

A Study on the Assessment of VetConnect using SWOT Analysis and Six Thinking Hats

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Abstract

VetConnect is an E-Commerce Website capable of scheduling and purchasing products. It will have a viewable list of Clinics, Services, Products, and Appointments for scheduling and Product Orders. These functions will help the website ease Pet owner and Pet Clinic transactions. The authors utilized strategic planning tools such as SWOT, TOWS, and Six Thinking Hats survey as tools to improve the website functions. Suggestions taken from the results will help authors decide on the functions for further analysis. Also, the survey helped the researchers discover the importance of using these tools to build the website and conduct whether it will be of accepted usability among its respondents. Creating the SWOT Analysis of the website also helped researchers gain a hold on the website implementation, particularly in searching for nearby clinics, processing pet/pet owner services, and improving website navigation.

Keywords

Website, Animal Clinics, SWOT, TOWS, and E-Commerce

1. Introduction

One form of taking care of pets is bringing them to an Animal Clinic. Animals have different kinds of services, such as check-ups, grooming, and surgery. The need for an E-Commerce Portal for Clinics was devised to help allocate animal clinics in establishing a more conducive online presence through assisting more customers and interactive availability. The topic enhances the need for online clinic-based and veterinary care-accessible databases for both clinics and users. With the given pandemic, only a few out of 60 registered by BAI (2020) NCR clinics operate daily, only a select few through walk-ins. Online consultation is the most preferred form. As conducted through interviews with animal clinics, the problem was related to most clinic processes, such as lack of accommodation, transportation, payment, and operations. Clinics are also dependent on protocols set by the COVID IATF (Inter-Agency Task Force) that permits social distancing. Pet owners also encounter problems with busy schedules and flexibility in adapting to the clinic's appointed time. Online consultations typically lack data and take a longer time to entertain customers.

Vetconnect offers detailed monitoring service progress while scheduling appointments, assisting in transportation, and payment through the functionalities present in its website. The increased marketability of the proposed service is the initial goal of the researchers. Aside from the large customer market (as clinic and pet owner volume) the adoption of pet animals has seen an increase, in line with the 6.7% growth of the veterinary services market (Mordor Intelligence 2021). The proposed service also takes into consideration research of primary and secondary market segments, as well as demographics. These measurements are functional for setting the initial goal in marketability.

The proposed product addresses the 2 main users: Animal Clinics and Pet Owners. The product focuses on the needs of its clients. Majority clients have jobs/residences around and in the Metro Manila region. Most clients are pet owners over the age of 20 and have domesticated animals which require frequent maintenance. Pet owner demographics have also identified the quantitative amount of most pet owners, having at least between 1-10 pets. Pet Clinics also encounter less customers. Former interviews done alongside the potential service highlight the fear of customers to leave their house or on external (Government-based) conditions to cease operations. Pet Clinics also encounter problems with transportation and IATF regulations. These pet clinics were also mentioned in the same regional areas. Due to the pandemic, Pet Owner buying behavior has changed. Appointments through consultation have been the most optional. Buyers have multiple reasons: regular pet maintenance, supplies purchases, and

veterinary services. Clients also bring their pets and buy supplies at least once, having to queue for the Animal Clinic.

The purpose of the study is to analyze and formulate strategies by utilizing SWOT and TOWS Analysis to make our Website (Vetconnect) design and functions more competitive in the market.

1.1 Product Concept

Designing a Website Application System for Domesticated Animal Clinics is the topic of our research. VetConnect was developed with the intent of making transacting between animal clinics and pet owners simpler. Methods such as SWOT Analysis can be used to evaluate usage and performance in order to compete effectively in the market. Pet owners will be able to create their personal profile and their pet profile, which will include necessary information about their pet. They will be able to browse the list of animal branches, services, and products, and book a schedule on the available date and time of their chosen branch and services and they would also be able to order products from various clinics. Any finished transaction pet owners have can be viewed in their transaction history at their profile. Both animal clinics and pet owners will be able to communicate with each other and with the admins if needed, through inbox and live chat.

The payment for the services and products will only be available for onsite payment and Cash on delivery. The distinct function of the website is the monitoring of the services being performed. The animal clinic will be able to update the procedure being done to the pet and pet owners will be able to track the progress. The tracking of the order will also be included in the monitoring function.

