

Chapter 2

REVIEW OF RELATED SYSTEMS/STUDIES

This chapter focuses on various related studies and technical materials from different sources and researchers, both local and foreign, which are important in the project's progress and development. Throughout the study, different resources such as books, journals, articles, previous and current research papers, electronic writings (PDF, E-book, etc.), and other articles were used as references.

Technical Background

The usage of technologies is increasing rapidly every day. It could be useful in many areas, such as programmable machines assisting human processes and creating a set of codes for running applications to improve reliability, accuracy, and productivity.

000webhost

Zyro software is used by 000webhost as their website builder. With Zyro, users have access to a selection of hand-crafted, mobile-friendly templates that were created by qualified designers.

The standard landing pages and blog post templates are available, as well as unique layouts for business, e-commerce resumes, portfolios, and events. These templates can be altered completely. Zyro gives users access to a library of text, images, videos, and other content elements that they can drag and drop anywhere they want on the website.

Additionally, any individual element can be altered by the user. For instance, a text element's font, size, and color can all be changed with ease.

Additionally, Zyro offers a program called AI Writer that enables users to automate the content creation process and an image collection with over a million free photos.

The fact that users of 000webhost may run PHP and MySQL from a free account is one of its most outstanding advantages. A content management system (CMS) like WordPress, which is an excellent platform for users who don't have much tech background, can be used by the user as a result.

In this project, the proponents used 000webhost app to publish their web application to make it available to its target users.

Adobe Photoshop

It is the predominant photo editing and manipulation software on the market. Its applications range from producing elaborate digital paintings and sketches that look like they were done by hand to fully featured editing of massive batches of images.

Donald Matiri claims that creating wireframes with Photoshop is a common practice in web design. The best tool for designing website wireframes in Photoshop. A website wireframe is a condensed visual depiction of a web page that uses boxes and fine

black lines to indicate the locations of various elements. It typically has text but lacks color, design, or photographs.

In this project, the proponents used Adobe photoshop to edit icons, images, and the UI design of the web application.

Application Programming Interface (API)

Application programming interfaces (APIs) expose services or data provided by a software application through a set of predefined resources, such as methods, objects, or URIs. By using these resources, other applications can access the data or services without having to implement the underlying objects and procedures. APIs are central to many modern software architectures, as they provide high-level abstractions that facilitate programming tasks, support the design of distributed and modular software applications, and the reuse of code (Meng, 2018).

In this project, the proponents used an API to integrate other applications to their website. Example is the Google Map API to display the furniture shop location.

CSS

Cascading Style Sheets (CSS) is a widely-used language for defining the presentation of structured documents and user interfaces. Cascading Style Sheets (abbr. CSS) is a declarative, domain-specific language, used for defining the presentation of structured documents (e.g., HTML, SVG), as well as desktop and mobile application user

interfaces, across different presentation media. Indeed, CSS is extensively used by a large number of software developers (Tsantalis, 2017). CSS is used to design and layout web pages-like aligning text, changing font color, spacing the content, adding animations, and more. The syntax of CSS is very common and easy to understand.

In this Fireart Studio article, another eCommerce programming language that is worthwhile to take into account is CSS. Adjusting words, headlines, images, colors, and other web design components, allows you to design the appearance of your eCommerce website. It is especially helpful for creating the website's structure and layout.

In this project, the proponents used it as they need to attract users to use the web application. They will also use either of the three ways in utilizing this CSS to the HTML. Also, this language will serve as a tool in giving a good and presentable design for the user.

Figma

It is a powerful design tool that helps developers to create anything: websites, applications, logos, and much more.

According to Onesmus Mbaabu, Figma is a web design tool that web designers should pick since it is simple to use. It functions well in browsers; therefore, it is accessible on a variety of systems. It is also possible to access Figma using its desktop program, which offers practically all of the features included in its web-based counterpart. Files created with Figma are kept online. Users can access these files from

anywhere, according to this. Changes made by users to these files will automatically be stored. Reversing the changes is another choice. This tool makes project management simpler because all design projects may be kept in one location. It is simple to share the design files that have been stored in the cloud with other internet users. Additionally, you can interact with other designers using the same files (in real-time). This feature is intriguing since it enables the collaboration team to rapidly communicate data, concepts, and updates.

In this project, this application is used to create the User Interface design of the web application. This Figma application will help the proponents in terms of the flow of their project.

HTML

A website is a collection of related web pages, including multimedia content, typically identified with a common domain name, and published on at least one web server. The web page usually means what is visible, but the term may also refer to a computer file, usually written in HTML or a comparable markup language. Before building a website, an HTML foundation is needed. At its heart, HTML is a fairly simple language, although generating web pages using HTML is a time-consuming task (Chadha, 2018). HTML syntax is easy to understand and it is also the easiest language for creating web pages.

Web page development is one of the purposes of HTML, according to an EDUCBA article. Pages that are presented on the internet are frequently created using HTML. Each page has a specific collection of HTML tags on it, including hyperlinks that lead to other pages. Every page we see on the internet is created using some form of HTML code. Web document development is mostly governed by HTML, which expresses its fundamental ideas through tags and the document object model (DOM). To specify their format and location on the page, HTML tags are put before and after phrases. The title, head, and body are the three parts of a web document. The title and any other crucial keywords are included in the head, which contains the information needed to identify the document. The body area of the website is the major part that the viewer can see, and a title can be seen in the browser's bar. The three segments were all constructed and designed using HTML tags. Every section has a unique set of tags that are specifically rendered for that section, keeping the head, title, and body concepts together.

In this project, the proponents used this Mark-up Language to create the structure of the web application. With this language, the developer will be able to add buttons, text, images, inputs, and forms to the application using its different tags.

JavaScript

It is used by programmers across the world to create dynamic and interactive web content like applications and browsers. JavaScript is so popular that it's the most used

programming language in the world, used as a client-side programming language by 97.0% of all websites.

The standard web programming language is JavaScript. 97.6% of websites employ JavaScript, according to W3Techs. These are websites that were created with JavaScript. The well-known (or despised) search engine Google uses JavaScript on both its front end and back end. The most widely used video-sharing website in the world is YouTube, a Google subsidiary that was first established in 2005. The most widely used social networking platform in the world, Facebook, is created utilizing JavaScript and several other technologies. JavaScript, PHP, and other technologies are used in the construction of Wikipedia. JavaScript, Perl, and other languages are employed by Amazon, the world's largest online retailer. According to revenue, Amazon is the largest e-commerce site in the entire globe.

In this project, JavaScript is used to implement the functionality of every button and transition to make the user experience better. Some examples of the use of this language in the project are showing password and password validation.

MySQL

According to the predefined schema, SQL databases store data in a structurally organized network of connected tables. When storing and retrieving big dynamic datasets as required by applications, this approach proves to be a bottleneck. MongoDB meets all of the needs of commercial applications, which demand more effective and scalable

solutions. Additionally, SQL databases are transactional databases with atomic, consistent, isolated, and durable transactions.

MySQL is frequently used by PHP as their database application. Using the Relational Database Management System (RDBMS) MySQL, users can effectively store, search for, sort, and retrieve data. A renowned RDBMS that is both quick and reliable is MySQL. To give quick access to the data, the MySQL server makes sure that only authorized users can access it and that numerous users can work at once. SQL, the industry-standard database query language, is used by MySQL. To implement this system on the OPAC website, a search menu for theses and dissertations based on PHP will be created using MySQL as input.

Running alongside Apache Web Server on the XAMPP Control Panel is the MySQL Database. An HTML document is returned in response to page requests made using an HTTP or HTTPS web server. One of the web servers included in XAMPP and used in this investigation is Apache. Apache is renowned for its ease of use during setup and configuration.

In this project, the proponents used it to store all the data from the users and its admin. It is made up of different tables that will separate all the data and information from the web application. Examples of tables are tables for user, admin, product, messages, etc.

PHP (Hypertext Preprocessor)

PHP can be used to develop interactive and dynamic websites. One of the first server-side applications to be integrated into HTML, it made it simple to improve user experience on websites without requiring data to be accessed from separate files.

Worldwide, PHP is a generic server-side, scalable, and user-friendly language that is frequently used by web developers for e-commerce websites. One of the most well-known shopping platforms, Magento, is the most notable example of PHP being used in eCommerce development.

PHP is utilized because it's easy to comprehend and use: PHP's popularity is largely due to how simple it is to learn. With just one PHP file, the majority of people could create a website in a reasonable amount of time even without much web development knowledge or experience. It is free since it is open-source, which makes it simpler for developers because it can be quickly and easily obtained. Additionally, a large number of PHP frameworks, like Zend and Symfony, are free to use. This feature is popular with businesses since it makes it easier for them to keep track of their web development costs. The fact that PHP is platform-agnostic and compatible with the majority of web browsers as well as Mac OS, Windows, and Linux is one of its biggest benefits. It can be easily and inexpensively installed on a wide range of devices and platforms because it is compatible with all significant online servers.

