

# Design, Development and Evaluation of PINOY SCOWTS: Philippine Seminars, Conferences, Workshops and Training Site

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**Abstract** – *Seminars, conferences, workshops and training are intended to deliver tons of information on a variety of topics and keep up-to-date with the latest trends and issues in the industry, society, and education. In relation to this, it will be more convenient for the students and professionals to have an online service that can locate and view future seminars, conferences, training and workshops. In view hereof, the researcher propose a website that gather organizations and training centers that conduct seminars, conferences, workshops and training within the Philippines. It has an end view of developing a website which can be used to promote and advertise events*

**Keywords** – *ISO 9126, website design, website development, website evaluation, web advertising*

## INTRODUCTION

United Nations [1] mentioned that industry plays an essential role in technological innovations, research, and development activities for the economic and social development of any country, as well as in the development, diffusion, and transfer of environmentally sound technologies and management techniques, which is a key element of sustainable development.

In order to keep people updated on the current trends and development, some of the companies engage in research and development through collaboration with different institutions and organizations. Companies send their employees to conferences and trainings to gain knowledge and skills that can be applied in research and innovation.

It is important for an individual to identify and understand issues concerning society and environment. Some government agencies, institutions, and organizations conduct seminars for updates on the current issues in the community.

In education, seminars and training are essential to improve knowledge in specific subjects, and new issues and changes are happening everyday. Learning takes place beyond the four corners of the classroom and students must be exposed in other ways of learning, new skills can be gained through trainings and workshops that offer hands-on experiments and simulations.

Organizations and training centers use different media to promote events, most of the seminars and

training are seen in different media. According to Schwartz [2], there are various types of advertising medium, such as television, newspapers and magazines, radio, digital billboards, electronic mail, flyers, signage, social media, paid search, and website.

In addition, majority of the organizations have websites with their information, policy, and service. It is a low-cost and efficient way to disseminate, and post information globally [3]. The experience of consumers in the website is an important topic in the academe and organizations. The use of the website to market their products and services has been widely considered by many [4].

In relation to seminar, conference, workshop and training promotions, it will be more convenient for students and professionals to have an online service that can locate and view future events. These must be accessible and readily available to event seekers.

In view hereof, the researcher was inspired to develop an online service to gather organizations and training centers that conduct seminars, conferences, workshops and training in the Philippines

## OBJECTIVES OF THE STUDY

The main purpose of the study was to design, develop and evaluate a website for Philippine seminars, conferences, workshops and training (PINOY SCOWTS).

Specifically, the study aimed to evaluate the PINOY SCOWTS in terms of functionality, reliability,

usability, and efficiency based on ISO 9126. Moreover, this project determined the assessment of organizations/training centers on PINOY SCOWTS, as well as the significant difference between the assessment of students and professionals; proposed an action plan for proper utilization and implementation of the website.

## REVIEW OF LITERATURE

### Web Design and Development

Website design is the process of planning through research, to develop an artistic and operational object through modeling. Website Development is a process of crafting a new website or improving an existing site [5]. HyperText Markup Language (HTML), Cascading Style Sheets (CSS), Hypertext Preprocessor (PHP) and JavaScript are the most common programming languages on the web [6]. Microsoft usability guidelines (MUG) identified five design requirements - content, ease of use, made-for-the-medium, emotion, and promotion; these are the basis for identifying whether an online service is responsive to the needs of the customers [7]. Website interface is comprised of text, links, images and formatting that affect the general attributes [8].

The very crucial part in web designing is information design, proper arrangement and use of the content like diagrams, and graphic or text file should be considered. Graphic design is the appearance of the page, while the purpose of interface design is how to navigate the page: the links, buttons [9], while, usability is associated to the visual design of the interface [10].

The website must provide the needs mechanism that allows users to move from one place to another. It must provide a starting page where the user feels at home, and must use clear and appropriate language for the site's content. [11].

In addition, a website must have a series of web pages structured in categories. In the homepage, the visitors will reach if they type a web address into the browser. It is essential that the design make the immediate impression. The website must also have an "About Us" page that will describe and give information of the company [14]. More importantly, it is essential to access and use the website in different platforms [15]. While Bradley [16] translated web design to Maslow's hierarchy of needs wherein functionality would be at the bottom, followed by

reliability, usability, proficiency, and creativity at the top.

### Web-Based or Online Services

Companies have already moved or are planning to transform their traditional service to web-based technology [17]. Web-based system refers to software application coded in a browser support language anchored to standardize communication of application in order to connect through the world wide web [15], [18].

Online service is defined as any information and service provided on the Internet [19], [20]; the information in online services are stored in databases wherein information is kept according to categories [21]. It is important to provide accurate, timely and relevant information to road users. This is critical importance to the effective and efficient operation of the online system [24]. In order to engage and convert visitors to a website, incorporating social media and making content shareable is essential [25].

The availability and inexpensive access, the increase of internet programming languages and other tools to develop a web-based system are the reasons for the increasing internet-based services [22], [23].