Social Benefits are activities/products/services that have a beneficial impact on people and VetConnect provides this through the Timely Access and Efficiency to Pet Care and Transformation of the Marketplace. Efficiency and Timely Access through the Scheduling of Appointment function.

A study conducted in 2019 shows the effects of Online Appointment Scheduling in Outpatient Clinic, and the results are there are less patient waiting time (38.2 minutes to 23.8 minutes), less No-Show Rate (25% to 11%) and Physician Punctuality (-30 minutes to -14 minutes) (Meyer 2020). By applying a similar function, VetConnect might be able to provide the same efficiency to its Pet Clinics and Pet owners.

Transformation of the Marketplace through the E-Commerce function. Because E-commerce changes the way business is conducted where the traditional methods, walk in and Going to the store, will be replaced with new and modern solutions, Online appointment and Online Purchase, and relationships will be easily formed between business and customers through Online connectivity (Habibi et al. 2019).

1.2 Sample Images of Innovation

Vetconnect Website design is going to be simple and easy to navigate. It would focus on Animal themes and images to signify the focus market of the website. It would also use the color palette of violet, yellow, and white. The Website will be performing several functions, such as creation of accounts, viewing list of clinics, services, products and progress of service/order, scheduling for an appointment, and buying products of the Animal Clinics.

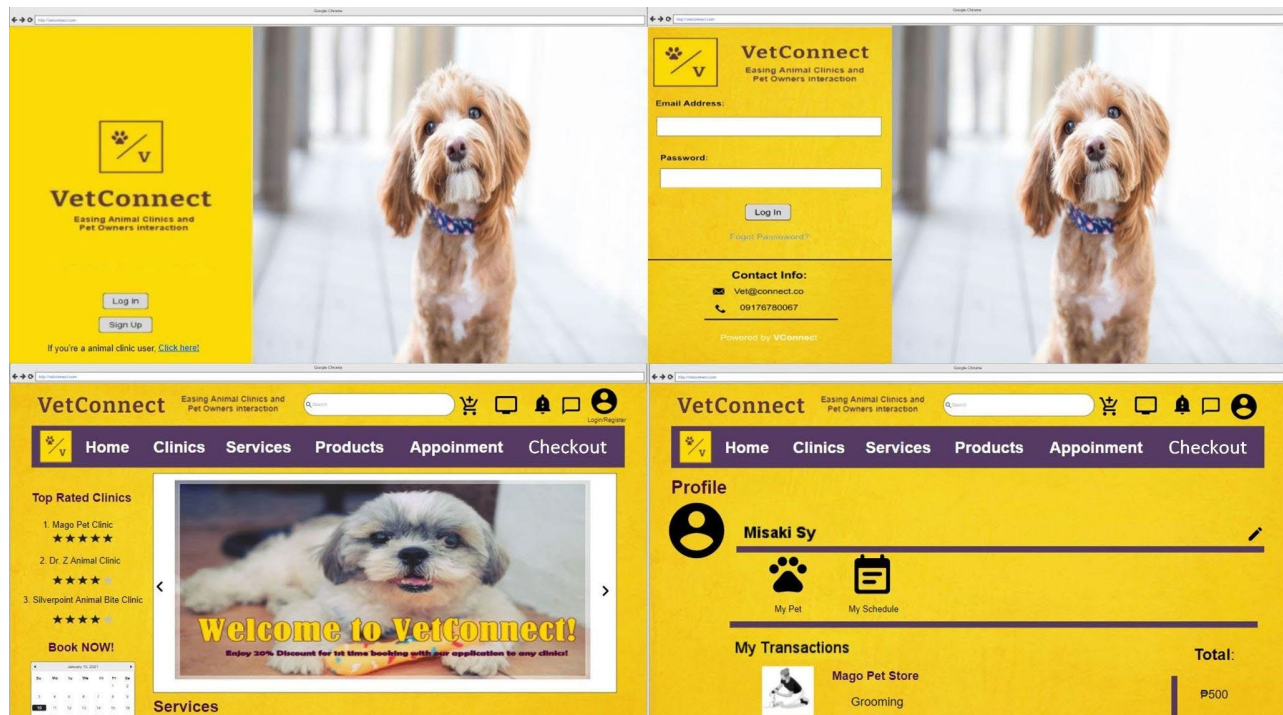


Figure 1. Welcome Page, Logging in Page, Main Menu Page & Profile Page (Left-to-Right Row 1 & 2)

Figure 1 shows the first 4 pages depicted in the sample wireframe of the website application and it shows how the application will welcome a user, first, it would ask the user to log in or sign up, followed by 2nd page, the logging in screen, with the contact information of the admins. The third page shows the main menu of the application, where users can search items, view services and products. The fourth page is the Profile page of the user, where they can view the record of their pet, and schedule, in addition, the user transaction is viewed below to easily check previous transactions.