The best PHP frameworks offer full-stack development services for innovative B2B, B2C, and B2B2C solutions, including custom websites and applications, business content management systems (WordPress, Drupal), and platforms for interactive experiences. In the competitive eCommerce market, small details like load time, fluid browsing, and memory management may make or break your customer experience. A skilled PHP development team can build feature-rich, high-performance web stores utilizing Magento or bespoke engineering for improved engagement and retention.

With one of the most varied web development ecosystems available, PHP offers countless opportunities for modernizing and enhancing dated goods and platforms.

In this project, the proponents used it to connect the web application to the database. It is also used for the email, password validation, alert and error messages to inform the user if there are errors to their login inputs.

Git

Git is used in eCommerce for its faster development times and modularity. Git is used by the top provider of eCommerce development services to work on several components at once (several features, bugs, etc.). Git "branches" address this development challenge and give developers the ability to roll back your project to the required state. Git is ideal for experimentation and testing. Git facilitates testing fresh features that developers want to add without changing the existing version of the client's online shop. Simply said, it gives programmers a space to experiment and create

brand-new features for the company. Git additionally enables the establishment of numerous branches that take various approaches to a certain issue. Choose the best choice for your eCommerce project after testing each one using your master branch (the most recent version of your project). Git for e-commerce can also be used for quick troubleshooting. An internet firm might lose a fortune with just one error. Git, fortunately, enables engineers to immediately address every problem. Git allows developers to quickly address any potential issues, so they don't have to worry about breaking anything on the website. Git's "commit" feature keeps track of changes made by developers to a project's source code. It enables developers to have a good understanding of chemical alterations. All changes to the source code will be made public by the version control system. Finding the differences between commits or comparing two versions of the same file might be helpful. If the project's development team needs to be changed, this feature makes the process easier. Data Integrity is the final benefit. Git users have a complete copy of the project on their computer, complete with all the modifications they have made since the project's inception.

In this project, the proponents used this Git along with GitHub and GitHub Desktop to back-up their codes and for the version control of their project. With the help of this git and its command it is easy for the proponents to collaborate and see the progress of the project development.

Related Studies (Foreign)

Advances in Internet technology have made it possible for businesses to offer goods directly to customers through e-commerce platforms, which has increased sales, according to e-commerce literature (Fan et al., 2020). (Lee et al., 2018). However, when purchasing things online, consumers cannot physically inspect them, which creates product uncertainty (Song et al., 2020). Additionally, according to the literature, online customer information is gathered and tracked for data-driven marketing initiatives but is not effectively protected (Bandara et al., 2020). For instance, it has been discovered that security risk, such as the loss of personal information, harm online transactions (Hubert et al., 2017). This is significant since modern e-commerce platforms provide a wide range of online goods and services, including high-tech gadgets, food, health and beauty items, fashion, sports, and travel, along with a significant number of financial transactions. Customers must disclose their personal and bank account information while using e-commerce platforms to purchase a hotel room or aircraft ticket with online payments. If this information is not safeguarded from leakage and fault behaviors, customers may be exposed to risks and dangers (Hubert et al., 2017). According to UGT, consumers are more likely to submit positive reviews of goods and services if they feel that online transactions are secure. In light of this, internet security measures are essential for personal and transactional data (Liao and Shi, 2017).

(Ilamsyah, Angelica Robertz, Radifa Rahma Fitriani, 2019) state that the purchasing and selling process is frequently observed in daily life, starting with dealers who sell items to

consumers who purchase them. A facility at Raharja University by the name of Raharja Internet Cafe (RIC) offers students print, scan, and volume document services. Additionally, there are supplies for students available there, including the installation of a newly acquired iPad and the ability to buy iPad accessories. However, the issue at hand right now is that the procedure for purchasing goods that you want to buy is still traditional; students must go to the RIC and order the necessities they need, like print or scan, and other students must also wait in line when they want to get their necessities. Due to the extensive usage of technology at Raharja University, this was perceived as being inefficient. Raharja Internet Cafe created a product ordering mechanism to address this (RIC). Observation and literature review were the methods utilized in this study to gather data and create flowcharts for the system design. Due to the establishment of the ordering system on the RIC website, students are no longer required to wait in lines to place their orders for necessities. Instead, they may place their orders online, making the buying and selling process more convenient and effective.

Ever because of the creation of the net, the arena has by no means been so near our fingertips. Within the attainment of a click, we can find, locate, and buy items and offerings from all over the international. The sizable use of records and verbal exchange technology has introduced new demanding situations to trade. More and more, bodily trade venues are being changed with the aid of using virtual. This moving state of affairs brought about dominance (Costa, J.; Castro, R.,2021).

According to Tan and Toe, groups also are willing to undertake the net and produce vast records to get admission to clients to be able to hold close to a better marketplace attained thru net presence. Hence, EC may be taken into consideration as a ground-breaking framework to enhance worldwide competitiveness and sell company scaling (Manag, Sci. Lett, 2020). Moreover, it may assist groups to bridge the space to customers, saving time and fees and for this reason elevating profits (Saridakis, G.; Idris, B.Hansen, J.M.; Dana., 2019). Consequently, EC has growingly emerged as a conventional market for groups; virtual structures offer unparalleled opportunities, decreased constant fees, better aggressive benefits, broader product placement, and enlarged capability markets. The literature frequently describes SMEs as being revolutionary and entrepreneurial with a splendid experience of survival (De Massis, A; Audrets, D.; Uhlaner, L. Kammerlande, N., 2018). Nonetheless, in addition, they have embedded a high-threat aversion and restrained get admission to capital sources which has been related to decreased stages of EC adoption. The boundaries to EC adoption amongst SMEs may be damaged down into principal vectors: inner elements and outside elements. The first is deeply related to the lack of expertise and virtual literacy amongst proprietors and executives closer to technological implementation, categorized withinside the literature as consciousness. Managerial enjoyment of the proprietors/managers is related to the diploma of EC adoption, as observed withinside the observation of Chuang et al. Thus, it's miles anticipated that corporations with better a diploma of technological enjoyment may have a better stage of EC adoption. Nonetheless, in step with Wojkowski

and Hardesty, managers/proprietors need to have the know-how of the brand-new technology.

The shift from conventional trade venues closer to virtual ones represents a crucial assignment for SMEs because the virtual surroundings have fiercer opposition because of its globalized nature, which makes it an extra competitive putting as compared to the traditional counterpoint. Consequently, the reluctance of SMEs to take this assignment can lead them to withstand being online (Costa, J.; Castro, R.,2021).

Technology permits ever-nearer dating among clients and organizations, bearing in mind extra green delivery chains, fee reduction, and mobility. In latest years, worldwide markets have witnessed a paradigm shift with the creation of virtual technology, placing groups, industries, and customers in sudden settings. Thus, to live on and stay aggressive, groups want to readjust their techniques to fulfill the brand-new call for virtual marketplaces. While a few researchers regard the adoption of virtual structures as a part of the innovative techniques, given the prevailing context, evidently this leap forward is an essential detail closer to SME resilience and survivability withinside the destiny (Costa, J.; Castro, R.,2021).

Consumers who had been unacquainted with online buying have emerged as extra acquainted with the enjoyment as time evolves, mainly to the introduction of recent enterprise fashions which have emerged with the growing reputation of virtual structures on this new financial transformation. The year 2020 has emerged as a turning factor

withinside the international economy; the COVID-19 pandemic has ignited amongst customers and companies the use of EC on a day-by-day basis, main to a sluggish substitute of conventional enterprise fashions (Costa, J.; Castro, R.,2021).

The present article pursuits, on the only hand, to research the country of the artwork of literature evidencing the techniques followed with the aid of using SME managers and proprietors of their pursuit of EC and, on the opposite hand, primarily based totally on the proof of beyond research, to speak about the desirability of its adoption. Furthermore, in a virtual era, this shift will generate aggressive benefits and cause them to live applicable, constituting a hatch for their survivability. Finally, the object proposes a few hints for pursuing and embracing virtual marketplaces (and extra in particular EC). It turns obvious that managerial consciousness, technological readiness, monetary struggles, and enterprise environments are critical determinants for the virtual transition amongst those companies, which may be similarly bolstered with the intervention of the general public authorities (Costa, J.; Castro, R.,2021).

