Website Design of West Corner Hotel to Improve Service Operations

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Abstract

The study was conducted to West Corner Hotel, a budget-friendly hotel to improve the overall operations by utilizing information system and technology. As the management plans on implementing information strategies, the researchers proposed a website that will address the issues that had an impact to the level of customer satisfaction. Furthermore, the researchers used Business Process Re-engineering (BPR) methodology and Design Thinking approach in determining customers experiences, analyze those experiences to identify their needs, concerns and issues and come up with the design of the website that will address those issues or concerns.

Keywords

Information Systems, Protoype, BPR, Design Thinking

1. Introduction

Managed by experienced hoteliers, *West Corner Hotel* was established on July 11, 2014, to meet the demand for convenient, comfortable, and budget-friendly accommodation. It started because some hotels near the bus terminal (Victory Liner) offer a high price and rarely offer wash-up. *Vicente Teng Gui* (Owner) came up with the name "*West Corner*" since it is located in the West District and corner of the street. West Corner Hotel is a five-story budget-friendly travelers' Hotel strategically situated in the heart of downtown Olongapo City, Philippines. Public transportation, fast food, recreational facilities, shopping malls, and tourist attractions are easily accessible at the city's center.

The Hotel has been operational for a considerable amount of time. They have implemented various strategies; these have helped them stay at the top of the ranks within their vicinity as a decent hotel. These strategies fall upon the following points: *Technology as a tool, Staff Training, Budget-Friendly, Accommodation,* and *Location Strategy*. The Hotel's main problems revolve around their manual processes. This includes the manual reservation process and way of answering inquiries by customers. Business Process Re-engineering (BPR) was utilized to further enhance customer service, cut costs, and increase retention of employees.

BPR is one of the greatest strategies for ensuring the continuation of their operations for enterprises to remain relevant for a long time. More importantly, BPR can help firms rethink their present procedures and enhance their business processes significantly. Moreover, for the researchers to further analyze the problems of the Hotel, the researchers made use of empathy maps and Pareto analysis to gather customer's negative feedback. The negative feedbacks attained are as follows: mischarging and misallocation of rooms, lack of room maintenance, late replies on their Facebook page, and wrong answers to queries. Since the Hotel does not have a working website, the researchers designed a website to further improve the Hotel's operations.

2. Literature Review

The researchers were able to analyze and evaluate a number of approaches in organisations, based on the study by Zuraidi and Saad (2019), which showed BPR to be the most successful methodology to date. Such disclosure is not surprising as it stresses significant changes such as cost savings and time reduction. The application of information technology further enhances the usefulness of BPR. There has been considerable discussion in the literature on Business Process Re-engineering (BPR) for almost a decade. Nowadays, there is still significant confusion among managers about what makes BPR and how different it is from other change initiatives such as Total Quality Management. In a relatively short time, BPR has gained appeal among companies. Consultants have strongly advocated it, and BPR has had very uneven results among firms. Empirical research in BPR has been delayed and offers excellent potential for academia (Oneill and Sohal 2019).

With the organization's aid, promotion, and marketing of tourist products and services and support for communication, online transaction, and distribution systems for hotels and customers, internet use has altered the hotel industry (Tan 2015). The first place to find out about the Hotel is a website. The information is always available, and it is thus vital that it is displayed and handled attractively for both guests and a hotel. Social media in business is becoming acknowledged by companies worldwide in the recent period of technological progress. This is because the internet is seen as the new boundary for doing business (Radhakrishnan et al. 2019). Social media sites are an excellent platform for distributors to build an experience, and retailers may utilize information collected on social media sites to better their brand experience. Some of the advantages of an internet company are that it is cheap, but efficient to reach customers 24/7. The use of digital or virtual environments in advertising and offering products and services is part of online marketing. This research examined the advantages and problems faced by internet marketers. The link between the online business profile and the benefits and challenges of online marketing was also established (Santos 2020).

3. Methods

In this research, the researchers utilized the Business Process Re-engineering (BPR) methodology approach. There are four key steps when conducting the BPR method: Current State: Define & Analyze, Identify & Re-design, Prototype: Develop & Test, and Implement and Monitor. However, only steps from Current State: Define & Analyze to Prototype: Develop & Test were utilized by the researchers. In analyzing and defining the current state, the researchers analyzed the current business process of West Corner Hotel by mapping out the business process through the business process model notation, and process chart. For identifying and re-designing, the researchers determined the gaps through a mind map, empathy map, and why-why-diagram was utilized. This helped the researchers understand the Point of View (POV) of previous customers and employees of the hotel thoroughly. Lastly, the prototype was created through a cloud-based platform called Wix, featuring all the user requirements proposed in the paper acquired during the define and analyze step.

4. Data Collection

Researchers must gather data to understand the system requirements better to be offered. Researchers collected the following information: The firm infrastructure, how the hotel managed their human resources, their available technology, procurement of supplies, the hotel's strategies, potential threats or rivals, planned projects and or technologies, and business processes. For this study, primary data was used, which is material taken directly from the source. The researchers did interviews with WCH's Accountant, a few employees, and one of their managerial personnel using the following data gathering methods: Customers' Perspectives were discovered through the research of consumer comments, ratings, and reviews from internet sources. In addition, this study also utilized secondary data from related literature and a review of online resources. The researchers reviewed online resources by analyzing online customer feedback, ratings, and reviews. With this, the researchers found a general customer's perspective.