### Quality Model of ISO 9126 established

The International Organization for Standardisation (ISO) developed the ISO 9126 model for software quality evaluation. It presents three facets of software quality: internal quality, external quality and quality in use [28], [29], [31], [38]. The ISO 9126 is composed of six characteristics: functionality, reliability, usability, efficiency, maintainability, and portability, which are subdivided into sub-characteristics [30].

Functionality is the essential use of any product or services that defines the quality of the existence of a set of functions [33]. Web based must be applicable in different platforms or operating system [31], [32].

Usability includes fault-tolerance, understanding, and implementation. The interface must attract users and have clear guidelines. The access to the website must be simple and easy [35]. The concept of usability can be defined as "how well and how easily a user, without formal training, can interact with an information system of a website" [36].

Efficiency is the system's ability to provide suitable functions to optimize resources and improve performance in specific conditions. This system must help customers find their wants as well as switch between pages in an acceptable time. [35], [37], [38].

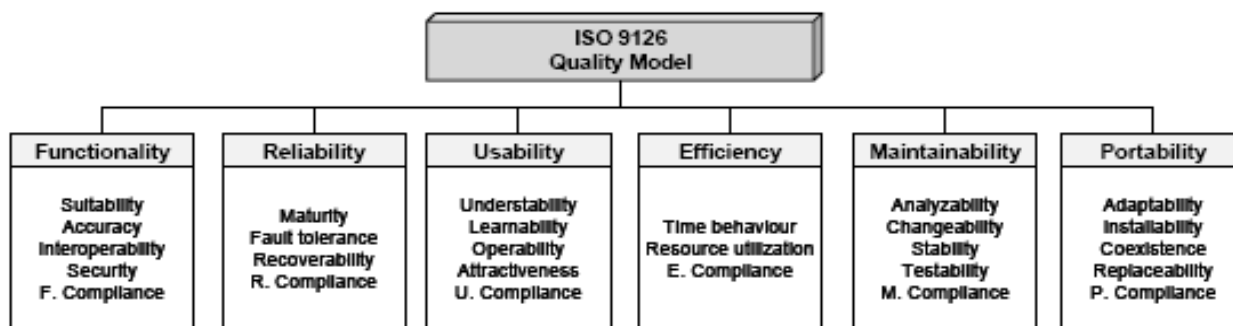


Figure 1. Characteristics and Sub-characteristics for the ISO 9126 Quality Model

On the other hand, reliability is a set of attributes that bear on the capability of software to maintain its level of performance under stated conditions for a stated period of time [32].

## MATERIALS AND METHODS

### Research Design

The researcher used the descriptive method to evaluate the PINOY SCOWTS. Descriptive research is used when the researchers' concern is to understand the nature, characteristics, components or aspects of a situation or phenomenon [40].

### Participants of the Study

The participants of the study are the faculty, employees and students of Batangas State University–JPLPC Malvar Campus and registered organizations / training centers in Batangas. The sample size of the study was 148; eighty-five students and fifty-five professionals and eight training centers using power analysis (a priori). Statistical tests are used in rejecting null hypothesis and conclude that the test program had an effect. The researcher used an effect size of 0.30, with a power of 0.80. In addition, a 0.05 alpha level was also used to get the required sample size. The sample was computed using G\*Power 3.1.9.

### Data Gathering Instrument

The researcher utilized a self-made questionnaire to gather necessary data to evaluate the PINOY SCOWTS that is based on the ISO 9126 standard. The questionnaires consisted of four parts: Functionality, Reliability, Usability, and Efficiency. Each part had six statements for each part in which the respondents gave their responses based on the characteristics of the website. Additional two statements were included for organization and training center - respondents. A scale of 1-4 with 1 as the lowest and 4 as the highest was used as a basis for the quantitative result.

Figure 1 shows the ISO 9126 quality model and its characteristics and sub-characteristics. This model was used as a basis by the researcher to evaluate the PINOY SCOWTS through the use of questionnaire.

However, the researcher excluded maintainability and portability as part of the questionnaire. The maintainability covers analyzability, changeability, stability and testability and the sub-characteristics under portability are adaptability, instability, coexistence and replaceability [39]. Those sub-characteristics under maintainability are too technical to be evaluated by the respondents. It may need diagnosing and testing to determine how stable the website if there will be a modification to be made in it. The PINOY SCOWTS website is not designed for mobile platforms because it may result in not a well-organized page presented in browsing.

### Data Gathering Procedures

Data gathering procedures include the analysis, design, development and evaluation of the website completed. The researcher gathered necessary data, requirements and information in order to finish the research project. To know the essentials of the site in the academe in terms of searching seminars, conferences, workshops, and training, the researcher conducted an interview to identify the problems and difficulties encountered by the students and professionals.

The researcher discussed and presented the functions and features of the project; the questionnaires were distributed to students, teaching and non-teaching personnel of Batangas State University, the questionnaires were answered and retrieved.

For the development of the PINOY SCOWTS, the researcher used Website Development Life Cycle (WDLC). WDLC is a methodology for the development of web application [41]. Figure 2 shows the phases in every stage of WDLC model: feasibility,

analysis, design, construction and testing, launch, and maintenance.