At present, SMEs are going through extremely demanding situations amidst the post-pandemic aftermath. These establishments are extra susceptible to disaster shocks because of their aid constraints and are eight percent more likely to close down their operation in the assessment of large corporations. A key premise for SMEs in a post-pandemic state of affairs lies in whether or not those companies can adapt and undertake new enterprise fashions. SMEs need to embody their middle new virtual technology to be able to carry to them the desired aggressive benefits to live applicable

on this paradigm shift. Nonetheless, the low monetary capability of SMEs and the shortage of virtual consciousness may be crucial determinants of this adoption. As such, we argue that public tasks and coverage measures may be critical sources in guiding them in this new financial revolution (Ikmal, A.; et al.).

According to the study about The Digital Transformation of SMEs, as present withinside the cutting-edge OECD report, policymakers need to make certain that SMEs can get admission to middle virtual gear on this virtual transition with the aid of using putting in place a supportive long-time period strategic framework, growing governance preparations in rising coverage areas, and putting advisory and consultative corporations at countrywide and subnational stages.

The unparalleled wave of EC customers has led companies to achieve the rewards of shifting their approach to online structures. EC has emerged as an increased detail now no longer best for shops however for the worldwide economy; embracing those new virtual frameworks can assist SMEs to develop withinside the destiny with the aid of using similarly connecting them to their audiences (Montenegro, L. et al 2021).

SMEs are not able to redecorate their transition to virtual trade. The authors observed that those establishments are at risk of undertaking virtual trade to a lesser diploma which includes the net presence and use of an internet site (Costa, J.; Castro, R.,2021).

According to David T. Damery, there are many E-trade schooling and extension desires for the wooded area merchandise enterprise. The extension group of workers is confronted with a wide array of problems whilst serving the wooded area merchandise enterprise because of the various special styles of groups it has. Because of the range of enterprise types, schooling desires range extensively throughout the wooded area merchandise enterprise.

Small enterprise consulting and entrepreneurial schooling are commonly conscious of the improvement of a marketing strategy. The wide additives of a marketing strategy consist of operational, marketing, and financial factors. E-trade can assist enterprise desires in every one of those areas. Studies of schooling desires for the wooded area merchandise enterprise are reviewed and net programs which could assist marketing, operational, and finance enterprise features are discussed. In addition, the e-trade schooling desires of small groups withinside the primary, secondary, wholesale, and retail channels are addressed.

According to Elizabeth Emperatriz Garcia-Salirrosas, the observation proposes to create and examine the validity and reliability of a scale that lets us to degree the usability of net pages for digital trade known as USAWEB (net usability), the referred scale consists of 10 objects which makes it an easy-to-follow device. The pilot check consisted of 422 contributors who made purchases online. The objects had been formulated after having performed an exhaustive evaluation of the literature to later be evaluated with the aid of using professionals who assured the content material of the construct. Exploratory

and confirmatory component analyses had been carried out to assess the proposed version, and the effects discovered a one-dimensional scale with an awesome match of the version that met all of the CMIN, DF, CMIN/DF, CFI, SRMR, RMSEA, and PClose signs satisfactorily. In this manner, this scale lets the authors offer the medical and enterprise network a dependable device to be carried out in destiny studies that seek to determine the extent of usability of net pages meant for digital trade.

The Content Management System (CMS) and e-trade structures are internet site or e-trade software program structures that might be famous for their flexibility and simplicity of use. However, the usability of an internet site is one of the most crucial great elements that aren't effortlessly measured because it relies upon numerous different elements which might be tough to a degree. Therefore, this paper pursuits to offer a result on which of the as compared CMSs is the most pleasant for helping with usability problems and layout standards for an internet site developer. This paper compares numerous CMSs for e-trade websites and lists a number of their capabilities that can assist with usability problems and the layout idea of an e-trade internet site. The usability precept used in this study is the E-trade Total Quality Management framework (E-TQMF). For this purpose, we pick out the most famous e-trade CMS; specifically, Shopify, OpenCart, Magento, and WooCommerce. While a hard and fast web site design factor is used whilst comparing the layout idea. The result acquired from this study is the CMS capabilities which could assist in helping usability problems and layout standards (E. N. Abdullah, S. Ahmad, M. Ismail, and N. M. Diah, 2021).

Online buying is turning into an increasing number of not unusual places in our day-by-day lives. Understanding customers' hobbies and conduct are important to evolving e-trade Websites to clients' requirements. The records approximately customers' conduct is saved withinside the Web server logs.

The evaluation of such records has targeted making use of statistics mining strategies, wherein an instead static characterization is used to version customers' conduct, and the collection of the movements accomplished with the aid of using them isn't normally taken into consideration. Therefore, incorporating a view of the system observed with the aid of using customers throughout a consultation may be a splendid hobby to become aware of extra complicated behavioral styles. To cope with this issue, this paper proposes a linear-temporal common sense version checking technique for the evaluation of dependent e-trade Web logs. By defining a not unusual place manner of mapping log data in step with the e-trade structure, Web logs may be effortlessly transformed into occasion logs wherein the conduct of customers is captured. Then, special predefined queries may be accomplished to become aware of special behavioral styles that do not forget the special movements accomplished with the aid of using a person throughout a consultation. Finally, the usefulness of the proposed technique has been studied with the aid of making use of it in an actual case observation of a Spanish e-trade Web page. The effects have diagnosed thrilling findings which have made it viable to endorse a few upgrades withinside the Web page layout to grow its efficiency. In today's ever-related international, the manner humans store has changed. People are

shopping for an increasing number over the Internet in place of conventional buying (S. Hernández, P. Álvarez, J. Fabra, and J. Ezpeleta, 2017).

E-commerce presents clients with the possibility of surfing infinite product catalogs, examining prices, being constantly informed, creating a Wishlist, and experiencing a higher career primarily based totally on their hobbies. Data mining strategies were favored for the evaluation of e-trade websites. Nevertheless, today's statistics mining strategies and gear have a few constraints from the evaluation factor of view. On the only hand, they do now no longer paintings in an immediate manner with the sequences of events (the click-move and all of the statistics related to every click) generated throughout the person's navigation thru the internet site, however with an abstraction of such collection, a type of worldwide photo that ignores causality relations. Such abstraction describes what came about throughout the consultation of a consumer by way of hard and fast summarized statistics, which include the quantity of visited net pages, the frequency with which every product class becomes visited, or the time clients spend on an internet web page or class, for instance (S. Hernández, P. Álvarez, J. Fabra, and J. Ezpeleta, 2017).

E-commerce is the destiny of the groups of 21st Century. An especially new annoying place for researchers and executives is the implementation of great control exercises in E-trade Applications. For comparing the greatness of the E-trade application, an E-trade Total Quality Management framework (E-TQMF) is proposed which takes into attention the great issue each from the consumer's and great expert's perspective.

Using hierarchical dating; the important thing is to measure great metrics, great attributes, and sub-attributes from the person's and great expert's views. This hierarchical tree-dating is applied in methods, specifically the bottom-up technique is used for measuring the general greatness of the device while the top-down technique lets the managers drill down and become aware of susceptible great attributes ensuing in great prognosis and great improvement.

The impact of lean manufacturing in the furniture industry is not promising. There is evidence that none of the respondent wood and furniture companies in China have implemented lean practices (Huo et al., 2019). Forestry companies (Finnish SMEs) were at a very early stage of development and perhaps not mature enough in terms of corporate thinking (D'Amato et al., 2018). However, LM is a new manufacturing paradigm, especially for the furniture industry in Malaysia. This condition raises a fundamental question: "What are the benefits of adopting lean manufacturing?" Not many theoretical and methodological studies are conducted in developing markets. The lack of research on the recognition of barriers and challenges in SMEs, particularly, in the wood and furniture companies, is indeed apparent, due to the fact research on the above mentioned matter still be considered limited. To complement and support the narrow body of knowledge on the under-researched scope, this paper contributes to the prevailing lean implementation literature by revealing the current shortfalls of lean implementation in terms of motives, barriers, challenges, and applications. More specifically, this study is undertaken to clarify the aforementioned questions, which were fundamentally formulated to propagate

the research purpose (F. Abu, H. Gholami, M. Z.M. Saman, N. Zakuan, D. Streimikiene, 2019).