5. Results and Discussion
5.1 Graphical Results

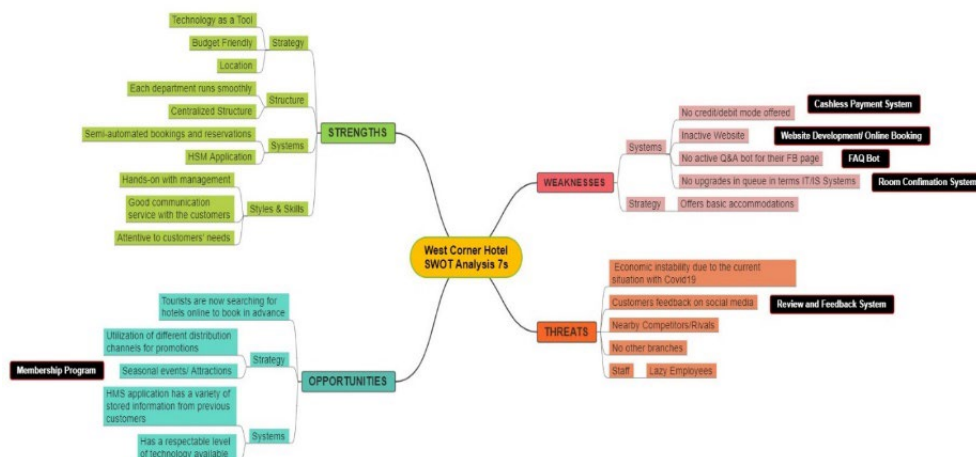

Figure 1. Mind Map SWOT Anlysis

A mind map allows the researchers to record a lot of information in related concepts and keywords. Essentially, a user collects or writes data collected on a website while displaying the links between ideas. Figure 1 shows the strengths, weaknesses, opportunities, and threats that affect the Hotel. In line with it are the projects the researchers propose.

Strengths: The West Corner Hotel guarantees that each department can effectively carry out its daily operations in terms of strategy, structure, systems, and styles and skills. A centralized organization aids overall work distribution within and across divisions.

Weaknesses: Upon analyzing the business using the McKinsey 7s framework, most of the weaknesses come from the hard elements, specifically the Systems and Strategy. As seen in Figure 1, each weakness corresponds to a proposed project or system, which will be later discussed and evaluated. These proposed projects are*: Cashless Payment, Website Development or Online Booking, FAQ Bot, and Room Confirmation System.*

Opportunities: Since tourists utilize the internet to look for a hotel to stay in, the online platform gives the Hotel an excellent opportunity to attract tourists. Different distribution channels for promotions have significantly impacted the Hotel's marketing strategy, especially during seasonal events. Therefore, to further attract tourists and increase bookings, a *membership program* is proposed.

Threats: Given the COVID-19 situation, the pandemic has dramatically affected the economy, resulting in economic instability. Next, Upon analyzing customers' feedbacks, West Corner Hotel has obtained 68 google reviews. To that end, a *study and feedback system* was proposed; with this, the Hotel will be able to manage its reputation. In addition to this, the other threats to be considered are the lack of different branches and layabout employees.

The researchers used empathy maps, Pareto analysis, and a why-why diagram to study the challenges of the Hotel further. The empathy map is a way to build business models based on the customer's perspective. A visual structure, the EM template has. It simplifies the implementation of the template. The EM also has queries for guidance. This guide helps designers to create people and methodically to achieve this approach. Through the EM the researchers were able to gain insights regarding the customer's opinions towards the Hotel. Both personas said that the Hotel is very accomodating and that they highly recommend the Hotel. As for what they think, the personas thought that they should try to add more amenities. Lastly. The personas feel happy and satisfied. With the attained information, the researchers could brainstorm and come with questions that would further benefit them in re-design. The personas and 'how might we' questions are as follows:

Persona 1: Vhyk Bonzi is a male traveler who booked accommodation at West Corner Hotel on March 02, 2016. He visited the area and wished to go back by the summer season.

HMW

1) How might we divide the construction of the bar area into parts? So guests have an experience and enjoy the finished side of the bar.
2) How might we orient our employees to maintain the quality of our service?

Persona 2: Chawilrick is a local male traveler who booked accommodation at West Corner Hotel on July 13, 2017. He visited the area together with his family, and he wished to revisit the place.

HMW

1) How might we maintain being a budget-friendly hotel at the same time upgrading our standards?
2) How might we post updates on our social media or website about our latest upgrades, news, and activity?

The objective of a chart in Pareto is to distinguish essential issues from insignificant components of a problem. A team knows how to target its improvement efforts by visually differentiating parts of an issue. Reducing the most oversized bars in the figure is more valuable than reducing the smaller ones. Shown in Figure 2 is the negative feedbacks the Hotel obtained from the period 2014-2021. The researchers attained information through browsing reviews and feedbacks from google reviews and the Hotel's Facebook page.
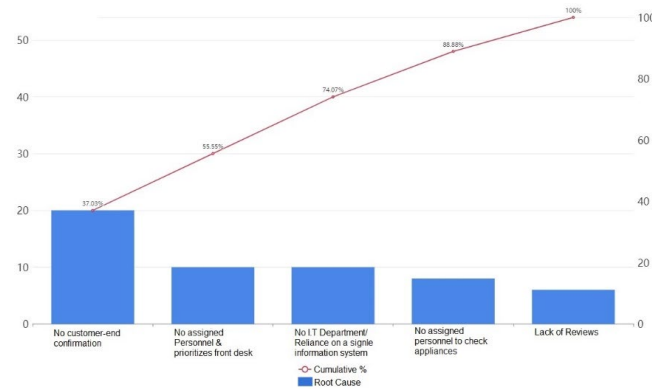
Figure 2. Pareto Chart

