THE IMPACT OF E-COMMERCE IN THE PROFITABILITY OF THE

FASHION AND APPAREL INDUSTRY IN SELECTED AREAS OF

TAYTAY, RIZAL

A Research
Presented to the Faculty of
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In Partial Fulfilment
of the Requirements for the Degree
Bachelor of Science in Management Accounting

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ABSTRACT

Title of research**: The Impact of E-Commerce in the Profitability of the Fashion and Apparel Industry in Selected Areas of Taytay, Rizal**

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Degree: **Bachelor of Science in Management Accounting**

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E-commerce has changed the conventional way of doing business because of its impact in almost any organization, especially within the market platform. The rising trend of technological innovation and the development of electronic payment and shopping using the internet paved the way for e-commerce to exist. Seeing the changes to the market with the onset of e-commerce, the researchers decided to analyze the impact of e-commerce as one of the most profitable industries within Taytay, Rizal, the fashion and apparel industry. A quantitative approach was used in the data collection and analysis. Survey forms were the main source of data, and the questionnaire was well-validated and passed the test of reliability. A total of 81 business owners were included in the study who are mostly from 26 to 35 years old (43.2%), female (82.7%), the duration of their business is usually from 1 to 5 years (62.5%), estimated annual income is from 500,001 to 750,000Php (33.3%) and 83.5% are operating as hybrid set up. The impact of e-commerce on supply chain is highly positive (3.78 of 5.0), the impact of e-commerce on inventory is also highly positive (3.79 of 5.0). The study has proven how influential or powerful is the use of e-commerce to their business, and most especially its positive effect on inventory and supply chain management. The study recommends having the local government employ tech literacy programs for the business owners so said owners could possibly & effectively adapt, specifically to start utilizing and incorporating e-commerce into their businesses.
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1. SMEs   Small Medium Enterprise
2. COVID19   Coronavirus Disease 2019
3. SD   Standard deviation
4   DICT   Department of Information and Communications Technology

CHAPTER 1
INTRODUCTION

E-commerce first unfold in the 1970's with the introduction of credit cards, overnight delivery, and mail-order catalogs which paved the way for the buy-and-click concept that we know of today, *Hicks, (2003).* The Internet has further aided in this transition by altering the perception of commerce from a physical platform to a digital one. Customers who purchase online "got into it" because they want access to convenience, product information and variety of choices at a very affordable & reasonable price. Its widespread usage has greatly contributed to the unprecedented economic development and productivity due to the interconnectivity and open flow of information available to the general public; Thanks to this, companies can quickly adapt to the changes in consumer behavior, trends, and market environment due to information-sharing technology. *Anderson, J., & Rainie, L. (2022, September 15)*

The growth of Internet service providers and other technology firms often highlights new issues such as: uncertainties in revenue and expenditure recognition, and frequent changes in regulatory policies. As technology advances, new chances for firms to boost efficiency and sales emerge. Due to this, businesses that embrace e-commerce and personalize it to the demands of their consumers often reap the most rewards. *Saarikko, T., Westergren, U. H., & Blomquist, T. (2020)*

In essence, sales metrics within these e-commerce platforms evolved to the point where human input is unneeded since it is provided automatically in the form of shop performance metrics and projected sales graphs. Star products, for example, are easily outlined with the onset product ranking features present within the infrastructure of online selling platforms. Potentially, this allows companies and businesses to increase their revenue based on the current and projected product sales information available in e-commerce platforms. Petropoulos, F., Apiletti - Ziel, F. (2022)

One of the beneficeries of these innovations is the fashion and apparel industry since it allows small to large companies to maximize profitability and product selection through the forecasting and sales metrics present within said platforms. Additionally, this has an inverse effect on competition since rather than vying by lowering their product pricing, most business opts to compete by strengthening their company image to justify their price increase. In this situation, new entrants to the market are easily allowed to expand by sacrificing some of their profits for company growth and brand recognition; primarily this results in price wars becoming less of an issue within e-commerce platforms. *Kiron, M. I. (2022, December 1)*