**Feasibility.** This level involves determining the project goal, purpose, uses, and beneficiaries of the PINOY SCOWTS.

**Analysis.** Identifying the purpose, intended users, content and functionality were analyzed.

**Design.** The researcher identified different programming languages and software for website prototyping and graphics.

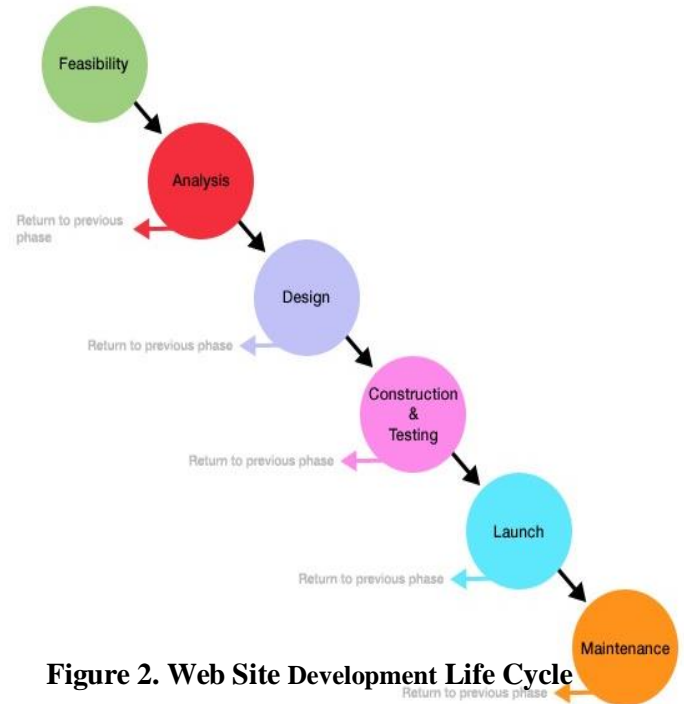
**Construction and Testing.** To develop the PINOY SCOWTS, the proponent used HTML that is used for web development, CSS to improve the design and layout of the website, and MySQL will be used as storage data and information. After the code has been developed and tested, actual testing with prospective users will be done.

**Launch.** The researcher intended to use XAMPP as a development tool that stands for Cross-Platform (X), Apache (A), MySQL (M), PHP (P) and Perl (P), to test the website without any access to the Internet. XAMPP provides support for creating and manipulating databases in MySQL. [42].

**Maintenance.** After the code has been developed, system testing was done.

### Data Analysis

The use of weighted mean, composite mean and rank were utilized to describe the results of the survey. To determine the results of the evaluation, the numerical values and their corresponding verbal interpretation were used to interpret the computed composite mean. T-test was used to identify the significant difference of responses among students and professionals.

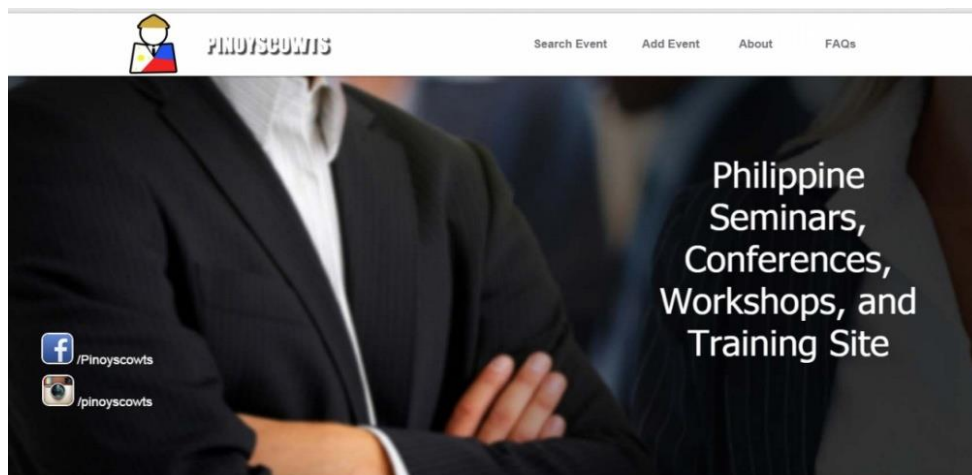


**Figure 2. Web Site Development Life Cycle**

The following was used to interpret and analyze the results: 3.50–4.00: Strongly Agree (SA)/Highly Functional/ Highly Reliable/ Highly Usable/ Highly Efficient; 2.50–3.49: Agree (A)/ Functional/ Reliable/ Usable/ Efficient; 1.50–2.49: Disagree (DA)/ Moderately Functional/ Moderately Reliable/ Moderately Usable/ Moderately Efficient; 1.00–1.49: Strongly Disagree (SD)/ Not Functional/ Not Reliable/ Not Usable/ Not Efficient.

### RESULTS AND DISCUSSION

The following figures are the screenshots taken from PINOY SCOWTS website.