The Hotel's main problems revolve around its manual processes. This includes the manual reservation process and way of answering inquiries by customers. The Why-Why Diagram in Figure 3, created with the help of the Empathy map and the previous research, will be used to identify other possible reasons that may contribute to the main problem. Listing its sub-causes helps the hotel management achieve divergent thinking and come up with a feasible solution.
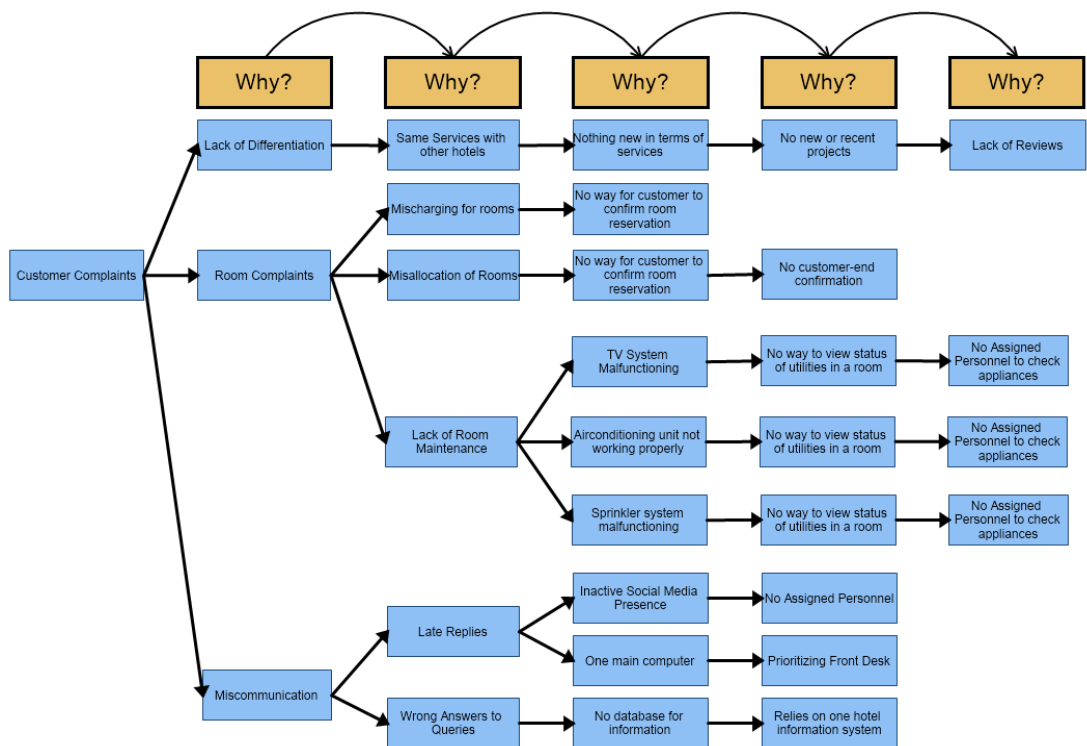

Figure 3. Why-Why Diagram

In this why-why diagram, it could be found that the significant sources of the customer complaints are verified as being: the lack of customer room reservation confirmation, a lack of source of reviews on the Hotel's part, no assigned personnel to check on appliances of rooms, the prioritization of the front desk, and the reliance of the Hotel on their single source of information which is their hotel management system (HMS). The lack of reviews could be mended by making a dedicated location for the customer's reviews for easy viewing of both the staff and potential customer's, the lack of room confirmation could be fixed through the creation of a verification system which could easily be automated through an email verification service bot. The lack of assigned personnel to check appliances could be countered by allowing customers to report problems easily; this system could be connected to the dedicated review system. The lack of assigned personnel to social media could be fixed by removing most human-input functions of

the social media and automating tasks that could be automated, allowing workers to focus on their main task, which is the front desk. Lastly, a new system that compiles all these functions would act as a new source of information system, thus negating the Hotel's problem of relying on one hotel information system.

5.2 Proposed Improvements

Based on the results of the mind map, empathy maps, and why-why diagram, the researchers could arise with website features they would want to implement on their proposed website. Table 1 shows the website features along with its description.

TABLE 1. Website Features

| Feature Name	Project Description
Online Booking	WCH focuses on site booking. Customers could inform them that they will book a room in advance so that the Hotel could prepare, but they do not book online. By adding an online booking option, reservations could be done more efficiently and reduce the chance of errors in the booking.
FAQ System	Programming an FAQ bot is also free of charge; the only investment needed is in the programming and the testing of the bot itself. However, the return of this small investment is significant: Aside from potential customers not having to wait for hotel staff to find answers to their questions, staff can now also focus on other tasks rather than provide more time towards social media.
Membership Program	The Hotel can provide members with benefits that non-members will not have access to by adopting a membership program. The Hotel's management will decide on these incentives, but guests will have greater motivation to stay at West Corner Hotel, reducing the threat that rival hotels will have against them.
Room Confirmation System	In addition to the booking system, a booking confirmation system would help reduce the errors in booking and transactions.
Cashless Payment	This investment will allow customers to have an easier way to make transactions with West Corner. This would also add a layer of incentive for customers to stay in the Hotel while also incentivizing potential customers to stay due to the easy transactions, among other benefits the Hotel offers.
Review and Feedback System	There is a lack of sources for reviews and feedback for the Hotel. This is true for both customers and the staff. This feature aims to create a specialized section of the website that would allow customers and staff to view both reviews and feedback of previous customers about their stay in the Hotel.
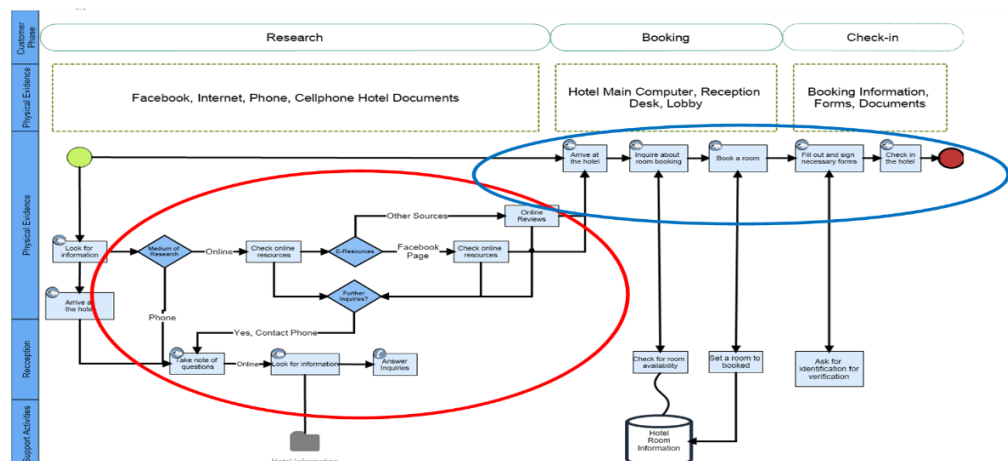
Figure 4. Current Business Process of West Corner Hotel