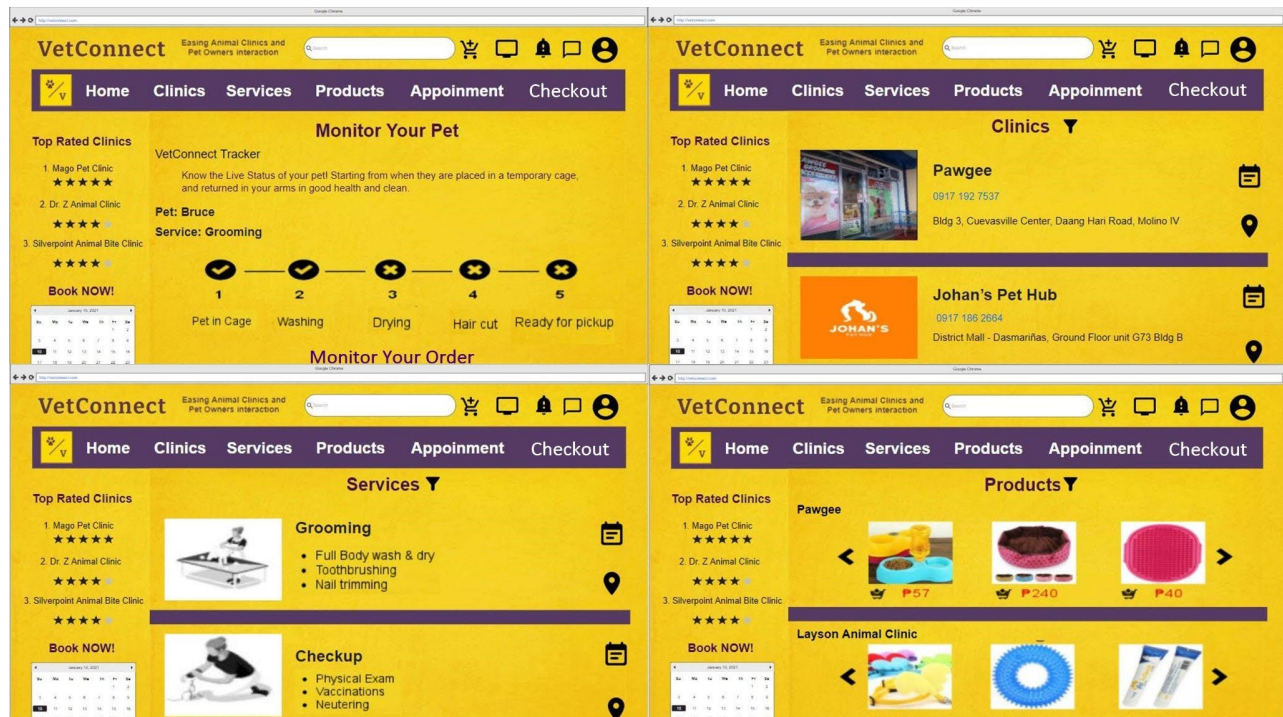


Figure 2. Monitoring Page, Branches Page, Services Page, & Products Page (Left-to-Right Row 1 & 2)

Figure 2 shows the second set of 4 pages depicted in the sample wireframe of the website application and it starts with the fifth page, which is about the monitoring of pet service, which is the innovation of the website application, because it enables the pet owners to check on the progress of their pets and monitoring of ordered products. Followed by the sixth page, which contains the branches that partnered with the application, together with their contact information location, in addition, clicking the calendar in a specific branch will enable the user to directly make an appointment. Seventh and eight are almost similar but only differ on what kind of service and product they offer to the customer users.