The global COVID-19 epidemic significantly affected modern furniture marketing platforms that are focused on furniture shows, retail malls, and galleries. There was a study conducted to evaluate the extent to which digital marketing tools were adopted by furniture manufacturers in Malaysia. The effectiveness of digital marketing tools was assessed as an alternative furniture marketing medium using a questionnaire distributed to various furniture suppliers. In that study, the results of the questionnaire indicated that the onset of the COVID-19 pandemic accelerated the adoption of digital marketing among furniture manufacturers of all sizes. Larger manufacturers had the financial means to make greater investments into digital marketing to utilize it compared to small and medium-sized enterprises (SMEs). Digital marketing by website, email and social media was the most common medium used by furniture manufacturers. The most popular social media channels among furniture producers are Facebook, Twitter, and Instagram. Although some furniture manufacturers were familiar with digital marketing, many did not use it effectively due to the lack of skilled manpower capable of managing such digital marketing tools. Limited financial capital, especially among SMEs, has also made it difficult to adopt digital marketing (Ratnasingam, Jegatheswaran, et al., 2021).

According to Yi, M., et. Al, (2021), technological development and social improvement make humans' customized calls for services and products more and more prominent. Against one this backdrop, product customization gadgets are bringing extra

income and aggressive benefits to establishments and step by step turning into their center competitiveness. At the start of the twenty-first century, customers were no longer eager for mass customization. However, with the boom in shopping strength of millennials and Gen Z customers, those who are interested in expressing individuality via merchandise and have a tendency to expose their everyday existence on social media start to pay superb interest to online customization. It has to turn out to be an unusual exercise for plenty of establishments to fabricate merchandise exactly in keeping with the precise necessities of customers. Mass customization has introduced those establishments with extra income and aggressive benefits, or even turned out to be the center of competitiveness of a few establishments. Online customization is famous amongst younger humans due to the fact they connect superb significance to aesthetic elements of merchandise and need purposeful functions and personalities exceptional from industrially produced merchandise via customization. Organic mixture with a cellular virtual terminal is turning into a fashion of customized customization (Kim, J.; Bhaduri, G., 2019).

Arrighi et al. explored a web custom-designed VR layout device for consumer participation, which allowed customers to adjust a product prototype immediately on a three-D view while not having to prototype the product at an early level of layout, consequently selling collaboration among customers and designers. Bachvarov (Bachvarov, A.; Georgiev, S.; Maleshkov, S., 2017) found out that Sensors 2021, 21, 2428 four of 21 customers participated in product customization via HMD. In digital

surroundings, the customers can observe, move, and extrude the properties (which include color, shape, label, etc.) of the goods in any direction. A gain of one of these customization modes is that the actual surroundings to be used for the goods can be simulated. What wishes to be solved is that a few customers uncovered to the digital surroundings for the long term may also get headaches, nausea, fatigue, etc. In addition, the decision on headsets may additionally affect the customers' customization experience.

For customized customization, some other fashion is to the consciousness of having an effect on customers' character traits during the customization process. For example, Schlager et al. studied whether or not customers in exceptional nations could be prompted with the aid of using others in customized customization or now no longer, and the consequences confirmed that customers from a rustic with a holistic wondering style (Japan) are extra receptive to guidelines than customers from a rustic with an analytical wondering style (Germany). Deselect et al. referred to bodily features of the aged and their unique necessities for personalization of shoe merchandise Sandrin et al. studied the net customization structures for motors and laptops, and proposed techniques to beautify the customers' strong point and self-expression within the belief of customization structures. Kang and Lee explored how customization behaviors can beautify the customers' sense of self-efficacy and talked about how gadget builders may also offer well-designed customization features inside the interface to sell the customers' self-belief in customization tasks. Inconsistency among the customers' intents and the layout proposals is simple to arise for it is far too tough for the customers to correctly specify

their non-public preferences. Zhou and He used the bushy hierarchical version to discover and classify consumer needs and evolved an applicable significance version, with the aid of using which the type consequences for consumer needs can be higher judged, consequently improving the performance of purchaser customization. It needs to be mentioned that in keeping with Godek and Eveland, in a few cases, customized customization will neither permit customers to attain an excessive degree of desire matching nor boost their cognitive capacity of selection control. In contrast, whilst options are presented in a shape apart from customization, the customers may also see a greater diversity of merchandise. This look has enlightened us that during a web show if merchandise is provided in keeping with their attributes, the customers may also underestimate the kinds of merchandise that the organization can provide even though they're extra handy and prepared visually, for plenty of customers select online shops with considerable species, even supposing the charges are better than that during different shops.

E-Commerce customization has drawn a lot of interest because it promises to improve brand performance and maintain customer loyalty by utilizing mass production and customer co-design to ensure that unique customer needs are satisfied at reasonable rates during the online shopping experience (Yan, Y., Gupta, S., Schoefer, K. et al., 2020)

Related Studies (Local)

As log's economic worth raises, diversifies the goods that may be made from it, and creates more jobs and revenue for the communities involved, wood processing is a significant downstream activity in the Philippines' forestry industry. Although the wood processing industry makes significant economic contributions, it has been in decline for some now. This study focused on the value chain of the wood processing sector, the key concerns and issues it is facing, and the suggested actions to deal with the issues and issues. The study showed that, among other things, a variety of technical, financial, economic, marketing, environmental, institutional, and research-related concerns and problems limit the wood processing business. These were each given a specific guideline to address. In terms of research, the study specifically recommended that pertinent government agencies gather more thorough and comprehensive data and information on the wood processing sector and conduct pertinent studies, not only on the entire processing sector but also on particular wood processing activities (Israel, Danilo C; Bunao, David Feliks M., 2017).

Small businesses around the country are being encouraged and helped by the Department of Science and Technology's Small Enterprise Technology Upgrading Program (DOST-SETUP), which is a strategy to help them adopt technology advancements to better their operations, services, and goods. Wood processing businesses can create their technologies through intensive research and development to make wood products that are more affordable yet of higher quality, either individually or in

collaboration with their wood processing associations and relevant government authorities (R&D). The limitation of the supply of raw resources can be lessened by using alternative locally produced materials.

The government and the private sector both place a strong emphasis on promoting micro, small, and medium-sized businesses in rural areas. The focus on the cottage and small enterprises is based on their enormous potential to successfully contribute to the pursuit and achievement of three main national objectives: a) employment generation, b) accelerating rural areas' industrial growth, and c) raising living standards. Such a change focuses on one of the possible businesses, the furniture industry, and its contributions to promoting industrial growth in rural areas. Given the number of businesses in the area and the number of workers employed, the furniture sector serves as an excellent illustration of a "resource-based industry" and the most common manufacturing activity. Entrepreneurship growth in the micro- and cottage industries can be encouraged to encourage productivity and revenue production among the local population as part of efforts to reduce poverty. The government recognized the important role of small industry in the country and gave priority to its development, especially in rural areas, to achieve balanced socio-economic development for all, and medium industry is its "big anchor". effective capacity to seek and achieve three national priority goals: the creation of jobs, rapid industrial development of rural areas, and wider participation of all income groups in economic development.

According to Faye Beatrice S. Fandialan, Joseph Emmanuel B. Milan, and Ma. Leonora V. Alusen, 2019, when it comes to purchasing a product, Filipinos are known for being careful. They consider security, speed of transaction, ease of payment, price and value, return or exchange policies, the website, reputation, online feedback and reviews, excellent customer service, and inexpensive delivery costs. Online shopping is popular among Filipinos because of its convenience and accessibility. Both product and service marketing are important since they both can be direct in offering proof and specific information and features about the products and services a company offers (Leonard, 2018). More good customer satisfaction and positive customer experiences result from service marketing. This also leads to a positive consumer relationship and online store reputation. When a customer is pleased with a business service, their likelihood of purchasing increases.

Based on the IOP Conference Series: Materials Science and Engineering, a Web-based ordering system is a medium for ordering products through the web by customers so that it is easier to place an order. Nowadays the competition in the food store business has increased with the advancement in food ordering systems using web-based. That statement was supported by K. Kamarudin et al explaining that using a web-based ordering system was the first step to eliminating the development of a web-based ordering process. In previous research, Lorenzo et al argue that the ordering system is the one of success factors related to online food stores because customers enable the web and perform orders without coming to the store. As well Shweta stated

that using a web-based ordering system can provide useful information for customers to place orders online on the web. Instead of using the web, Hashim prefers to develop an ordering system via Bluetooth. Based on that, the development of a web-based ordering system was carried out. Varsha explains that everyone can order their food via the internet so we must build a system that will allow customers to the web and place their orders. A food store ordering system based on the web also has some advantages and it can be an ideal solution for improving efficiency and service quality to customers by the owner store. Web-based ordering system is the best solution for customers to perform orders, especially through the food store web. Internet utilization has become the trend for small businesses in the era of globalization; therefore, web-based utilization will be the main part of development in advancing small businesses.