In Figure 4, a few pain points have been found. These pain points are as follows:

Pain Point 1: Since the Hotel doesn't have its own website aside from Facebook, this process is time-consuming for both customers and employees. Inquiring through a call to know the available rooms and dates might cause inconvenience for the customers who instantly need to know if there are some room vacancies.

Pain Point 2: This is also an inconvenience for the customers since the Hotel does not have a working website to fill out all the necessary forms. If a website is acquired, the customer's effort will be lessened to make the signing of records or documents more convenient and hassle-free.
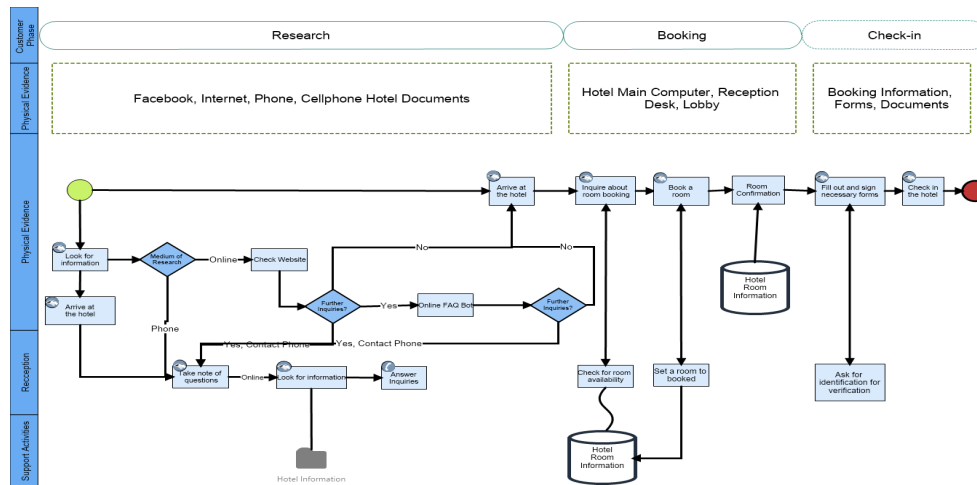
Figure 5. Proposed BPMN

The proposed system shown in Figure 5, would lead to a streamlined information gathering process on the end of the customers, thus allowing them to gain their answers without much hassle and as soon as they need it, significantly reducing waiting time for answers to be received. This is because all the information they would need would be prepared and collected in one location, namely the website. This would also include the ability for the customers to confirm what room they reserved through the website to make sure there are no errors during the booking and/or reservations.

A process chart seen in Figure 6 has been made based on the West Corner Hotel's flow chart. This method is a great help in identifying the problems of the hotels within their booking process. Several questions have been asked to comprehensively analyze whether a specific step is necessary for the output and whether it will contribute to the end user's satisfaction or customer.

Figure 6. Current Process Chart of West Corner Hotel

Shown in Figure 6, is the current processes of the West Corner Hotel, which contain 4 NVA's, namely steps 1, 3, 5, and 7. Most of these are waiting times that could be significantly reduced or entirely removed from the process flow. Process. 1, which is the operation of looking for online resources relating to the Hotel, could be entirely removed by having a dedicated source of information for the Hotel. This main source of information would also remove or reduce the need for potential customers to have to rely on external sources of information for finding details regarding WCH which is process 3. Process 5 and 6 could be significantly reduced and merged into one step by giving the most frequently asked questions in a specific location in the dedicated information source of the Hotel: By adding a FAQ section, most questions that are frequently asked will be removed from most customers' when they try to contact the Hotel's staff. This would also reduce the waiting time of the customers since the staff has to answer fewer questions from other customers online.

Process Chart										
Project:	West Corner Hotel	Process:	Hotel Research and Booking	State:	Proposed		Chart Type:	Man		
Step#	Activity Description	Time (Minutes)	Distance (Meters)	Operation	Transport	Inspection	Delay	Storage		VA.NVA
										Value Category
1	Viewing Hotel's info from WCH's media	15	0	X						VA
2	Contact Hotel for further inquiries	10	0	X						VA
3	Waiting Time for Hotel's response	20	0				X			NVA
4	Room Booking Reservation	10	3	X						VA
5	Room Booking Confirmation	30	0	X		x				VA
6	Room Booking	10	3	X						VA
7	Form Fill-up	15	3	X						VA
8	Check In Procedure	20	3	X						VA
			Count	8	0	1	1	0		
			Time per process step	110	0	10	15	0		

Total VA	4	Total NVA	4		
VA Time	110	NVA Time	20		
Distance Traveled:	12	Lead Time:	130	VS Ratio:	0.84615