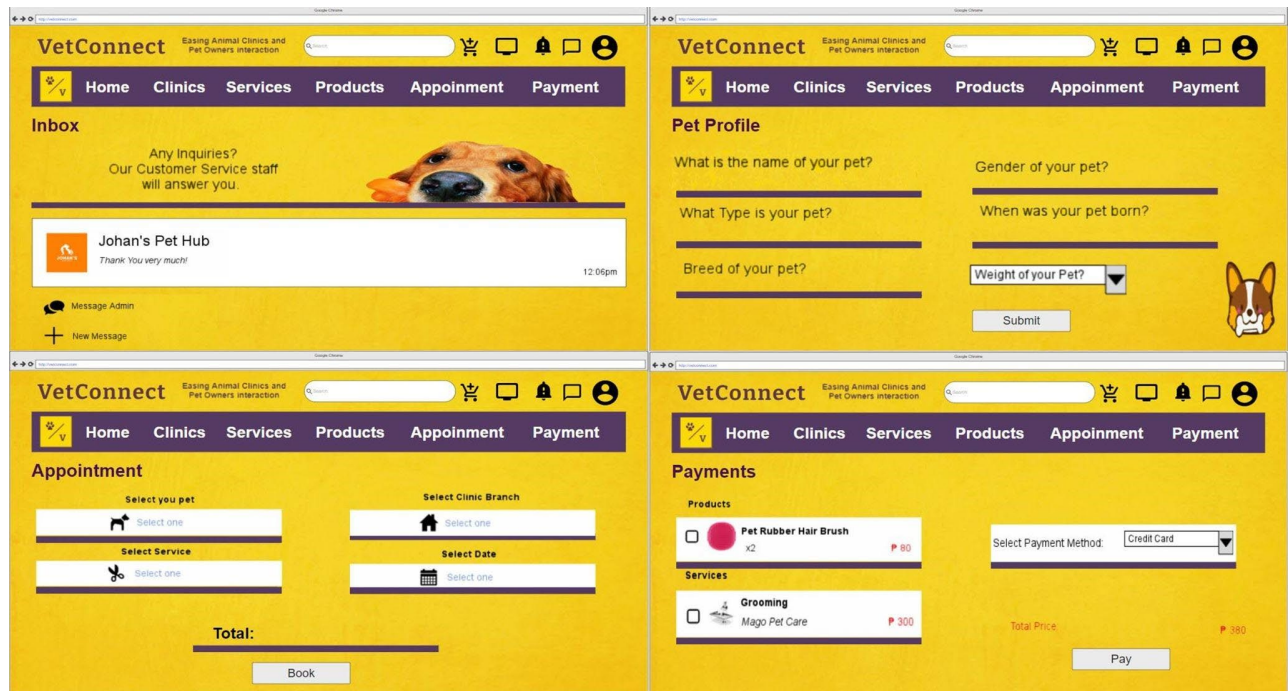


Figure 3. Inbox Page, Pet Detail Page, Booking Page & Checkout Page (Left-to-Right Row 1 & 2)

Figure 3 shows the 3rd set of 4 pages depicted in the sample wireframe of the website application and it starts with the ninth page which shows the inbox where the user can chat with any animal clinic branches, and this is where the users can have live chat with the admin.



Figure 4. Registration Page, Clinic Pages (Left-to-Right Row 1 & 2)

Figure 4 shows the 4th set of 4 pages depicted in the sample wireframe of the website application and it starts with the thirteenth page which is the registration page, where users can register themselves on the website either as a pet clinic or customer. Selecting the registration page allows the user to set up services or appointments. Depending on the selection, the actions the user would take would result in a payment and transaction. This will be visible to both clinic personnel and the customer. The product/service is listed down alongside the transaction type, date, monetary amount, and medical professional/customer name listed.