**Figure 3. Homepage Design**



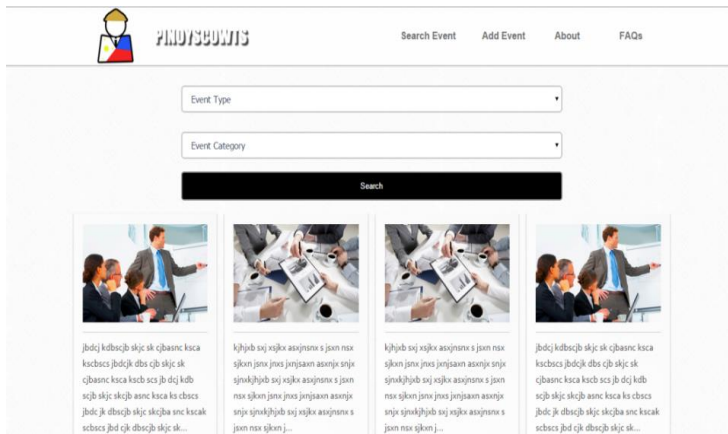


Figure 4. “Search Event” Page

Figure 3 displays the design of the homepage. It consists of the title of the website. Located on the upper left of the page is the logo of PINOY SCOWTS, a figure wearing a hat known as “salakot”, which is the native hat used by Filipinos, and the shirt that is designed similar to the Philippine flag. On the upper right of the page are the links for Search Event, Add Event, About and FAQs. Revealed also on the homepage are the Facebook and Instagram account of PINOY SCOWTS. The website’s homepage depicts the impression of viewers from the website.

Figure 4 shows the Search Event Page, initially, some of the posted events coming from the different organizations/training centers will be displayed. Once the user selects an event type and category, all possible events related to the keyword will be shown within the page. The viewer will distinguish the event’s logo or banner, as well as the partial description of the event. Once the viewer clicks the button “Read More”, the event’s information will be displayed (see figure 5), including the title or theme of the event, type of event, date and duration, price, venue, event’s description, and photos/logo/banner posted by the organization/training

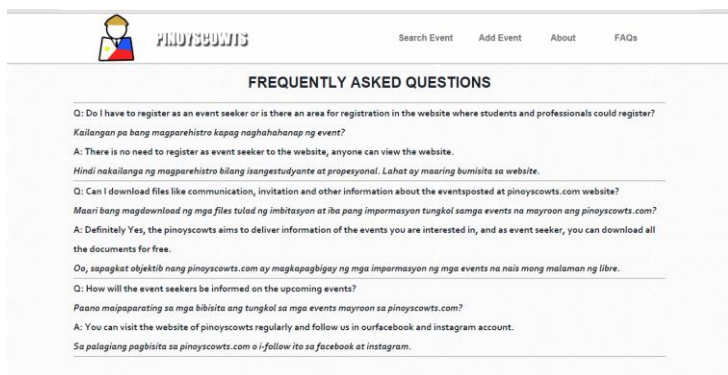


Figure 6. Frequently Asked Questions (FAQs) Page

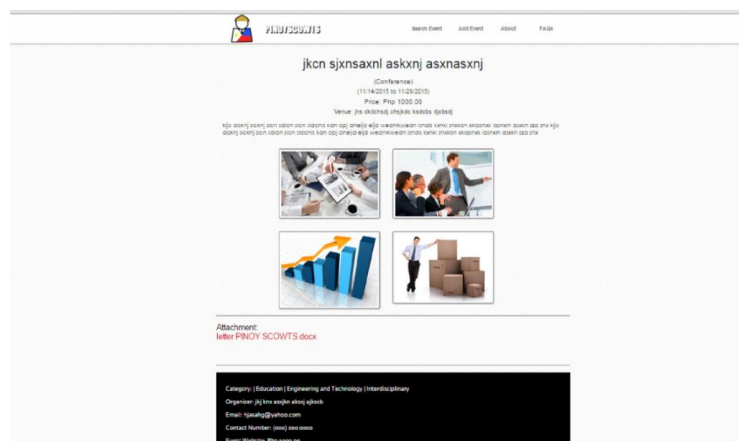


Figure 5. Content of Selected Event

center. The viewers can download the attachment/s uploaded by the organizer. File types that are used by the organizers are portable document format (.pdf), word document (.doc or .docx) or compressed file using ZIP and RAR that are used to manage and control archive. Organizer’s information is also displayed on this page including contact person and email address, contact number, and organization’s website.

Figure 6 shows the Frequently Asked Questions (FAQs), the possible questions that can be asked by the user and it is written in English and Tagalog. The page is divided into two parts, there are items that are intended for students and professionals and other items for organizations and training centers user. It provides information and guidelines for the users of PINOY SCOWTS.

Figure 7 shows the information of the researcher, full name, email address, and contact number, and the terms and conditions of PINOY SCOWTS in posting an event.