Figure 7. Proposed Process Chart

The proposed process flow seen in Figure 7 removes most of the problems that were present in the current process flow; this could be viewed from the significantly higher VS Ratio of about 0.84 compared to the previous 0.17. This process merges the inquiries of the customers into one step and removes most of the need for viewing external resources to find information about the Hotel since the Hotel would now have its own source of collected information for the viewing of potential customers. A Room Booking Confirmation step was also added in the proposed system since the new system would send an email to the customer to confirm the customer's reserved booking.
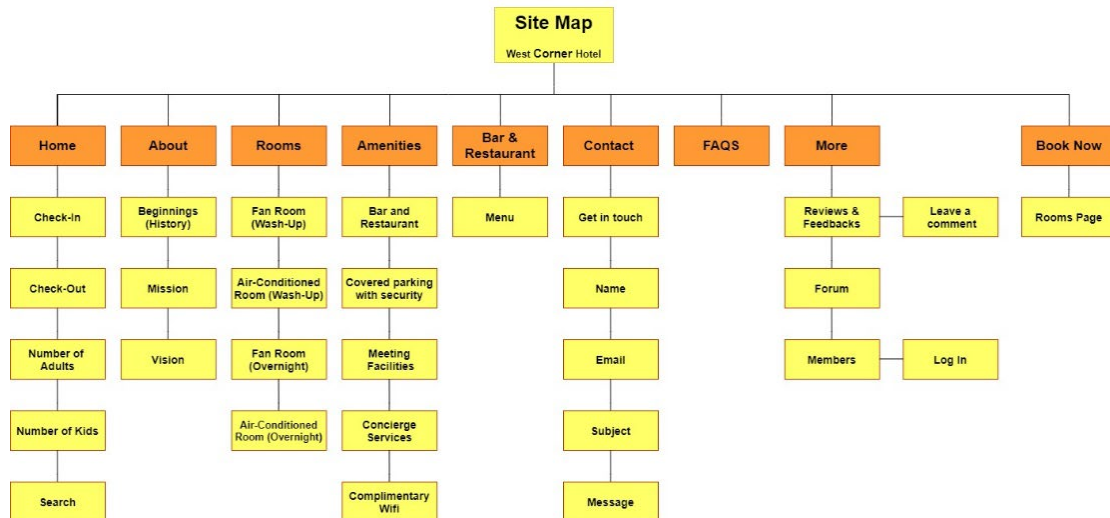
5.3 Validation

Figure 8. Site Map of the Proposed Website

The sitemap shown in Figue 8 is a roadmap of the website that helps the researchers identify, scroll, and index all of the site's information. Sitemaps also indicate which search engines are the most significant pages of the site.

The researchers created a realistic prototype for customer and employee users through Wix's cloud-based platform. The following wireframes are as follows:
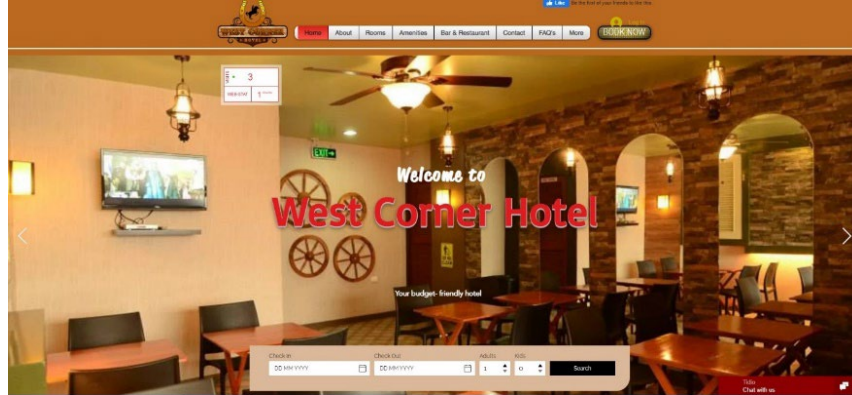

Figure 9. Home Page

Seen in Figure 9 is the main home page of the website. The customers can easily choose a date on when to check in and check out. Depending on the number of adults and kids, the customers will also see the most suitable rooms for them.
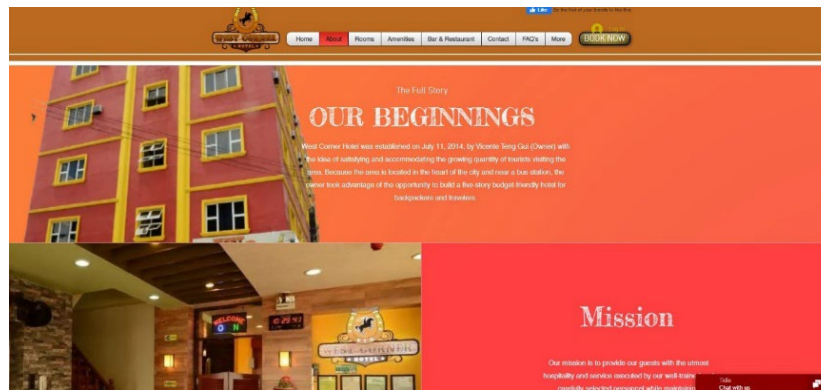
Figure 10. About Page

