals to relief their concerns in terms of accessing the PRC’s services, and the best possible aid for their problems and concerns is to create a mobile application that implements a certain algorithm.

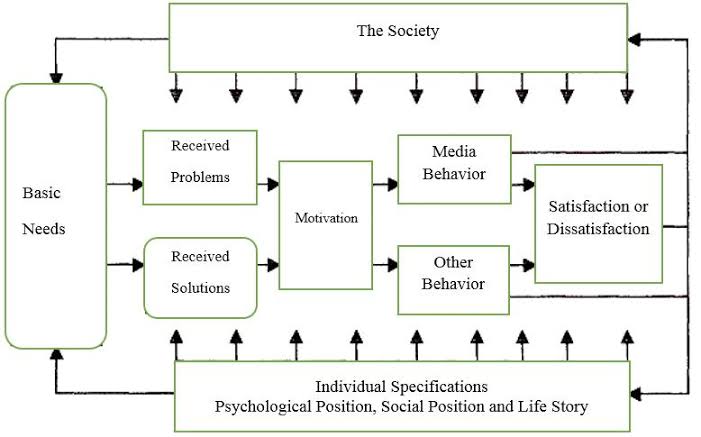
This algorithm will improve the performance and reliability of providing PRC’s services through online mobile transactions, thus, giving the Filipino professionals more ease and power in accessing the selected resources and services provided by the PRC.

The purpose of this study is to help the Filipino professionals to be more involved in attaining and doing continuous professional development, not only for their own benefit, but also for the Philippines labor power and economy. By analyzing the theoretical frameworks, reviewing other related studies and literatures, using questionnaires, formulating conclusions and recommendations, and by developing the application system tool, this study will not only help the Filipino professionals to be more updated and observant of their CPD status, but also to those governing and other related bodies to use this as their future reference for their own future planning considerations.

## **Theoretical Framework**

### **Uses and Gratification Theory**

Figure 1. Uses and Gratification Paradigm



This theory seeks to comprehend why people pursue media and for what particular reason they will use it for. This theory determines the way of the individuals on how they intentionally pursue media to satisfy certain needs or wants. In terms of using mobile phones and internet, it is proven that it has many uses and gratifications attached to them. Due to its nature of mobility and accessibility, continuous access, and options to both add and access content, this ground of gratification is increasing with the formulation of new researches, inspired by using mobile phones and by accessing the internet.

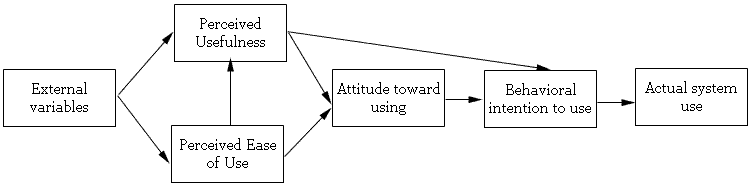
This theory greatly supports the research as it helps determined the gratification of the users in terms ofefficient retrieval and access of information resources and services, assuming that the main uses and gratification of using mobile phones and internet is to access high quality information resources and services, online.

### **Technology Acceptance Model**

It is an [information systems](https://en.wikipedia.org/wiki/Information_systems) theory that models on how users will come to accept and use a particular technology. The purpose of this model is to foresee the adequacy of a tool and to identify the alterations which must be carried to a particular technology in order to make it acceptable to users. This model is mainly perceived in two ways, the technology’s usefulness and its ease-of-use. According to the definition by Fred Davis, usefulness is determined if the technology can improve or enhance one’s person’s job, and it the ease of use is determined if the particular technology is free from effort.

This model assumed that the use of an information system is determined by the behavioral intention, in consideration to their own attitude and insight towards the use of the system, and on its usage.

Figure 2. Technology Acceptance Model from Davis, Bagozzi et Warshaw

[](http://edutechwiki.unige.ch/en/File:TAM_english.gif)

This model greatly supports this research as it helps the researcher to understand the new information system in the perspective of the users, as they are accepting the use of the said technology.

### **The Training Model**

The training model of CPD is generally perceptible to supports a skill-based and strategy practices of teaching whereby CPD provides professionals with the opportunity to improve their skills to be able to demonstrate their capability. The model supports a high degree of central control, often indirect as quality assurance, where the focus is firmly on coherence and standardization. It is effective in keeping a perception of teaching and education whereby the standardization of training opportunities dominates the need for teachers to be practical in recognizing and meeting their own development needs.