The following are the results and discussions of the study based on the evaluation among students, professionals, and organizations/training centers

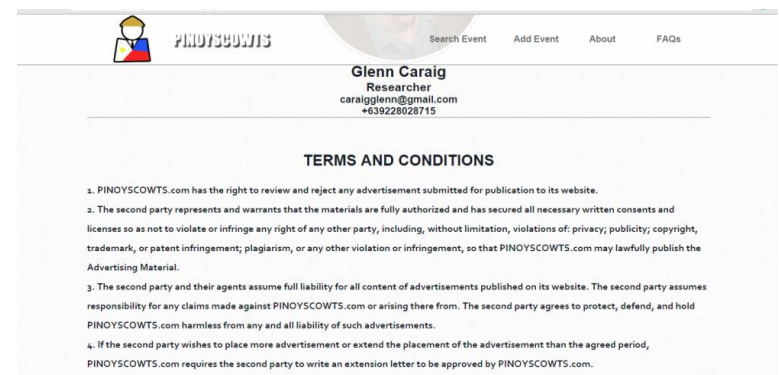


Figure 7. “About” Page

respondents.

Table 1 presents the assessment of students and professional respondents on PINOY SCOWTS in terms of functionality.

**Table 1. Assessment of Students and Professionals on PINOY SCOWTS in terms of Functionality**

As an online service, the PINOY SCOWTS...	Students		Professionals		Over-all	
	WM	VI	WM	VI	WM	VI
1. has suitable and accurate overview diagrams that help the clients locate information easily.	3.52	SA	3.59	SA	3.56	SA
2. leads the user to the place they want to explore in the website.	3.44	A	3.72	SA	3.58	SA
3. is accessible and usable by any browser (i.e. Google Chrome, Mozilla).	3.55	SA	3.76	SA	3.65	SA
4. supports Frequently Asked Questions (FAQs) and provides all information or guidelines for the user.	3.50	SA	3.57	SA	3.54	SA
5. is capable of delivering an accurate result with intended degree of precision.	3.38	A	3.56	SA	3.47	A
6. has social media accounts that can be used for updates on specific issues pertinent to seminars/conferences/ training.	3.67	SA	3.57	SA	3.62	SA
<b>Composite Mean</b>	<b>3.51</b>	<b>SA</b>	<b>3.63</b>	<b>SA</b>	<b>3.57</b>	<b>SA</b>

In general, the overall composite mean of the assessment of students and professionals in terms of functionality was 3.57, which denotes that the developed system was highly functional. Students and professionals strongly agreed that the PINOY SCOWTS website was accessible and usable by any browser with the weighted mean of 3.65, which was the highest rank among the items. Furthermore, both respondents agreed that the website was capable of delivering an accurate result with intended degree of precision. This obtained the lowest weighted mean of 3.47.

Functionality is the presence of a set of functions and their specified properties to fulfill stated or implied needs; essential use of any product or services [31], [32]. It is essential to access and use the website in different platforms and browsers [33].

**Table 2. Assessment of Organization / Training Center on PINOY SCOWTS in terms of Functionality**

As an online service, the PINOY SCOWTS...	WM	VI
1. has suitable and accurate overview diagrams that help the clients locate information easily.	3.63	SA
2. leads the user to the place they want to explore in the website.	3.63	SA
3. is accessible and usable by any browser (i.e. Google Chrome, Mozilla).	3.63	SA
4. supports Frequently Asked Questions (FAQs) and provides all information or guidelines for the user.	3.75	SA
5. is capable of delivering an accurate result with intended degree of precision.	3.25	A
6. has social media accounts that can be used for updates on specific issues pertinent to seminars/conferences/ training.	3.63	SA
7. has the ability to secure all information provided by the end-user.	3.63	SA
8. provides function that can record the transactions made by the user conveniently.	3.63	SA
<b>Composite Mean</b>	<b>3.59</b>	<b>SA</b>

Table 2 presents the assessment of organization/training center respondents on PINOYS SCOWTS in terms of functionality.

It can be seen on the table that the organization-respondents assessed that the developed website PINOY SCOWTS is highly functional with its composite mean of 3.59. The organization / training center – respondents strongly agreed that the website supports Frequently Asked Questions (FAQs). This obtained the highest rank and the highest weighted mean of 3.75. While, organization/training center - respondents agreed that the website is capable of delivering an accurate result with intended degree of precision, with the least weighted mean of 3.25.

A website needs to have Frequently Asked Question (FAQs) to provide all necessary information for the user, a well-presented FAQ shows that the website is transparent, concerned, and honest to the customers [34].

Functionality is all the functions, and attributes of the system to satisfy user requirements. Some features such as the name of the website, loading time, and this place make the first impression for users. The website is the place where anyone can access, surf or visit, and deliver accurate and correct information or important things [11], [35].