Figure 10 allows the customers to see the history of West Corner Hotel and the hotel's Mission and Vision.
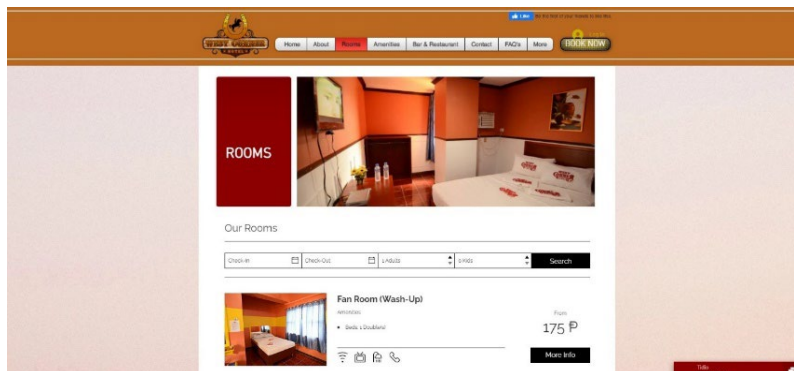

Figure 11. Rooms Page

Figure 11 shows the variety of rooms offered in the Hotel. This page will let the customers browse easily on the rooms. This will further give the customer an idea on the rooms' appearances, the amenities each room offers, and the rates of rooms.
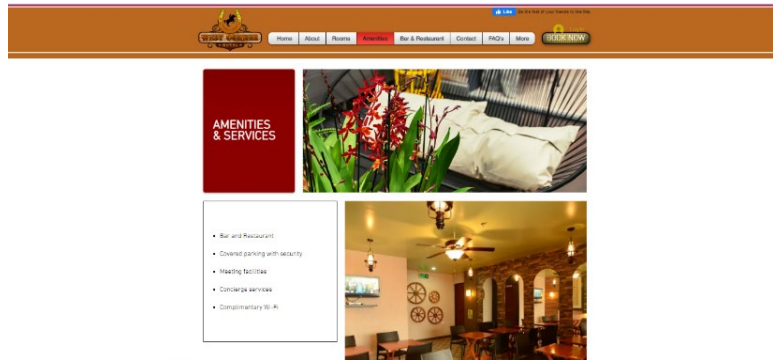
Figure 12. Amenities Page

As seen in Figure 12, this page allows customers to know what kind of amenities and services the Hotel offers to their guests.

Figure 13. Bar & Restaurant Page

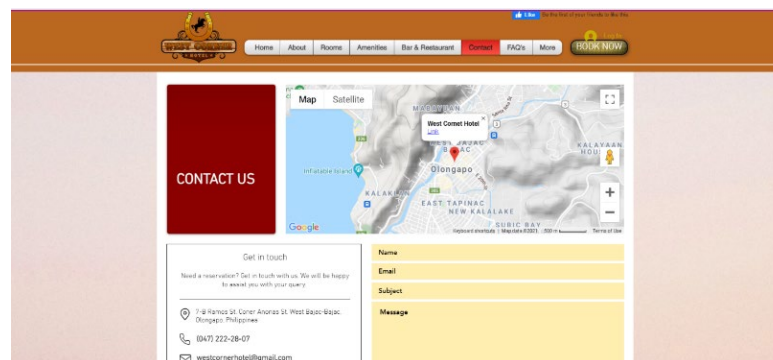Figure 13 provides the customers with what dishes and beverages the hotel offers.

Figure 14. Contact Page

Figure 14 allows the customers to quickly contact the hotel; hence, the customers' need to open their email won't be necessary anymore. On this page, a map, telephone number, and email address of the hotel is provided for customers' guidance.
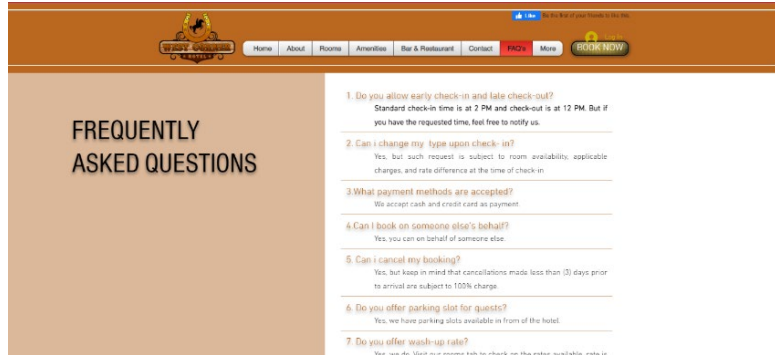
Figure 15. FAQs Page

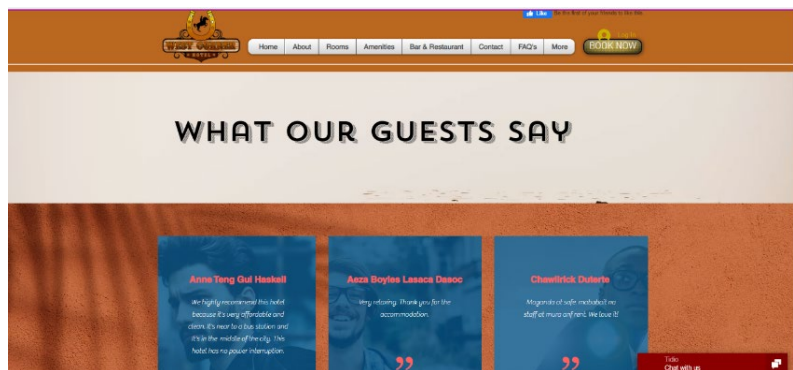Figure 15 provides a list of common questions people have asked about the hotel.