People use wood because it is the oldest renewable natural resource and the greenest ecological material. Due to the widespread support for environmental conservation in modern society, it is the most well-known natural material that exists and plays one of the most significant roles in the development of human society. Due to its ease of usage and accessibility to resources, it is largely used to make furniture. Wood in contemporary homes helps make the interior design more environmentally friendly, resource-efficient, conducive to sustainable development, and less polluting.

According to Rene D. Estember and Katrina Mae B. Procopio, all Business Consumer (B2C) e-commerce, especially group buying platforms, must consider the significance of webpage style. Industry research revealed that due to their online stores'

poor usability and flawed designs, e-commerce enterprises are seeing low returns on their investments (ROI). There are three main challenges related to human-computer interaction, of which two are as follows: Web Usability and Interface Design, concerns that affect purchase decisions. The emphasis was placed on websites for group purchases across several e-commerce sectors. In the Philippines, this is still in the promising stage. The lack of benefits associated with using e-commerce, insufficient financial resources, a lack of experience and technical capabilities, and fear of losing their privacy are some of the roadblocks to its adoption. The presence of enabling policies and infrastructure that will allow for widespread internet use by SMEs is recommended, as well as proactive awareness campaigns to increase the flow of information to small businesses about the advantages of electronic commerce. Other recommendations include the availability of training and skill development programs to inspire entrepreneurs. All of these are required to give our SMEs the ability to transition to the "new" economic era and platform.

According to Michaella Alyssa T. Aquino, et al., e-commerce refers to the practice of carrying out business transactions over the Internet, such as the purchase, sale, transfer, or exchange of goods and services (Chai, Holak, & Cole, 2021). E-commerce improves companies and society by making the exchange and delivery of information, goods, and services simple and convenient. It also makes it easier to reach domestic and international markets and allows for the more effective use of resources. The value of the

business-to-consumer (B2C) market in the Philippines increased from 2016 to 2022 at a compound annual growth rate of 17.2%, from \$1.1 billion to \$2.6 billion.

The COVID-19 global pandemic reduced access to conventional means of making purchases and opened the door for digital channels. This forced customers to change their behavior and turn to other means of getting the things they needed daily, which increased online consumer activity.

It is not surprising that e-commerce pharmacies should work to create a website with superior end-to-end service and the best presentation of the interface for their potential clients in the current generation, where technology is used in virtually all aspects.

According to Mary Grace O. Maala, et. al., e-commerce in today's generation enables people to purchase their necessities and wishes without expending excessive effort. Dealings and transactions can be successfully carried out online thanks to e-commerce, which eliminates the necessity for in-person interactions. Online purchases are made possible by merely accessing or perusing the internet. Online shopping is increasingly popular these days, especially in the Philippines, thanks to the fact that e-commerce has developed in several ways. The internet is thought to be an excellent area for stores because it can reach all various types of individuals from all over the world and is widely accessible. With choices like cash-on-delivery (COD), meet-up with

the seller, mobile transfer, credit and debit cards, or bank deposits, e-commerce has made it simpler for individuals to buy their necessities and wants.

One of the most well-known online retailer websites today is Lazada. This research is necessary to understand the e-commerce communication channels that might influence consumers' purchasing decisions. Lazada will be able to determine through this which of their communication tactics is efficient in attracting a larger variety of online shoppers. However, several academics have already researched consumers' purchasing decisions and the elements that affect them concerning e-commerce. E-commerce and its effects on each individual have also been examined by academics from a variety of nations, including the United States of America, India, China, Malaysia, Taiwan, and others. However, in contrast to other research with broad scopes, this study concentrated primarily on e-commerce communication tools, specifically in the case of Lazada Philippines. The researchers wanted to identify the communication channels that encouraged users to browse and buy on Lazada. Through the Lazada mobile application, users may buy anything they want whenever and wherever they want with just a few clicks.

In several Asian nations, mobile e-commerce is starting to take over the online retail industry. In reality, the Philippines is one of the e-commerce sectors in Asia that is growing the fastest, and it is anticipated that it would skip mass desktop adoption before mobile devices, making it one of the region's most significant m-trade nations (Yatprom, 2020). In 2021, the country's e-commerce retail value sales increased by 48% to PHP 210

billion, according to Euromonitor (2022). Additionally, it is constantly growing as a result of the COVID-19 epidemic in 2020, with many shops concentrating on streamlining the purchasing process with convenient payment options and specialized app offers. According to the data, it is clear that Filipinos are starting to embrace the sector by becoming more technologically savvy. By 2025, Statista (2021) predicts that there will be 55.8 million e-commerce consumers in the Philippines.

The interface of a mobile e-commerce application is the information system that shows retail stores to online clients, according to Adobe Retail Team (2019). When purchasing online, customers also place higher importance on mobile applications with high-quality, efficient, and usable interfaces.

According to the study's findings, conducted by Michelle Renee D. Ching, conducting business online is more convenient for Filipinos because they often lack the time to carry out physical operations like paying their bills or transferring money to family members. Because the current Internet-connected devices have facilitated the adoption of electronic payment systems, such as mobile, some applications cater to fund transfers and/or bill payments, making it simpler for Filipinos to execute, the provision of user-friendly applications and systems will help encourage more people to do so. Additionally, the types of electronic payment systems used by Filipinos have an impact on the types of online transactions they conduct. Diverse payment options will encourage more Filipinos to conduct online transactions using their preferred method based on their general perceptions of privacy, security, and trust.

Related System (Foreign)

Jonathan Sanders (2022) claims that traditional, boring shopping has altered because of online purchasing. Young people now find it to be popular. And rightfully so, since it meets the young generation's technological needs, which allow them to do tasks quickly by simply touching a laptop or phone screen. From the top Asian online stores, you can get anything you need, including food, electronics, kitchenware, clothing, and kitchen accessories, all while lounging at home. Everything is now simpler and easier than it was.

According to Tricia McKinnon, 2020 is the year when the eCommerce narrative shifted in a major way. Results demonstrate Walmart's eCommerce strength. Walmart's eCommerce revenues increased by 79% in 2020 and by 1% in 2021 as a result of the previous year's significant rise. With 13% of its sales now coming from online channels, Walmart is currently the second-largest online retailer in the United States. Walmart is catching up to Amazon in online sales, although still far behind. Walmart is growing much faster online than Amazon in e-commerce, more than five times faster.

As internet purchasing grows, brick-and-mortar retail companies are losing out to e-commerce businesses in terms of profits. Online sales made up 13.6% of all retail sales in the US in 2020, up from 10.7% the year before, according to the US Census Bureau. This is a significant increase over the 10.7% recorded the year before (Federal Reserve Bank of St. Louis, n.d.).

Ever since its 1994 start, Amazon.com Inc. has maintained its dominance in international online sales and has emerged as the face of this transformation, giving rise to the term "Amazon effect." The Amazon effect is considered one of the main causes of the reduction in brick-and-mortar retail sales, which has frequently hinted at the eventual closure of the stores. In 2017, more than 5,300 stores closed a 218% increase from 2016 (Fung Global Retail & Technology, n.d.).

According to Fung Global Retail & Technology, the Amazon effect has had a considerable impact on customer buying habits in addition to decreasing traditional retail stores' revenue. For instance, today's consumer expects a lot more selection even while visiting a physical store based on the convenience they experience via online purchasing platforms. The same product details can be easily accessed in the huge text on online purchasing sites; however, it may not be feasible to read the contents or specs indicated on a small-sized pack carrying an electrical device or cashew nuts in a retail store. The seamless online buying experience has also changed how consumers behave because they now anticipate the same ease, promptness, and convenience from services that aren't typically available online. Additionally, customers can read reviews online to discover what other people are saying about a product.

A fantastic year has passed for eBay. The following quarterly sales chart shows the company's highs and lows over the previous 12 months. The company's first quarter of 2020 had low revenue of US \$2,129 million, but the first quarter of 2021 saw it soar to its highest quarterly revenue ever, US \$3,023 (Chaffey, 2021).

According to Chaffey, with US \$10,271 million in net revenue at the end of 2020, eBay had its biggest yearly net revenue to date. This shows that despite the initial market uncertainties at the start of the epidemic, e-commerce is still a thriving industry. Lessons from examining the eBay marketing strategy include responding to market issues by creating new opportunities and staying ahead of the competition.

Trotman et al., (2017), similar to many other distributed search engines, eBay favors the central nothing strategy. In other words, the broker's responsibility is to disseminate the query to the query nodes and combine the results, but the query node's responsibility is to search its shard. In this method, there is no cross-system dependency and the query nodes are autonomous. The statistics kept at each node are a decent enough estimate of the global statistics because each shard is huge, even when the global term statistics required to accurately compute IDF are erroneous (typically tens of millions of documents).