**Table 3. Assessment of Students and Professionals on PINOY SCOWTS in terms of Reliability**

	Students		Professionals		Over-all	
	WM	VI	WM	VI	WM	VI
<i>As an online service, the PINOY SCOWTS...</i>						
1. has low rate of errors during navigation.	3.08	A	3.48	A	3.28	A
2. maintains specified level of performance.	3.35	A	3.52	SA	3.43	A
3. has no broken and invalid links .	3.19	A	3.44	A	3.32	A
4. has low error rates in downloading files.	3.09	A	3.56	SA	3.32	A
5. responses to invalid input data.	3.31	A	3.54	SA	3.43	A
6. supports the accuracy and relevant information like references and links.	3.47	A	3.70	SA	3.58	SA
<b>Composite Mean</b>	<b>3.25</b>	<b>A</b>	<b>3.54</b>	<b>SA</b>	<b>3.39</b>	<b>A</b>

Table 3 presents the assessment of the students and professional respondents on the reliability of PINOY SCOWTS.

In general, the students and professional respondents assessed the PINOY SCOWTS as reliable as revealed by the overall composite mean of 3.39. Specifically, it can be noted that both respondents strongly agreed that website supports the accuracy and relevant information like reference and links. This ranked first with a weighted mean of 3.58. Meanwhile, with the lowest weighted mean of 3.28 proved that the respondents agrees that website has low rate of errors during navigation.

This was proven by the findings of the study of Nhan [35] that reliability includes carefulness; error ability and recover. It relates information accurately provides products and services as well as service relationship and can be recovered even in broken case.

The organization of navigation affects traffic, and navigation affects conversions. Navigation tells the user where to start. Reducing the number of links in the page is good for search engines and for visitors [12], [13].

Table 4 shows the results of the assessment of organization/training center respondents on the reliability of PINOY SCOWTS.

The data disclosed that that the organization/training center-respondents assessed that PINOY SCOWTS is highly reliable as revealed by the composite mean of 3.59. The respondents disclosed that the website has low error rates in downloading files and supported the accuracy and relevant information like references and links. These obtained the highest rank, with the highest weighted mean of 3.75. Moreover, the

respondents agreed that the PINOY SCOWTS responds to invalid input data and has low error rates in uploading files, which got the lowest rank and the lowest weighted mean of 3.38.

**Table 4. Assessment of Organizations / Training Centers on PINOY SCOWTS in terms of Reliability**

<i>As an online service, the PINOY SCOWTS...</i>	WM	VI
1. has low rate of errors during navigation.	3.63	SA
2. maintains specified level of performance.	3.63	SA
3. has no broken and invalid links.	3.63	SA
4. has low error rates in downloading files.	3.75	SA
5. responses to invalid input data.	3.38	A
6. supports the accuracy and relevant information like references and links.	3.75	SA
7. provides function for error recovery for broken links and data errors.	3.63	SA
8. has low error rates in uploading files	3.38	A
<b>Composite Mean</b>	<b>3.59</b>	<b>SA</b>

These findings were justified by Kanelloppoulos, et al. [37], Chua et al. [31] and Mebrate [32] when they revealed that reliability is “a set of attributes that bear on the capability of software to maintain its level of performance under stated conditions for a stated period of time”. Fault tolerance indicates the capability of the product to sustain a certain level of performance and to recover data [32].

It suggested that the website must provide a place or a link where the user can get information about the website’s content and feedback of user action like sending, loading and downloading [11]. Moreover, it was proved that web application is vulnerable when handling large volume of data that can affect both reliability and performance [26]. Validating input is one of the important aspects in web development to prevent crashing of the system and to avoid corruption of the database [27].

Table 5 reveals the assessment of students and professionals in terms of the usability of PINOY SCOWTS.

The two groups of respondents assessed that PINOY SCOWTS is highly usable as confirmed by the overall composite mean of 3.57. This only means that the students and professionals value the usage and importance of the developed website. Specifically, it can be noted that both respondents strongly agreed that the website is accommodating to all clients in a way that it is engaging and easy to use with a weighted mean of 3.63. The second in rank indicated that the website has informative features such as indexes at the searching process to make the end-user understand if the seminar/conference/workshop/ training fits their needs, with a weighted mean of 3.61 or strongly



agreed. Furthermore, the last in rank showed that the website is consistent in terms of layout, with a weighted mean of 3.48 or strongly agreed.

**Table 5. Assessment of Students and Professionals on PINOY SCOWTS in terms of Usability**

As an online service, the PINOY SCOWTS...	Students		Professionals		Over-all	
	WM	VI	WM	VI	WM	VI
1. uses images, and animation centered around the services in order to attract the client.	3.51	SA	3.56	SA	3.53	SA
2. uses interactive help functions or contact support by e-mail or phone for further inquiry.	3.53	SA	3.63	SA	3.58	SA
3. is consistent in terms of layout.	3.34	A	3.63	SA	3.48	A
4. is accommodating to all clients in a way that it is engaging and easy to use.	3.49	A	3.78	SA	3.63	SA
5. provides a relaxed user experience, which includes user-oriented presentation of services and information.	3.44	A	3.70	SA	3.57	SA
6. has informative features such as indexes at the searching process to make the end-user better understand if the seminar/conferences/workshops/training fit their needs.	3.56	SA	3.67	SA	3.61	SA
<b>Composite Mean</b>	<b>3.48</b>	<b>A</b>	<b>3.66</b>	<b>SA</b>	<b>3.57</b>	<b>SA</b>

Montero, et al. [11] cited that the website should be designed using the same colors, fonts, navigation, location, and layout. In addition, Partner [14] confirmed from MagBook magazine, that a website must have a series of web pages structured in categories. In the homepage, the visitors will reach if they type the web address in the browser. It is essential that the design makes the immediate impression.