Figure 16. Review & Feedbacks Page

Figure 16 shows the reviews of the hotel's guests. These feedbacks were acquired through Facebook and Google reviews.
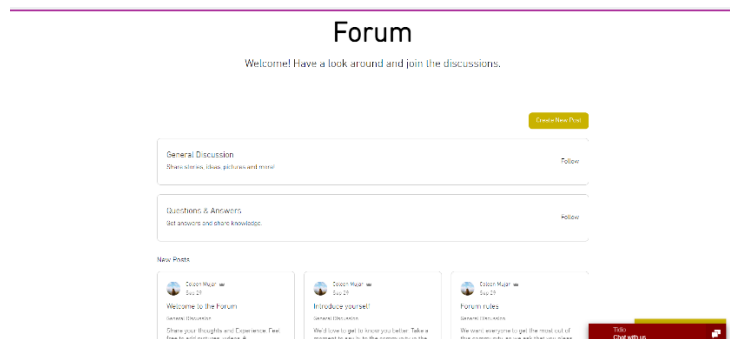

Figure 17. Forum Page

Seen in Figure 17 is the forum page of the website. The goal of the forum page is to bring together various groups from the same place to debate specific topics or express their views on the hotel.
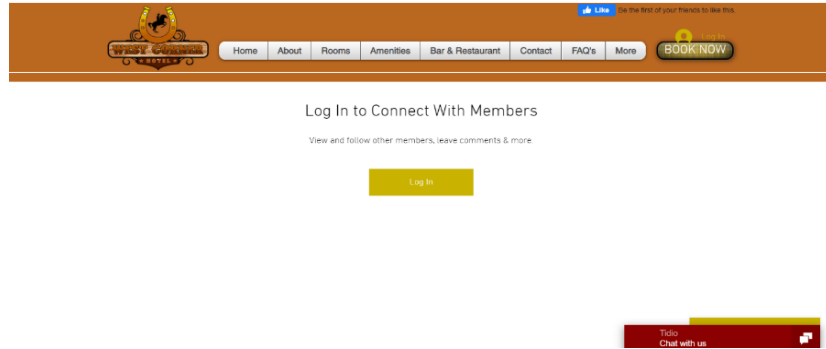
Figure 18. Log In and Sign Up (Members Page)

Seen in Figure 18, the page allows the members to log in and sign up to connect with other members. This also provides information about promos and discounts.
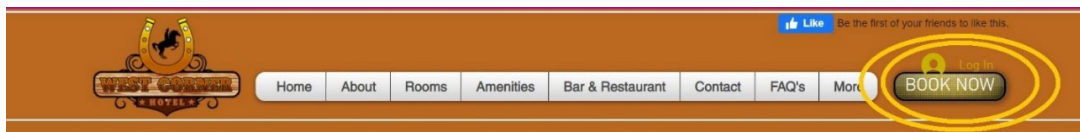

Figure 19. Book Now (Button)

Figure 19 emphasizes the book now button seen in the most right side of the website's site menu. This button will directly lead the customers to the 'Rooms page' where the customers can also input their check-in and check-out date and the number of adults and kids. In addition, the customers will also be able to see the types of rooms the Hotel offers.
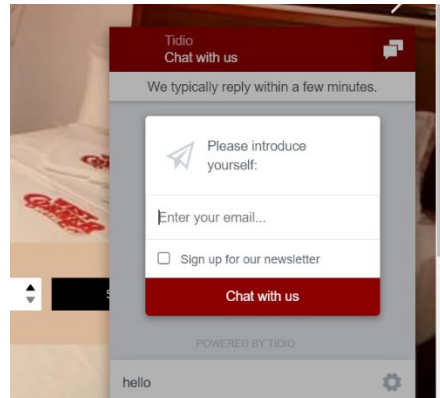

Figure 20. Chatbot

Figure 20 shows another option of contacting the Hotel. Aside from the contact page, the customer can also send queries through the chatbox. This is a programmed chat interface with which a website visitor may communicate.
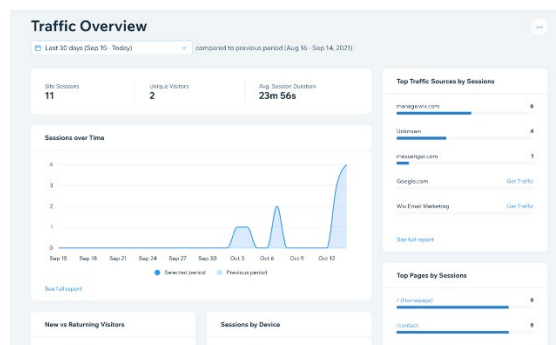

Figure 21. Traffic Overview Analytics

Figure 21 shows the traffic overview of West Corner Hotel's website. It indicates the following: what sites the customer is using to browse the website, the number of visitors per day, what tabs the customer usually checks, the device they use, the Unique visitors, the returning visitors, and how many minutes they stay on the page. These data will help the company analyze where most traffic came from and what type or demographics of customers they have. The results can also be used as material for future upgrades.
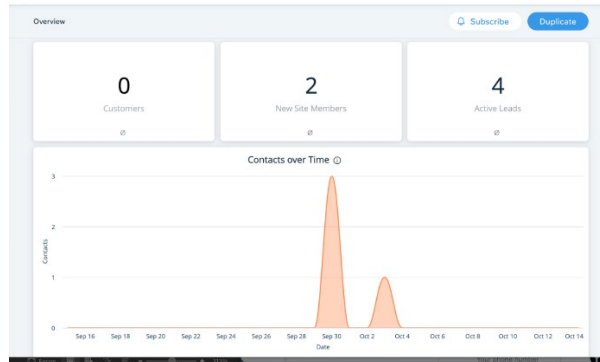

Figure 22. People Overview Analytics

Figure 22 shows the number of people visiting the website. It has a comparison graph on new customers vs. returning customers. The data gathered can analyze the customer retention rate and the type of customer usually spends. It is essential to understand the kind of customers a company has to help them improve their customer reach and to be able to formulate the correct promos that match the results.
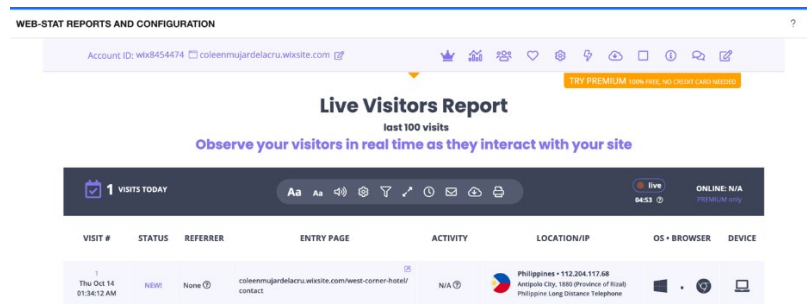

Figure 23. Live Visitors Analytics

Figure 23 shows the live visitors' report of the website. It has a date and time, the customer status, if new or returning one if the customer is referred, the activity of the customer, location, the browser, and device used.