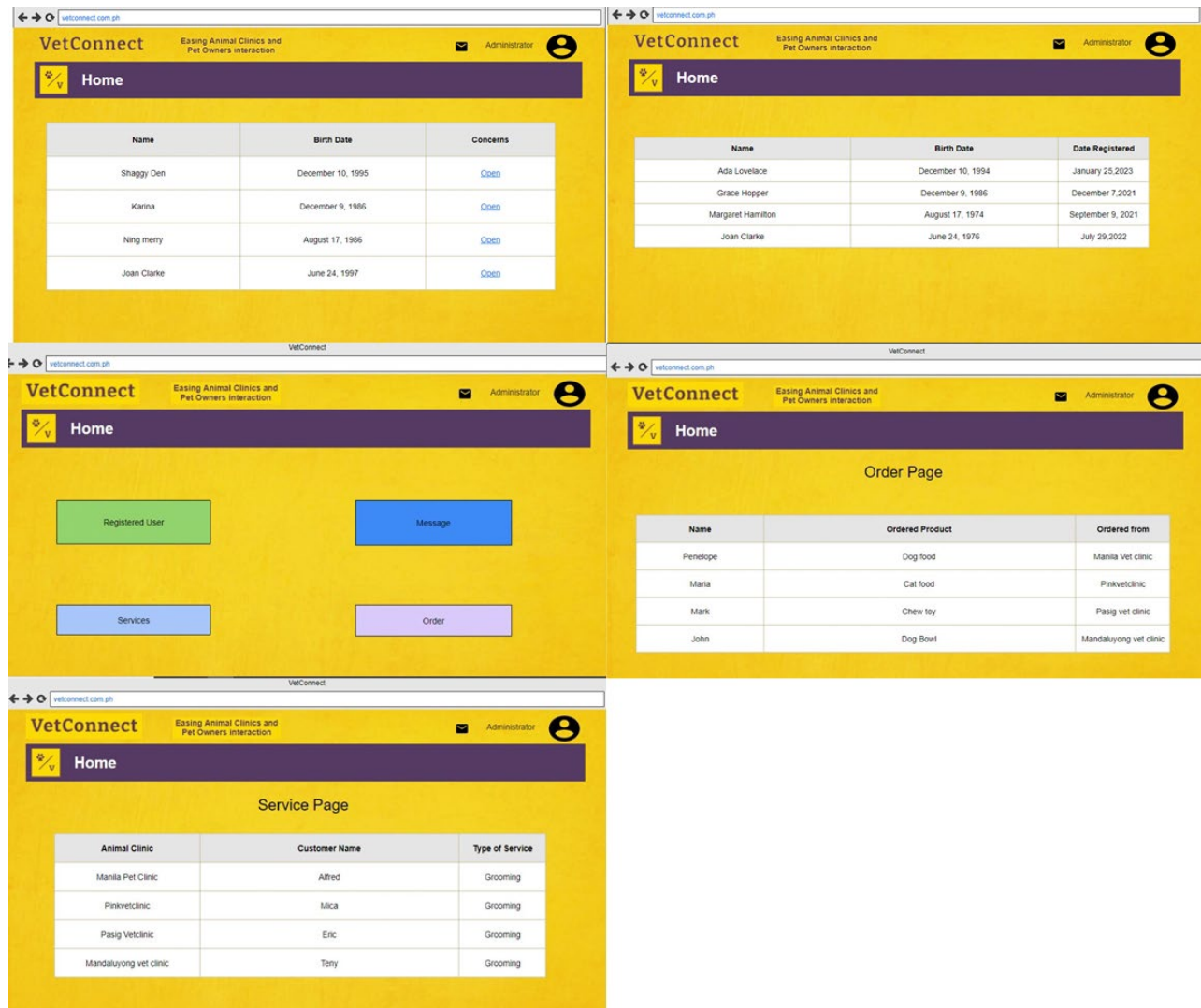


Figure 5. Customer's complaint page, Registered users page, Admin home page, Service page, Order page (Left-to-Right Row 1 & 2)

Figure 5 shows the fifth set of 5 pages, the nineteenth page is the homepage of the VetConnects administrator, where admins check the number of customers who have been registered, receiving complaints, and monitoring the service status of the pet clinic and the order status. On the eighteenth page it shows the registered user page, that includes a list of customers that had been register to the web application, followed by the eighteenth page, the number of users gives complaints about the application, that shows the name birthdate and complains that you can open the messages of the user. On the twentieth page shows the name of the customer, ordered products and from what clinic that they ordered the item from. Lastly, the twenty-first is the service page where you can overview the Pet Clinics, the customer names that the customers choose to service their pets, and they can see on what type of service that an Pet Clinics that they served the customer.

2. Review of Related Studies

2.1 SWOT ANALYSIS

In a study entitled “An evaluation framework for higher education ERP Systems” states that the process of evaluating a system for use in higher education requires comparison between the existing software to be made to their current processes and fitting the existing procedures. The given research works through the implementation of technological integrations into a common system. The operation of the given ERP systems functions in relation to finding a base for Romanian students to commonly gather information regarding their educational context (Sabau et al. 2019).