Table 6 shows the assessment of organization/training center respondents in terms of usability of PINOY SCOWTS.

As perceived by the organization/training center respondents, the PINOY SCOWTS is highly usable, with a composite mean of 3.53. Specifically, the highest the weighted mean of 3.75 divulged that the respondents from training centers strongly agreed that the website uses images, and animation centered around the services in order to attract clients. However, the seventh and eighth in rank with the weighted mean

of 3.38 and 3.13, respectively showed that the website is accommodating to all clients in a way that it is engaging and easy to use and provides clear instruction for registration.

**Table 6. Assessment of Organizations / Training Centers on PINOY SCOWTS in terms of Usability**

As an online service, the PINOY SCOWTS...	WM	VI
1. uses images, and animation centered around the services in order to attract client.	3.75	SA
2. uses interactive help functions or contact support by e-mail or phone for further inquiry.	3.63	SA
3. is consistent in terms of layout.	3.63	SA
4. is accommodating to all clients in a way that it is engaging and easy to use.	3.38	A
5. provides a relaxed user experience which includes user-oriented presentation of services and information.	3.50	SA
6. has informative features such as indexes at the searching process to make the end-user better understand if the seminar/conference/ workshop/training fits their needs.	3.63	SA
7. provides clear instruction for registration.	3.13	A
8. offers easy way of posting events.	3.63	SA
<b>Composite Mean</b>	<b>3.53</b>	<b>SA</b>

In the study of Nhan [35], it was revealed that the interface must attract the user and have clear guidelines. In addition, Aziz et al. [10] cited that usability is related to visual impression of the interface. Montero, et al. [11] suggested that website must have a starting page where the user feels like at home. The researchers also suggested that the website must provide appropriate blanks to be filled in, which clearly and correctly indicates the information to be provided.

**Table 7. Assessment of Students and Professionals on PINOY SCOWTS in terms of Efficiency**

As a whole, the two groups of respondents assessed that the PINOY SCOWTS is efficient as revealed by its overall composite mean of 3.45. This means that for the students and professionals, the developed system is only efficient and there are still some aspects of the system that needs, to be fully developed. Specifically, it can be noted that both respondents strongly agreed that the website can be carried out effortlessly using any browser and can quickly display the page on the screen. These statements ranked first, with the weighted mean of 3.45. However, the last in rank with the lowest weighted mean 3.35 proved that the respondents just agreed that the website offers loading conditions within the expected time.



**Table 7 shows the assessment of students and professional on PINOY SCOWTS in terms of efficiency.**

	Students		Professionals		Over-all	
	WM	VI	WM	VI	WM	VI
<i>As an online service, the PINOY SCOWTS...</i>						
1. provides acceptable time when downloading files.	3.35	A	3.46	A	3.41	A
2. provides quick response to clients.	3.41	A	3.43	A	3.42	A
3. offers loading conditions within the expected time.	3.33	A	3.37	A	3.35	A
4. can be carried out effortless and not time consuming using any browser(i.e. Google Chrome, Mozilla).	3.51	SA	3.54	SA	3.52	SA
5. quickly displays the page on the screen upon clicking the mouse.	3.43	A	3.61	SA	3.52	SA
6. provides acceptable time when switching between pages.	3.42	A	3.56	SA	3.49	A
<b>Composite Mean</b>	<b>3.41</b>	<b>A</b>	<b>3.49</b>	<b>A</b>	<b>3.45</b>	<b>A</b>

Nhan [35] justified that efficiency is the system's ability to provide suitable functions to optimize resources and improve performance in specific conditions. This system must help customers to find their wants as well as switch between pages in an acceptable time. Bradley [16] mentioned that the website must load in a reasonable amount of time.

Table 8 depicts the assessment of organization/training center respondents on PINOY SCOWTS in terms of efficiency.

It can be observed in the data that organization/training center - respondents assessed PINOY SCOWTS as efficient, with a composite mean 3.38. Particularly, the highest in rank with the weighted mean of 3.50 revealed that they strongly agreed that the website quickly displays the page on the screen. On the other hand, the lowest rank confirmed that the website provides a quick response to the clients, with a weighted mean of 3.25.

Mebrate [32] stated the two sub-characteristics under efficiency: time behavior and resources utilization. Time behavior indicates the time the product takes to perform tasks and throughput rates.

In the study of Audreolini et al. [26], they concluded that due to the increasing number of web-based services, volume of client request will also increase, which can cause traffic that may affect both performance and reliability of the website.