6. Conclusion

The function of conventional distribution channels in accommodation is increasingly played by bookings through the internet, especially on hotel websites. E-commerce strategists underlined the necessity that hotels have reservation websites and that it is important to know how a website attracts and promotes online reservations. The website would lead to an efficient information collection procedure to enable customers to get answers without much difficulty, thereby decreasing the waiting time for responses to be sent as soon as they need them. The website would also allow customers to validate which room has been reserved to ensure no errors during the booking or reservations. In addition, it would also provide the customer with an efficient way of browsing through the Hotel's room rates, amenities, and services. The website features a contact page where the customers can quickly contact the Hotel. On this page, a map, telephone number, and email address of the Hotel are provided for the customers' guidance. The website also features a FAQs page where customers can see the list of common questions asked about the Hotel. The website has become more efficient as it can deal with the customers' particular queries regarding the Hotel. Aside from the FAQs page, the website also features the reviews and feedbacks of the customers that the Hotel has received over the years. Lastly, the creation of this website will act as the compilation of the features and requirements that were found through the initial analysis. This compilation of features paves the way to the increased efficiency of the business through most of the automated customer-end actions. This increase in efficiency can be seen through the proposed business process modeling notation that is presented.

The paper utilized the Business Process Re-engineering (BPR) methodology and some phases of the Design Thinking methodology to enhance the process and offer the foundation for supporting redesign decisions. The new business process of West Corner Hotel is better than the current process as it leads to a more efficient information collection procedure that enables customers to get answers without much difficulty. Thus, decreasing the waiting time for responses to be sent as soon as they need them. The new process also allows customers to validate which room has been reserved to ensure no errors during the booking or reservations. In addition, following the BPR methodology, cycle time and waiting time were reduced, resulting in faster and more efficient processing of the client's reservation. Unnecessary steps which are causing the delay were eliminated for the improvement of the process flow. The development of this website is intended to compile the features and needs identified in the first analysis. This collection of functions guides the way through most automated customer end measures for enhanced efficiency of the company. The features made the website a one-stop-shop where all the client's needs are presented, and confusion to the process will be avoided.

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Biography

Milstein Rei Cadorniga is a third-year undergraduate student at Mapua University in Makati, taking his Bachelor's Degree in Information Systems, specializing in Enterprise Data Management. Milstein completed his High School in Malayan High School of Science and completed Senior High School in Mapua University under the Science, Technology Engineering, and Mathematics (STEM) track. Milstein also joined robotics competitions in the past and won 2nd runner up in the sumobot category of the 4th Annual Philippine Robothon (October 24) held at De La Salle University Science and Technology Complex. He also earned certificates during his OJT in 2019 while training in SoFi, notably for Quality Assurance and was also able to attain certificates from several international courses he took in Coursera. Milstein also held the position of President of the Information Technologies Club during his 2nd year of Senior High School. Currently, he is the Head of Events for the Mapua Tabletop Gamers and the Design Division Head for Information Systems Next-Gen, both are Mapuan Organizations. After graduating, although he plans to continue studying, his main goal is to start a company with the learnings he gained, that helps aspiring inventors by investing into the development of various project related to technology.

Ashly Mariel Cruz is a third-year undergraduate student at Mapua University in Makati, taking her Bachelor's Degree in Information Systems, specializing in Enterprise Data Management. Ashly completed her High School and Senior High School at Saint Paul College Pasig. She took Robotics 1 & 2 as her elective subjects and took Science, Technology, Engineering, and Mathematics (STEM) as her track. During her first year in college, she was able to maintain a grade fit for the scholarship program Mapua University offers. She was also able to attain certificates from several international courses she took in Coursera. Ashly is currently a member of an organization named Information Systems Next-Gen. She believes that joining the said organization would improve her leadership and communication skills that will benefit her in the workplace.

Coleen Dela Cruz is a third-year undergraduate student at Mapua University in Makati. She shifted course in 2018, from being a B.S. Computer Engineering student and now taking up her Bachelor's degree in Informations Systems. She was able to acquire different certificates from international courses she took in Coursera. Coleen is also a co-

owner of a food stall named Takamyaki takoyaki which currently has two branches located in Mandaluyong City, in four months. She is happy with the decision she made to shift courses because she was able to apply the business processes she learned. She is also a member of BNI Philippines, one of the largest business communities that helps co-entrepreneurs reached their mission. She believes that joining this community will mold her communications skills and leadership to become a great business owner. After graduating, she plans to fully implement all the learnings that she will gain to take her business to the next level.

Grace Lorraine Intal is a full-time faculty member in Mapua University. She is teaching Information Systems core courses in the School of Information Technology and Information Systems course in the School of Industrial Engineering. She obtained a BS degree in Management and Industrial Engineering from Mapua University, Master in Business Administration from Pamantasan ng Lungsod ng Maynila and Master in Information Systems from Asia Pacific College respectively. At present, she is pursuing a Doctorate degree in Information Technology at the University of the Cordilleras. She is also an independent Management Consultant.