The broker's job is to simply take a query from higher up the protocol stack, disseminate it to the query nodes, then gather the results from those nodes, combine them, and deliver the resulting list down the protocol stack. At eBay, this role is known as an aggregator. A user can search a variety of datasets supported by eBay. The things that are now for sale on the site are referred to as Active Items, making them the most evident. But you may also look through recently sold items by using the Completed Item search option. Another aggregator, known as the Top-Level Aggregator, is utilized to enable searching across Active Items, Completed Items, or the two alone or together. This

aggregator looks at the query to decide which set of documents has to be searched, sends the query to the correct set, collects the results, and sends those back up the protocol stack.

A query is transmitted to numerous separate subsystems that are in charge of rewriting it in various ways as soon as it enters the eBay search engine. Explicit or implicit query alterations are both possible. The user can see the changed query in cases of explicit query transformation, like spelling correction. The user does not during implicit query transformation. Search engines utilize query transformation to boost recall while attempting to limit any detrimental effects on precision. However, it is a particularly important element of eCommerce search because it influences the user's purchasing behavior. If the transformation produces irrelevant items, the site will suffer as a result. Additionally, if the transformation results in the user being able to purchase fewer things, it will have an impact on revenues (Trotman et al., 2017).

TangchaiburanaKornthip et al., claims that the females aged 21 to 30 with bachelor's degrees made up the bulk of online fashion shoppers who replied to the poll, indicating the target audience. The vast majority of respondents worked for private businesses, were single, and received salaries every month between THB 10,000 and 20,000. Customers may be inspired to participate as co-designers of apparel by three web design components. First, the element of personalization might entice customers to assist producers in the process of innovation. Customers can more easily customize clothing on websites by picking accessible options for clothing categories like blouses, dresses, and

pants, adjusting some of the available elements like buttons, sleeves, collars, pockets, and embellishments, and selecting fabrics, sizes, and colors for clothing details. By offering options for clothes types, parts, and features that might be customized, the website helps buyers guarantee that the outcomes match their demands and are practical. Along with these three elements, the customization feature also enables customers to alter "the co-design tools" for simpler involvement. A 360-degree product perspective, zooming in on clothing details, and the ability to save the generated photos for subsequent comparison should all be features of co-design tools. A website model that created the customization and context aspect and is open to client input.

Websites should be able to provide a variety of items and cater to the needs of each customer. The customization, the context, and the commerce were three factors that had an impact on the customers' needs for participation as co-designers once a site model for co-design was created. Additionally, the site design components were quite helpful in helping buyers create the kinds, parts, and details of clothes they want. As a result, the solutions offered on websites have to be functional and capable of finishing the production duties. The collaborative design process should also be facilitated through co-design tools. The site design components contributed to this goal by enabling customers to participate in customization. This strategy was advantageous to both parties. By providing 24/7 online storefronts, manufacturers could decrease the number of mass-produced products they had to maintain in stock while increasing sales of customized items. On the other side, customers may purchase goods that suited their

necessities, fashion preferences, and personal preferences. The co-design process gave clients a novel, impressive experience and gave goods sentimental significance. Customers would therefore be happy with the products, which fosters brand loyalty.

The study found that customers' needs for co-creation are unaffected by the three web design components of content, community, and communication. According to the researcher, this may have happened because the website's content is text or descriptions, the online community is for customers to share ideas, and the communication part is to receive newsletters from stores via email or SMS. Customers may therefore mistakenly believe that these three components have to do with obtaining news and information rather than the design process that is necessary for them to meet their specific needs (TangchaiburanaKornthip et al., 2017).

Salt Lake City, Utah-based Overstock is a technology-driven online retail marketplace. In 1999, a startup called it was founded. Since then, it has grown into a billion-dollar retail business that rivals Amazon and eBay. With overstock, it is possible to buy and sell home furnishings. Its top e-commerce site offers a wide selection of new home goods at discount prices, including furniture, accessories, area rugs, bedding and bathroom items, and more. The online store, which receives tens of millions of visitors each month, also has a marketplace where users may shop for millions of products. Overstock began accepting cryptocurrencies as a form of payment in 2014 and is still doing so today. On its website, Overstock.com, Overstock constantly updates the

Newsroom and Investor Relations pages with information about the Company and other relevant topics (Overstock, 2022).

Related System (Local)

According to Masigan (2020), in the consumer-driven economy of the Philippines, private spending accounts for 72% of economic production. Brick and mortar establishments have benefited Filipino business owners for years. But all was altered when the Wuhan virus appeared. Restaurants, malls, and stores that were normally busy all over the day were deserted. Retailers only recover, on average, 15% of their pre-COVID sales nowadays.

Turning to e-commerce is the apparent survival tactic for small local businesses. The action seems to be centered there. But it's crucial to comprehend the state of the market and the variables at play before entering the internet world. This article aims to deliver this.

The region's highest internet penetration rate and the highest social media activity both belong to the Filipino people. More than 73 million Filipinos have internet access accounts, and 99% of them are active on social media. The average Filipino uses the internet for an astounding nine hours and 45 minutes each day, of which three hours and 53 minutes are spent on social media.

Filipinos have been wary of making purchases online, either due to the difficulty of disclosing financial information online or concerns about the legitimacy of

e-merchants. However, throughout the five-month quarantine, this altered. Filipinos were forced to buy food and other necessities online due to home confinement. The volume of e-commerce transactions skyrocketed as a result (Masigan, 2020).

The chief commercial officer of Shopee, Zhou Junjie, asserted that entering the market later was not a negative. They were able to closely monitor the market and identify any trends or potential improvement areas that the other firms were ignoring.

With a report praising its performance across nations as the app with the largest monthly active users, the biggest number of total downloads, and websites with the most views on both desktop and mobile web, Shopee now dominates all six countries in the SEA eCommerce.

With around 90% of the population using smartphones to access the internet, Southeast Asia has the highest average mobile internet usage of any region. Shopee quickly concluded that the future of the internet is mobile, and it was wise to capitalize on this trend by targeting mobile customers by launching the Shopee app before their website.

The company believes that online purchasing must develop to specifically meet the needs of the younger consumers who grew up collaborating, interacting, and finding entertainment on mobile devices. They recognized this rising trend as the region's future for eCommerce. With this strategy, Shopee can benefit from the anticipated continuous expansion of mobile adoption.

Shopee continues to experience excellent growth as the company noticed a 40% rise in the number of time consumers spent each week in-app in 2016. Over 430 million orders—or an average of 4.7 million orders per day—were placed in the Indonesian market for just the fourth quarter of 2020. The platform not only ranked top in the SEA area but also in Taiwan and was the third most downloaded app worldwide in the shopping category. This demonstrates the business's capacity to offer services beyond just transactional shopping (dataSpring Editors, 2021).

Based on the BusinessWorld Article, six Southeast Asian nations were covered by the report: Thailand, Vietnam, Philippines, Malaysia, Singapore, and Indonesia. There were 38,138 e-commerce users involved in total. In a lecture at the summit, Lazada Group CEO James Dong said that "more than half of Southeast Asian consumers now utilize e-commerce platforms as search engines to get what they want." "With so many options for product discovery and shopping available to consumers today, internet shopping experiences are dynamic. Search engines and social media have been superseded by e-commerce platforms like Lazada as the preferred method of discovery, he continued.

According to the research, there should be 55.8 million users in the Philippines by 2025, or a user penetration rate of 47.8%. Compared to the 42% user penetration in 2022, this is higher.

In a separate interview, James Chang, a chief business officer of Lazada Group, stated that his company "completely believes that e-commerce will only expand and will play a larger role in our region and the Philippines." Mr. Dong asserts that online shopping malls like Lazada have "surpassed" social media and search engines as the preferred medium for product research (More Consumers Search for Products via E-commerce Platforms — Lazada, 2022).

According to Iris Gonzales of The Philippines Star, as many businesses adapt to new digital marketing, some furniture shops are now already adapting like AllHome. Allhome, which is owned by Villar, is expanding its on-demand delivery network as part of its business strategy. Additionally, AllHome has made sure that the ground is aware of its digital change.

Included are the AllHome 360 virtual tour, a cutting-edge virtual tour of AllHome stores to assist in navigating and choosing items, click-and-collect counters that act as express lanes to pick up online orders placed via web or Shop4You, and a physical QR Code push by frontline staff to walk-in customers.

A national focus is placed on sales at the furnituremanila.com.ph online store. Like AllHome, they have already started adapting new digital marketing. Nearly all of their eCommerce net sales come from the Philippines. In terms of product selection, the "Furniture & Appliances" category accounts for the majority of furnituremanila.com.ph's

eCommerce net sales. The sale also includes items from the "Toys, Hobby & DIY" category.