In a study entitled “Design of a SWOT Analysis Model and its Evaluation in Diverse Digital Business Ecosystem Contexts” states that many organizations and establishments make use of Strengths, Weaknesses, Opportunities and Threats (SWOT) in their business research. In the case of Digital Ecosystems, SWOT needs a lot of dedication while creating and designing strategies, because there are many complex business operations, and sometimes there is the possibility of failing in addressing priorities and providing a viable solution. In this study, it is focused on addressing the organization issues, problems, and priorities of Digital ecosystem by designing a new SWOT Model that models elements that take into consideration of the managers perspective to oversee new ideas about business contexts that can give guidance to SWOT analyzers and give service to different industries to help them operate in an optimum manner. The problems and challenges of various public and private sectors are analyzed and documented and then compiled so that their combined data will be evaluated to be able to represent their differentiating views and interpretation of new knowledge through elements of SWOT. In the research conclusion, it was stated that in multiple industries when supply chain events are incorporated in the framework and in the warehouse environment, it is useful for SWOT business researchers and analysts. Additionally, the elements of SWOT analysis in the methodology are used and reused in multiple applications thus constructing and unifying the views of the SWOT users that further facilitate connecting industry stakeholders, enterprises, and multinational organizations (Dyson et al. 2004).

In a study entitled “Strategic development and SWOT analysis at the University of Warwick” states that the SWOT analysis is the best way to pinpoint the strength, weaknesses, and opportunity and threats that a strategy formulation and its incorporation into the strategic development process on an organization so in which way to build strengths and eliminate the weaknesses by the internal appraisal, while exploiting the opportunities and countering the threats by an external appraisal, this study shows on how this tool can be really helpful on different organizations and this will benefit them to have an opportunity to improve the business process and strategies, which this study gives examples and understanding on how will their university improve through SWOT analysis in order for them to take the opportunity to improve their staffs, departments, fundings, faculties and the environment inside the University, so they score the SWOT specifications to find out on what to prioritize or what should be taken action from the result of the SWOT analysis (Aithal and Kumar 2016).

2.2 6 THINKING HATS

In a study entitled “Can Cloud Computing Benefit Health Services States that Six reasoning caps is a recently proposed strategy that traces various reasoning styles required by an individual when investigating a given issue effectively. With various colored hats, the method connects numerous reasoning types used in an organized critical thinking strategy. However, by conceiving each type of cap, the individual focuses on the method of deduction. The usefulness of the six thinking hats technique in individual and group issue solving in businesses is addressed. The attitudinal relationship in decision making utilizing the Six-Thinking Hat methodology, personality types involved with the thinking hats process, and the usage of this research methods in organizational issue solving methods are also discussed in the study (Hu et al. 2021).

In a study entitled “Coordinating role of six-hat thinking technique in design team during idea-generation phase of Service Design” states that Six Thinking Hats are used by experts and designers in different phases of their activities in designing and development, and the roles of these hats are usually established during conversations in meetings. This allows the users to switch into different perspectives during design phases to be able to regulate the phase. This research believe that Six Thinking Hats must be introduce at the perfect time to be able to coordinate its effects on the designers, and it was found that using the white-blue and yellow-black hats in the early stages of design could make designers rapidly focus on the working status and identify the direction of the design. While, using green- yellow and black-green hats in the middle design stage would force the designers to perform carefully and have cautious thinking. This process makes designers move from the state of thinking fatigue to the state of creating new ideas, which further better the design plan. Introducing the six-hat thinking technique at such time will force designers

to quickly redo the plan. In conclusion, Six Thinking Hats have influence on specific factors that affect a person's creativity, and the research has enriched the idea of the use of Six Thinking Hat technique, which can be added to the teachings of design education to enhance the learner's creativity (Kivunja 2015).

3. Methodology

The researchers gathered data by disseminating Online Surveys through Google Forms as the medium for the Questionnaire and created Likert Scale Questions that made use of 6 Thinking Hats, where 6 perceptions such as Blue Hat (Process), White Hat (Facts), Red Hat (Feelings), Yellow Hat (Benefits), Black Hat (Cautious) and Green Hat (Creativity) are used to analyze the existing features of the VetConnect Website Prototype.