**Table 8. Assessment of Organizations / Training Centers on PINOY SCOWTS in terms of Efficiency**

<i>As an online service, the PINOY SCOWTS...</i>	WM	VI
1. provides acceptable time when downloading files	3.38	A
2. provides quick response to the clients	3.25	A
3. offers loading conditions within the expected time	3.38	A
4. can be carried out effortless and not time consuming using any browser(i.e. Google Chrome, Mozilla)	3.38	A
5. quickly displays the page on the screen upon clicking the mouse	3.50	SA
6. provides acceptable time when switching between pages	3.38	A
7. responds quickly on logging in	3.38	A
8. is efficient in posting events	3.38	A
<b>Composite Mean</b>	<b>3.38</b>	<b>A</b>

It can be observed in table 9 that when the assessments of the students and professionals on the functionality of PINOY SCOWTS were compared, since p-value of 0.039 is lesser than 0.05, thus the null hypothesis was rejected. Therefore, there was a significant difference in the assessments of the students and professionals in the functionality of the developed system.

In addition, when the assessments of the students and professionals of the reliability of PINOY SCOWTS were compared the researcher generated a p- value of 0.000 far behind 0.05, thus the null hypothesis was rejected. Therefore, there was a high significant difference in the assessments of the students and professionals of the reliability of the developed system.

Similarly, when the assessments of the students and professionals of the usability of PINOY SCOWTS was compared a computed p- value of 0.003, leads the researcher to reject the null hypothesis. Therefore, there was a significant difference on the assessments of the students and professionals on the usability of the developed system.

**Table 9. Difference in Responses on the Assessment of PINOY SCOWTS among Students and Professionals**

	Group	Mean	t-value	p-value	Interpretation
Functionality	S	3.51	2.079	0.039	Significant
	P	3.63			
Reliability	S	3.25	4.414	0.000	Highly Significant
	P	3.54			
Usability	S	3.48	3.050	0.003	Significant
	P	3.66			
Efficiency	S	3.41	1.227	0.222	Not Significant
	P	3.51			

Legend: Significant at p-value < 0.05, (S-Students, P-Professionals)

On the other hand, when the assessments of the students and professionals of the efficiency of PINOY SCOWTS were compared the computed p-value of 0.222 was greater than 0.05, thus the null hypothesis was accepted. Therefore, there was no significant difference on the assessments of the students and professionals on the efficiency of the developed system.

In general, it can be noted that there were significant differences in the assessments of the students and professionals of the functionality, reliability and usability of the PINOY SCOWTS. This was observed since the obtained p-values were less the computed p-value of 0.05, thus the null hypothesis was rejected. This indicates that the two groups of respondents assessed differently the characteristics of the developed system in terms of the mentioned variables.

However, there was a significant difference in the assessment of the students and professionals of the efficiency of the PINOY SCOWTS. The researcher considered the website speed, page load times, coding, graphics, capabilities of user's computers, and network problems in explaining the differences in the responses of students and professionals.

Porta [43] recommends avoiding use of large graphics or flash animation because it will affect the page load time. Another reason for slow-loading page is network problems[44].

Table 10 shows the proposed action plan for the implementation of PINOY SCOWTS. It includes objectives, strategies and expected outcomes. The action plan focuses on improving the performance and incorporating social media to the website.

**Table 10. Proposed Action Plan for the Implementation of PINOY SCOWTS**

Objectives	Strategies	Expected Outcomes
To provide more seminar, conference, workshop and training advertisements	Invite organization and training centers to advertise their events using PINOY SCOWTS	More Filipinos/visitors will get informed on the future seminars, conferences, workshops and training
To improve website's functionality, reliability, usability and efficiency	Improve the design and color scheme of the website  Avail web host	Improved design and aesthetic features  Improved security, speed, space, reliability, and have email capabilities
To engage and convert visitors	Incorporate social media (i.e. instagram, twitter)	Disseminated information through social media

**CONCLUSION AND RECOMMENDATION**

After conducting the study, the researcher has formed the following conclusions: PINOY SCOWTS can be used for advertisement of seminars, conferences, workshops and training of organizations and training centers, which can be viewed by students and professionals; the student and professional-respondents assessed that the website is highly functional, highly usable, efficient and reliable; the respondents from organizations and training centers assessed that the website is highly functional, highly reliable, highly usable and efficient; there is a significant difference in the assessment of students and professional respondents of website in terms of functionality, reliability and usability except on the efficiency of the website. The researcher considered the website speed, page load times, coding, graphics, capabilities of user's computers, and network problems in explaining the differences in the responses of students and professionals; an action plan has been proposed for proper implementation. The researcher focused on improving the website's functionality, reliability, usability, efficiency, and incorporating social media in its platform.

After the development of the study, the researcher came up with the following recommendations: provide a registration for students and professionals to be able to monitor and be updated on the future events to be posted on the website; develop a mobile application version for PINOY SCOWTS to be able to view and get informed on the latest events using mobile phones; collaborate with Technical Education and Skills Development Authority (TESDA), Department of Education (DepEd) and Commission on Higher Education (CHED) to endorse and use PINOY SCOWTS in searching and locating seminars, conferences, workshops and training; it is recommended to implement the website to help students and professionals locate seminars, conferences, workshops and training in the Philippines.

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