This model greatly supports this research as it helps the researcher to understand the real drive of professionals in continuing their educational practice while continuing their professional work in the same time.

### **The Standards-Based Model**

The standard-based model of CPD put down the idea of professionalism as a multifaceted, moral endeavor and a concept of political. It characterizes a desire to create a system of teaching and teacher education that can produce and practically validate connections between student learning and teacher effectiveness. This logical basis on which the standards movement depend on limitations the opportunities for alternative forms of CPD to be considered. It also relies deeply on a behavioral perspective of learning, focusing on the competence of individual teachers and subsequent rewards at the expense of cooperative and academic learning.

This model greatly supports this research as it helps the researcher to understand the personal perspective of particular person in terms of applying their skills by profession, especially the working professionals.

## **Conceptual Framework**

Figure 3. The Conceptual Framework

Feedback

1.Related literature and studies about Continuing Professional Development, Limits and Capabilities of PRC Online Services, and text-modeling Algorithm like articles.

2. Respondents’ response from the survey.

3. Use of theories and models to support the study.

1. Apply statistical treatment and analyze data gathered from the questionnaires.

2. Analyze the gathered information from related literature and studies.

3. Development of the Green Light CPD Application System Tool.

1. Conclusion and Recommendation of the study.

2. User’s Evaluation on the Green Light Application.

3. Finished Green Light Application.

**INPUT**

**PROCESS**

**OUTPUT**

In conceptual framework of the study, it gives a more visualized and well-presented idea. It also gives the flow of an input, process, and output, as it is presented in the figure.

The input presents the related literature and studies about the concepts of Continuing Professional Development and the text modeling algorithms.

Input also presented the problem that needs to be solved, application of the theoretical framework for the research’s trustworthiness, and the use of questionnaires for gathering data from the respondents.

The process presents the analyzation of the collected data from citations and studies to apply in the later part of the research, and also to utilize the used of questionnaires, conducted surveys, statistical treatment and analysis of its data.

The output presents the formulated solutions and conclusions after undergoing the said process and the development of the said application system tool.

## **Statement of the Problem**

The main objective of this study is to develop a software, sought to determine the solution for the problems faced by the continuing professionals, aiming to help them to satisfy the needs in terms of accessibility, affordability and the resolution in other issues and concerns of the CPD act. Specifically, the study seeks to answer the following issues:

1. What is the level of agreement of the respondents on the benefits of continuing education thru CPD law implementation?
2. What is the level of agreement of the respondent’s issues of the CPD law or RA 10912 in terms of:

2.1 Affordability;

2.2 Accessibility;

2.3 PRC Accredited CPD Providers; and

2.4 PRC procedure on evaluation.

3. What are the respondents’ level of acceptance in the developed solution in terms of:

3.1 Functionality;

3.2 Reliability;

3.3 Usability;

3.4. Efficiency;

3.5. Maintainability and

3.6. Portability.

## **Scope and Limitation**

The main focus of the project is to develop a tool for the online monitoring of CPD units, and the referral of seminars, workshops, and technical lectures to a certain professional that are under the jurisdiction on the PRC, depending on the classification of his or her profession. The user of the mobile application must install it first to their mobile devices, and must have an Internet connection in order to access the functionalities of the said system tool. This web-based application tool was developed using the Laravel PHP framework, the mobile application was developed using Java as its main programming language, and both applications used MySQL as their database.

The following are the functionalities and features of the system:

### **Admin Dashboard**

The Green Light Mobile application has its web-based admin side system that will manage and control the mobile application. The admin side includes statistical analysis in its dashboard that help the administrator to evaluate the performance and outputs of the mobile application.

### **Light-weight Design**

The main beneficiaries of this Green Light mobile application system tool are the professionals that are currently registered by the virtue of the PRC, meaning, these professionals may be having troubles or has a difficulty in time management because most of the professionals in the Philippines are bread-winners, they cannot afford to waste time in opening computers, or to have time in accessing online services of the PRC via a computer, or in going to their offices just to have an inquiry about something. In line with this, the light-weight design of the application system tool will solve this problem, because nowadays, every individual carries their own mobile devices, like mobile phones, smartphones, tablets, etc.

Light-weight design, meaning, the application installed on the mobile devices are literally light-weight, consuming less space and has an optimized application startup. The overall design will also be minimal, that will help the users to navigate more with ease.