Another furniture shop now selling online and its Furniture Source, which the company Online Philippines developed a mobile-responsive e-commerce page that automatically relays depending on the user's screen size. This makes it unnecessary to have a different mobile app while yet enabling consumers to make purchases using only their smartphones. Users won't have to zoom in or out to see the website's finer details thanks to the auto-layout feature. Their website's search ranking on Google Mobile Search improves when it is mobile-ready. The team also made sure the website was search engine optimized and assisted the business in setting up and training its marketing team to improve its social media presence (Online Philippines, 2022).

Synthesis

The related studies show how the technology or eCommerce technology affects the business industry. Every technology has its method or process for delivering products to users. But they all have the same goal: to improve the traditional method of finding specific products for the customers.

The idea of the proposed web application of the proponent is related to those stated studies. There are some features from the studies that are similar to the proposed project that gives an idea to the proponent. It shows the advantages and the possible problems that may be encountered in creating the web application. The studies also show

data that proves how effective this technology is for people. It includes examples of ordering systems and design customization applications alike to the target output of the proponents that will serve as a guide in developing and implementing the project.

Conceptual Framework

The proponents' study is a Wood Furniture Design Customization and Ordering System for Gil Reyes Furniture and Repair Shop and the concept is shown in Figure 1.

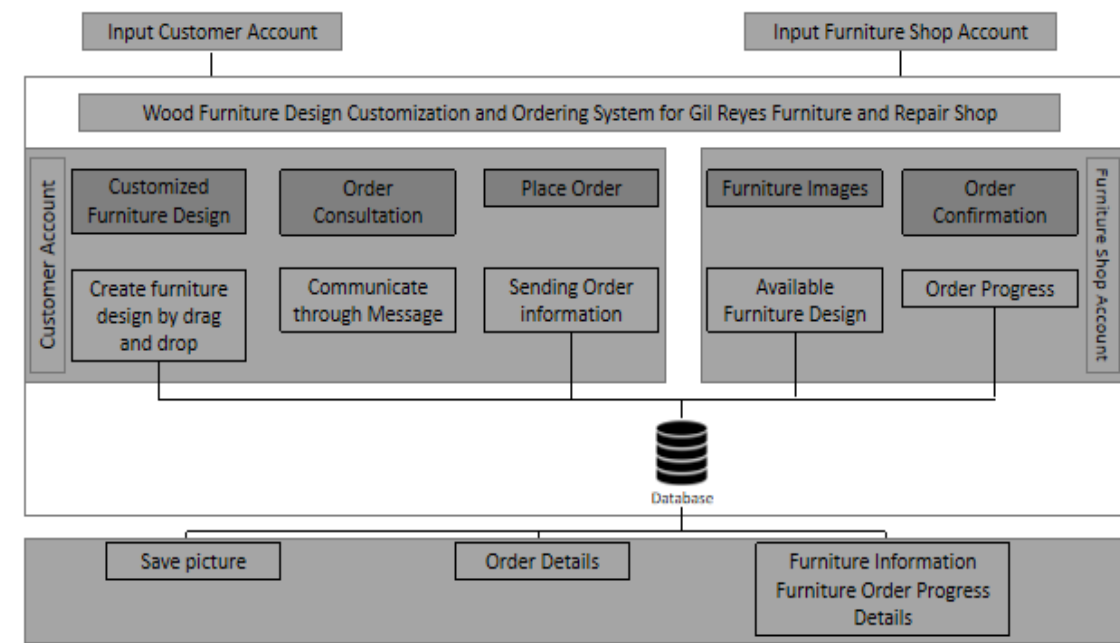


Figure 1. Conceptual Framework

Wood Furniture Design Customization and Ordering System can be accessed by the furniture shop owner and customer. The customer can view and browse designs of certain wood furniture items which are uploaded by the Gil Reyes furniture shop, customers can also view the list and profile of the shop, while the Gil Reyes furniture

shop is also able to browse customized designs posted by the customer. To do a transaction both the customer and furniture shop should log in first.

On the Design Customization Page, the customer can customize designs of doors, tables, chairs, and bed features such as lines, carvings, shapes, and glass patterns based on the available designs for the specific wood furniture item, and it can be saved as a JPEG file, to use in order consultation.

On the Message page, order consultation will be done depending on their conversation.

On the Transaction page, it will be the way for the customer to send the order information that will be filled up by the customer for the furniture shop to confirm. The form consists of furniture image, type of furniture, measure, price, payment method, estimated time of delivery, and delivery option wherein those data that will be input will be saved in the database.

In Furniture Images, the shop can upload the feed/homepage of the existing or available furniture design done by the shop.

In Order Confirmation, the furniture shop should confirm first the order information sent by the customer before proceeding to the furniture making.

On the Sign-up page, both customer and furniture shop seller should fill up the information needed to create an account. The information needed to fill up for the

customers are customer name, address, and contact number while for the shop are shop name, address, contact number, and owner's name wherein those data that will be input will also save in the database.

References:

Abu, F., Saman, M. Z. M., Zakuan, N., & Streimikiene, D. (2019). The implementation of lean manufacturing in the furniture industry.

Hanif Yahya Alyazidi, Gatot Budi Santoso, & Wegig Murwonugroho. (2021, March).

Knowledge Management System Of Furniture Production And Distribution.

INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH.

https://www.researchgate.net/profile/Wegig-Murwonugroho/publication/348363793_Knowledge_Management_System_Of_Furniture_Production_And_Distribution/links/5ffa8d8f92851c13feffce0b/Knowledge-Management-System-Of-Furniture-Production-And-Distribution.pdf

Costa, J.; Castro, R. SMEs Must Go Online—E-Commerce as an Escape Hatch for Resilience and Survivability. *J. Theor. Appl. Electron. Commer. Res.* 2021, 16, 3043–3062.

<https://doi.org/10.3390/jtaer16070166>

Susanty, A.; Handoko, A.; Puspitasari, N.B. Push-Pull-Mooring Framework for e-Commerce Adoption in Small and Medium Enterprises. *J. Enterp. Inf. Manag.* 2020, 33, 381–406

Ha, V.D. Enhancing the E-Commerce Application in SMEs. *Manag. Sci. Lett.* 2020, 2821–2828

Faye Beatrice S. Fandialan, Joseph Emmanuel B. Milan, Ma. Leonora V. Alusen. (2019, October). An Analysis of Consumer Satisfaction in Laguna on Online Selling: Basis for a Marketing Strategy for Lazada. 48.

- Ilamsyah, Angelica Robertz, Radifa Rahma Fitriani. (2019, March). The Web-based Raharja Internet Café (RIC) OrderingSystem. 93.
- Iskandar, T. B. (n.d.). The Influence of Usefulness, Ease of Use and Trust Using E-Commerce to User Behaviour (Case Study to Lazada.Com Consumers).
- Marios Trigkas, Ioannis Papadopoulos, Glykeria Karagouni. (n.d.). Economic efficiency of wood and furniture innovation system. *Vol. 15*(Iss: 2), pp. 150 - 176.
- Marios Trigkas, Papadopoulos Ioannis, Karaggouni Glykeria. (n.d.). Innovation System Analysis of the Wood and Furniture SMEs in the Region of Thessaly.
- Meng, M. S. (2018). Application Programming. 295–330. Retrieved from <https://doi.org/10.1177/0047281617721853>
- Tran, L. T. (2020, September 07). Managing the effectiveness of e-commerce platforms in a pandemic. 2. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7475027/>
- Tsantalis, D. M. (2017). CSSDev: Refactoring Duplication in Cascading. pp. 63-66.
- Saridakis, G.; Idris, B.; Hansen, J.M.; Dana, L.P. SMEs' Internationalisation: When Does Innovation Matter? *J. Bus. Res.* 2019, 96, 250–263
- De Massis, A.; Audretsch, D.; Uhlaner, L.; Kammerlande, N. Innovation with Limited Resources: Management Lessons from the German Mittelstand. *J. Prod. Innov. Manag.* 2018

Ikmal, A.; Djeneba, D.; Gregory, N.; Alexandros, R.; Aarti, R.; Timmis, J. Small and Medium Enterprises in the Pandemic: Impact, Responses and the Role of Development Finance; Policy Research Working Papers; World Bank Group: Washington, DC, USA, 2020

OECD. The Digital Transformation of SMEs; OECD Studies on SMEs and Entrepreneurship; OECD: Paris, France, 2021; ISBN 978-92-64-39245-8.