3.1 Six Thinking Hats Questions

Blue Hat (Process)

1. The Website will help in saving time of processing pets services for clinics and owners
2. An onsite payment is advantageous for pet clinics/owners.
3. The ordering function makes clinic processing orders more efficient.
4. The Online access of Vetconnect eases the transportation ability of Pet Owners for pet care.
5. Handling payment (asides from Cash-on-delivery) would be more convenient as part of the platform.
6. The transactional function of the website serves to function well in its performance.

White Hat (Facts)

1. Vetconnect is ideal for pet clinics and owners' use to segregate transactions done.
2. The transportation aspect of Vetconnect is a necessary option as part of its process.
3. There are unregistered clinics near a patients' distance/range; Despite this, using Vetconnect is beneficial for scheduling.
4. Using the Vetconnect platform gives online connectivity in terms of Sales (for Pet Clinics) and Practicality (for Pet Owners).
5. Information provided in the website is adequate.
6. Vetconnect is ideal to use due to its capability to consider availability for clinics.

Red Hat (Feelings)

1. The website isn't confusing when navigating.
2. The website gives me less stress of finding a clinic in my area.
3. The website gives me an anxious feeling when buying an item.

Yellow Hat (Benefits)

1. The Website E-Commerce design helps users find the product needs of their pet.
2. The Website adding clinic information in the website help the users.
3. The Website gives a user-friendly design and there are a variety of products to choose from.
4. The Website gives benefits for the clinics in a way of promoting and advertising their services and products.

Black Hat (Cautious)

1. The Consistency of the website Design and theme is seen throughout all pages.
2. The color palette of yellow and purple is unattractive to the eyes.
3. The payment method available on the website does not vary.

Green Hat (Creativity)

1. The Pet Profile eases the creation of appointment forms regarding pet details.
2. The Website combination of Scheduling and E-Commerce further publicized the Pet Clinics services and products altogether.
3. 3. The Website will automatically notify Pet owners of the status updates of the service being done on their pets instead of waiting till service is done.

The researchers have selected pet clinics and pet owners who are older than 18 as the respondents of the survey whose locations are located around Metro Manila and nearby regions. The overall sample size consisted of 65 respondents.

3.2 Analyzing the Results

The given results have shown that the principal areas that need to be worked on by the researchers have connections to the website's external appearance and navigation. Based on the survey results, there is high dissatisfaction when it comes to the color scheme and website flow. The results also show that a large majority of respondents have varied attitudes towards the website's scheme of payment (such as cash-on delivery) and comfort when it comes to the website's utilization. The results also indicate that website performance and segregation of transactions were highly prioritized by the respondents. Responses show that in line with VetConnect's objectives, certain processes must be reconsidered for maximum applicability and functionality for pet clinics and pet owners based on the survey.

4. Results and Discussions

4.1 SWOT Analysis Table

The SWOT analysis table will assist in understanding Vetconnect's categorical functions.

Table 1. SWOT Analysis of VetConnect Website Survey

VetConnect SWOT	
STRENGTHS	WEAKNESS
• Wide user age demographic (S1) • Saves time in processing pet services for clinics/owners (S2) • Support for onsite payment (S3) • Capacity for transportation and appointment (S4)	• Website clinic lacks information for user support (W1) • Lacking user friendly design/navigational issues (S2) • Needs improvement on processing orders (W3)
OPPORTUNITIES	THREATS
• Supports promotion and advertising for clinics (O1) • Provides more options in finding nearby clinics (O2)	• Other website with better ratings and functions (T1) • Developers having similar idea of the portal (T2) • Users who are not used to using technologies (T3)

Table 1 shows the SWOT Analysis of VetConnect from the website survey. Strengths found in Vetconnect came from understanding the survey results. It showed a wide range of respondents. Having a wide user age demographic will help Vetconnect understand that most users are capable and technologically literate. One of the strength's involves the respondents' answers to Vetconnect's aim to save time in processing pet services for both clinics and owners, which shows the efficiency present in the application. Onsite payment is beneficial as a form of convenience when entering the clinic since cash usage is supported by most clinics. Lastly, the transportation and appointment function of Vetconnect. This is a strength which permits efficient flow and organization in getting a clinic appointment done.