### **Data Mining from the Big Data**

One of the main modules of the application system tool, the data mining feature is the backbone of the seminar referral feature. The seminar referral will be formulated through the harvested data from the Big Data of seminar, workshops, technical lectures, and many other forms of learning, and by using the LDA algorithm, these are matched to a particular profession (currently, there are 44 licensed professions under the jurisdiction of PRC).

This feature will enable the users to find all available CPD programs around the world, and with the use of the algorithm, they can find referrals of CPD programs that relates to their current profession, thus, finding CPD programs that will satisfy their required number of units will be hassle-free and less time-consuming.

### **Viewing of the CPD Units**

One of the main modules of the application system tool, the viewing of CPD units of the current professional feature will let the users (professionals) to monitor their CPD units, so they will know when to apply for license application/renewal, or, if they still needed to gain more units, meaning they will utilize the data mining feature to find seminars that they are interested with, or related with, depending on their profession.

### **Limitations**

The main features of the web-based admin side of the system is only intended for the management and configuration of entities that will be used in the mobile application, and also, in monitoring the performance and output of the Green Light mobile application, which can be seen through admin dashboard analytics.

While in the mobile app, its main features will be the referral of CPD programs based on his/her profession, and the viewing of CPD units of a certain professional. Other functionalities may be added in the future if necessary.

The algorithm that will be used is based on the existing text-modeling algorithms. LDA algorithm is tested and used and it applies in the system. The referral of CPD programs by the means of keyword matching will be based only on the official licensed professions that are currently listed by the Professional Regulatory Commission.

## **Significance of the Study**

This study determines the respondents’ assessment and preferences in accessing the current Professional Regulatory Commission’s available services and resources, therefore, will be deemed important to the following:

**To the Filipino Professionals**, as this study gives them the ability and ease in terms of accessing the Professional Regulatory Commission’s resources and services through online mobile convention and transactions.

**To the Professional Regulatory Commission**, as this study serves as a guide and can help them review their own information technology and business policies, so they can optimize their transactions with the use of online mobile application convention.

**To the Future Researchers**, as this study helps other researchers in the same topic of conducting a study about continuing professional development and the development of application system tool relating to this, as it serves as a resource and reference for the future researchers.

## **Definition of Terms**

**Accreditation.** An official approval given to a person, a program or an organization, upon meeting vital requirements of accomplishment standards, including qualifications, typically for a specific period of time, depending on how the accrediting agency define it.

**Algorithm.** A procedure or set of instructions that is strictly to be followed in calculations or other problem-solving operations, especially by an electronic device, like computer.

**Competence.** The capability of someone to go beyond the limits of his or her possession of knowledge and skills, in terms of intellectual, practical, personal and ethical.

**CPD (Continuing Professional Development).** The continuous acquiring of advanced knowledge, skills and ethical values in a post-licensure specialization or in an inter-multidisciplinary field of study, for adaptation into professional practice.

**CPD Council**. A body pursuant to the mandate of PRC, created to encourage and ensure the continuous development of professionals, in accordance with national, regional and international standards of practice.

**CPD credit**. It is the value of an amount of learning that can be transferred to a qualification achieved from formal, informal or nonformal learning setting, wherein credits can be collected to predetermined levels for the purpose of awarding a qualification to a certain professional.

**CPD Program**. A set of learning activities accredited by the CPD Council like seminars, workshops, technical lectures or subject matter meetings, nondegree training lectures and scientific meetings, modules, tours and visits, which gives the professionals with advanced knowledge, skills and ideals in specialized or in an inter- or multidisciplinary field of study, self-directed research and/or lifelong learning.

**CPD Provider**. A juridical person accredited by the CPD Council to conduct CPD Programs.

**Lifelong Learning.** Learning activities undertaken throughout life for the development of competencies and qualifications of the professional.

**Online Learning Activities.** Learning activities which make use of the internet and other web-based Information and Communications Technology solutions.

**Professional**. A person who is registered and licensed to practice a regulated profession in the Philippines and who holds a valid Certificate of Registration and Professional Identification Card (PIC) from the Professional Regulation Commission (PRC).

**(PRC) Professional Regulatory Commission.** Agovernment agency in authority for the implementation and administration of regulatory policies on the regulation and licensing of several professions and occupations under its jurisdiction.

**Professional Regulatory Board** – A governing body created by law, decree and other issuance pursuant to laws to regulate a profession or a group of professions.

**Qualification.** A status gained after a person that has been evaluated to have achieved learning outcomes or competencies in accordance with the set standard specified for a qualification title and is verified by a document issued by a recognized agency or organization.