Montenegro, L.; Forbes Agency Council. The Importance Of E-Commerce For Small Businesses. 2021. Available online: <https://www.forbes.com/sites/forbesagencycouncil/2021/01/04/the-importance-of-e-commerce-for-small-businesses/?sh=2e5c381a2312> (accessed on 13 June 2021).

Jegatheswaran, R., Natkuncaran, J., Hazirah, A. L., Florin, I., Manohar, M., & Lim Choon, L. (2021). Using E-Commerce in the Forest Products Industry. <https://web.p.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=19302126&AN=150461345&h=XQFXZB7MFfMqoqYTqurtaEUTFKYTaES4z%2b3oPieYMouw65zBH%2bd5FRud3bmgmYZn94ejqmVzmWsXvbMxBWqiSg%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=logi n.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d19302126%26AN%3d150461345>

Yi, M.; Wang, Y.; Tian, X.; Xia, H. User Experience of the Mobile Terminal Customization System: The Influence of Interface Design and Educational Background on Personalized Customization. *Sensors* 2021, 21, 2428. <https://doi.org/10.3390/s21072428>

- Kim, J.; Bhaduri, G. Self-monitoring tendency and fashion involvement: Antecedents and consequences of the perceived relative value of mass-customized fashion products in a gift-giving context. *J. Glob. Fash. Mark.* 2019, 10, 324–341
- Bachvarov, A.; Georgiev, S.; Maleshkov, S. Configuring customized products in VR using HMD. *Industry 4.0* 2017, 2, 261–264
- Schlager, T.; Hildebrand, C.; Häubl, G.; Franke, N.; Herrmann, A. Social product-customization systems: Peer input, conformity, and consumers' evaluation of customized products. *J. Manag. Inf. Syst.* 2018, 35, 319–349
- Sandrin, E.; Trentin, A.; Grosso, C.; Forza, C. Enhancing the consumer-perceived benefits of a mass-customized product through its online sales configurator. *Ind. Manag. Data Syst.* 2017, 117, 1295–1315
- Zhou, Q.; He, L. Research on customer satisfaction evaluation methods for individualized customized products. *Int. J. Adv. Manuf. Technol.* 2019, 104, 3229–3238
- Godek, J.; Eveland, V. Perceived assortment and consideration of customized products. *Int. Rev. Retail Distrib. Consum. Res.* 2018, 28, 360–379
- Department of Textile Science. (2017, September 4). Development model of web design element for clothing e-commerce based on the concept of mass customization.
<https://www.mdpi.com/1424-8220/21/7/2428>
- ICEEG '22: Proceedings of the 6th International Conference on E-Commerce, E-Business and E-Government April 2022 Pages 184–188 <https://doi.org/10.1145/3537693.3537721>

E. N. Abdullah, S. Ahmad, M. Ismail, and N. M. Diah, "Evaluating E-commerce Website Content Management System in Assisting Usability Issues," 2021 IEEE Symposium on Industrial Electronics & Applications (ISIEA), 2021, pp. 1-6, doi: 10.1109/ISIEA51897.2021.9509991.

S. Hernández, P. Álvarez, J. Fabra and J. Ezpeleta, "Analysis of Users' Behavior in Structured e-Commerce Websites," in IEEE Access, vol. 5, pp. 11941-11958, 2017, doi: 10.1109/ACCESS.2017.2707600.

H. Kotian and B. B. Meshram, "A framework for quality management of e-commerce websites," 2017 International Conference on Nascent Technologies in Engineering (ICNTE), 2017, pp. 1-6, doi: 10.1109/ICNTE.2017.7947975.

Yan, Y., Gupta, S., Schoefer, K. et al. A Review of E-mass Customization as a Branding Strategy. Corp Reputation Rev 23, 215–223 (2020). <https://doi.org/10.1057/s41299-019-00087-9>

Israel, Danilo C; Bunao, David Feliks M. (2017): Value chain analysis of the wood processing industry in the Philippines, PIDS Discussion Paper Series, No. 2017-05, Philippine Institute for Development Studies (PIDS), Quezon City

John Paul E. Sison, Pauline Irish D. Jalac, Juan Miguel N. Dinglasan, Maricar M. Navarro, Arriane A. Palisoc, Mel Benjamin A. Torres Department of Industrial Engineering Technological Institute of the Philippines Quezon City, Philippines

Lirag, Ma. Teresa B. (2022) Probing Small and Medium Enterprise' (SMEs) Uptake on Ecommerce in Camarines Sur, Philippines. Asian Journal of Economics, Business, and Accounting. pp. 20-31. ISSN 2456-639X

Estember, R., & Procopio, K. M. (2020, March 10). Webpage Development of Group Buying Websites Focusing on Web Usability and Interface Design. Proceedings of the International Conference on Industrial Engineering and Operations Management Dubai.

Aquino, M. A., Manlapas, L. R., Margate, A. M., Rivera, P. M., & German, J. (2022, March 7). A Usability Study on the Online Retail Platform of Local Pharmacies in the Philippines. School of Industrial Engineering and Engineering Management.

Maala, M. G., Novenario, J. D., & Muya, G. (2018, August). COMMUNICATION TOOLS OF E-COMMERCE: THE CASE OF LAZADA. Center for Research, Publication, and Intellectual Property LPU-Laguna.

Journal of Business and Management Studies. (2022). Understanding the Influence of Mobile Interface of Shopee and Lazada on Customer Conversion.

Adobe Retail Team. (2019). Adobe.
<https://business.adobe.com/resources/mobile-may-be-the-best-tech-for-retail-store.html>.

Federal Reserve Bank of St. Louis. "E-Commerce Retail Sales as a Percent of Total Sales."
Accessed Sept. 25, 2021.

Fung Global Retail & Technology. "Deep Dive: The US Retail Revolution Solution," Page 1.
Accessed Sept. 25, 2021

Gaur, K. (n.d.). Top 10 ecommerce website build on PHP.

Fireart Studio. (n.d.). CSS.

<https://fireart.studio/blog/ecommerce-programming-the-best-language-to-develop-an-ecommerce-website/>.

Huebsch, T. (2019, May 9). 10 FAMOUS WEBSITES BUILT USING JAVASCRIPT.

M. M. Patil, A. Hanni, C. H. Tejeshwar and P. Patil, "A qualitative analysis of the performance of MongoDB vs MySQL database based on insertion and retrieval operations using a web/android application to explore load balancing — Sharding in MongoDB and its advantages," 2017 International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), 2017, pp. 325-330, doi: 10.1109/I-SMAC.2017.8058365.

Hardono, I. Surjandari, A. Rachman, Y. A. B. Panjaitan and A. Rosyidah, "Development of theses categorization system search engine using PHP and MySQL," 2017 International Conference on Information Technology Systems and Innovation (ICITSI), 2017, pp. 194-199, doi: 10.1109/ICITSI.2017.8267942.

Kasparova, J. (2021, August 11). Why Git Is A Must For ECommerce Projects.

Sanders. (2022). 100+ Best Online Shopping (E-Commerce) Sites in Asia (2022).

Reviewsxp.com. <https://www.reviewsxp.com/blog/best-online-shopping-sites-in-asia/>

Chaffey. (2021, May 11). eBay marketing strategy case study. Smart Insights.

Trotman, Degenhardt, & Kallumadi. (2017). The Architecture of eBay Search.

TangchaiburanaKornthip, Techametheekul, Department of Textile Science, Faculty of Agro-Industry, & Kasetsart University. (2017, November 9). Development model of web design element for clothing e-commerce based on the concept of mass customization.

Masigan, J. (2020, August 2). The state of e-commerce in the Philippines. BusinessWorld.
<https://www.bworldonline.com/editors-picks/2020/08/02/308793/the-state-of-e-commerce-in-the-philippines/>

dataSpring Editors. (2021, May 10). How Shopee Became the Top eCommerce Marketplace in South East Asia | Eye on Asia. Eye on Asia.
<https://www.d8aspring.com/eye-on-asia/how-shopee-became-the-top-ecommerce-marketplace-in-south-east-asia>

More consumers search for products via e-commerce platforms — Lazada. (2022, September,2).BusinessWorld.<https://www.bworldonline.com/corporate/2022/09/02/4721>

Gonzales. (2021, July 1). AllHome ramps up e-commerce business. The Philippine Star.
<https://www.philstar.com/business/2021/07/01/2109252/allhome-ramps-e-commerce-business>

Online Philippines. (2022). Furniture Source e-Commerce page.
<https://onlinephilippines.com.ph/furniture-source-philippines/>

Overstock. (2022, July 14). Overstock. Overstock.com.
<https://investors.overstock.com/news-releases/news-release-details/overstock-scheduled-release-q2-2022-financial-results-july-28>

Approved by:


RICHELLE M. SULIT

Adviser