Weaknesses in the clinic were caused due to the lack of information in the user support. The demonstration and actual website still have certain functionalities unavailable due to its given status. The improvement of the application aims to solve this. Second, the lack of a user-friendly design was mentioned. It is important to consider VetConnect's present purple and yellow scheme to make navigations friendly to the eyes, as well as to improve navigation. Improvement on processing orders should also be seen in the application.

Opportunities present in the given study also stem from the clinics' status. Clinics can improve their procedures knowing that advertising can be done through Vetconnect. With this, Vetconnect acts as an essential in helping clinics during the pandemic, alongside with promoting their services. The second opportunity of providing more options for pet owners helps them understand the availability of clinics within their range.

Threats present in the study are dependent on websites with better ratings and functions. These websites have

already been established and have a following user base. Next, developers who have similar ideas with the portal could enter the E-Commerce market much earlier/quicker. Lastly, users who are not technologically particular with an application could encounter problems and would not be able to participate as a clinic user/owner.

4.2 TOWS Matrix

The TOWS Matrix is an analysis tool and an extension of SWOT analysis which is to identify the strategies of the VetConnect application.

Table 2. TOWS Analysis of VetConnect Website Survey

VetConnect TOWS	OPPORTUNITIES	THREATS
	- Supports promotion and advertising for clinics (O1) - Provides more options in finding nearby clinics (O2)	- Other website with better ratings and functions (T1) - Developers having similar idea of the portal (T2) - Users who are not used to using technologies (T3)
STRENGTHS	STRENGTHS/OPPORTUNITIES	STRENGTHS/THREATS
- Wide user age demographic (S1) - Saves time in processing pet services for clinics/owners (S2) - Support for onsite payment (S3) - Capacity for transportation and appointment (S4)	- Increasing the number of users for using the application through advertising (S1O1) - Ease of locating the clinic through the website information and appointment (S4O2)	- Improving the services and support of the application (S2T1) - Develop a User-friendly or easy-to use application (S1T3)
WEAKNESS	WEAKNESS/OPPORTUNITIES	WEAKNESS/THREATS
- Website clinic lacks information for user support (W1) - Lacking user friendly design/navigational issues (S2) - Needs improvement on processing orders (W3)	Providing variety of options in finding information of the clinic (W1O2)	- Reducing complicated design and navigations (W2T1) - Making the Application easy-to-use (W2T3)

Table 2 displays the TOWS Matrix. The Strengths/opportunities of the user age demographic and the promotion and advertising of the clinics would increase the number of users from advertisement and promotion of the application to VetConnect.

The Capacity of transportation and appointments will ease the clinics through the website. This benefits users to locate the clinics from the information given by the application. The Strength/threats from saving time in processing pet service for clinics and owners and the other websites that have better ratings and equipment will reduce the number of users from using the other applications by improving the services and support of the application to have a better service and support than the other competitors.

The Wide user age demographic and the users who are not used to using technologies will reduce the hassle of using the application to develop a user-friendly application. The Weaknesses/opportunities from the lack of clinic information to the user and providing options in finding nearby clinics will have to provide a variety of options in finding information about the clinic to minimize the weakness of the application.

The Weakness/threats from Lacking user-friendly design/navigation and other websites with better ratings and equipment the application needed to reduce the complicated design and navigations to minimize design/navigation of the application for the users. Lastly, the lack of user-friendly and the users that are not used to technology to minimize this kind of threat is by making sure that the application is easy-to-use.

5. Conclusion

This research was done to better create the design of the VetConnect Website and by utilizing the 6 thinking hats survey, the results gave ideas on what to include in the SWOT Analysis of the Website. There was a varying answer from the respondents but as the results of the survey are analyzed, the researchers are able to formulate the Strengths, save time in processing pet services for clinics/owners, etc., the Weaknesses, lack of user-friendly design/navigational issues, etc., the Opportunities, provide more options in finding nearby clinics, etc., and the threats, users who are not used to using technologies, etc.

With the formulation of SWOT, the researchers can create TOWS and formulate strategies for the competitive edge of VetConnect, such as increasing the number of users through advertising, developing a User- friendly/easy-to-use application, and providing a variety of options (filter) in finding information of clinic, and reducing the complicated design for easier navigation and pleasing to the eyes of the user. This then proves the effectiveness of the tools used to analyze the website and because of that, all the important functionalities and design is discovered and highlighted and can be used for more future development of VetConnect Website.

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