Background of the Study

Having known the situation back then,2019 to be a bit specific, the Covid pandemic brought about diverse & unexpected changes to the status quo by significantly affecting the growth of various industries. This is no more evident than within our country, especially in our fashion and apparel industry which saw an average decline during 2020 of 13.3%, 13.9%, and 12.6% in revenue for children's, men's, and women's apparel, respectively, *Statista. (2023).* Based on these data, it can be argued that certain physiological needs such as clothing aren't as important as food, water, and shelter during times of strife since most people lost their jobs or their primary sources of income. Fortunately, the 2020 downfall within the industry was superseded by the revenue growth of 2023 which saw an average increase of 20.07% within the three respective apparel fields: *Statista. (2023).* This surge could be the result of the business boom that occurred due to the pandemic along with the slow removal of lockdown restrictions which allowed enterprises to innovate and adapt to the new normal by 2022. The process of this decline eventual ascent is quite similar to how the burning of dead vegetation often leads to healthier forests as their ashes serve as nutrients that are absorbed through the soil. *Puig, F., Cantarero, S., & Verdone, F. (2022)*

In the locale of Taytay, Rizal based on statistics and insider knowledge about the industry, its apparent that the secondhand or reselling market is flourishing due to the further expansion of e-commerce to social platforms like TikTok similar to how Facebook

created Facebook Marketplace. Backed by statistics from Statista, the secondhand apparel share has steadily been increasing at an increment of 0.1% - 0.2% and is projected to be on an upwards momentum till 2027. Similarly, the sustainability of the apparel market share is expanding at a similar increment of 0.1% - 0.2% which shows that the e-commerce platform is here to stay despite whatever effects it might have on physical sales. *Statista. (2023)*

As of 2023, it's an indisputable fact that physical sales suffer heavy losses due to the convenience and variety of options that e-commerce and similar marketplace platforms bring so most businesses opt to hybridize their business structure to accept bulk online orders through Facebook selling groups or pages while retail orders are often met either through physical sales and dedicated e-commerce platforms like Shopee, Lazada and TikTok *Nicolas, J. (2018, March 1).* This change in business structure can also be seen in their adoption of delivery courier services like Lalamove to fulfill customer orders which is further supported by their accommodation of online payment methods within their physical stalls in Taytay, Rizal. The shift in consumer preference has been foreseen by various SMEs, so most business owners quickly adapted to these changes during the pandemic and joined in that endeavor after lockdown restrictions were lifted. *Puig, F., Cantarero, S., & Verdone, F. (2022)*

Based on the facts presented above, it can be argued that business owners are slowly becoming dependent on these selling platforms for their businesses to thrive since the market is evolving to focus on online sales. It is not only an avenue that they could explore but something that they need to invest time and resources in for business growth and longevity. To address the impact of e-commerce on SMEs, the researchers decided to test the viability of how e-commerce influences the profitability present within popular e-commerce platforms such as Shopee, and TikTok. Primarily, this is because these infrastructures can often be utilized to determine the optimal product pricing that maximizes profit while retaining their customer base, recognizing star products, improving product line-up, and projecting future sales revenue from the given historical data of shops with comparable products.

Research Questions

1. What is the profile of the respondents?

      1.1 Age of Business

      1.2 Annual Income

      1.3 Technology Literacy

      1.4 Type of business model owned.

2.) What is the impact of e-commerce in terms of profitability to the Fashion and Apparel Industry in Selected Areas of Taytay, Rizal in terms of:

      2.1 Inventory Management

      2.2 Supply Chain Management

3.) Is there an impact in utilizing e-commerce in the fashion and apparel industry in selected areas of Taytay, Rizal?

Significance of the Study

This research will provide insights about the impact of e-commerce on the profitability of the fashion and apparel industry. The outcome of the findings of this study is beneficial to the following:

- Fashion and apparel industry. This study will determine whether E-commerce presents a positive or negative influence on the fashion and apparel industry. It will also determine whether E-commerce offers a better platform than physical platforms.
- Researcher. This study will guide the researchers to discover and use credible and reliable data to further understand the topic that will serve as the basis for related future studies.

- Small Medium Enterprise. This study will help SMEs (Small Medium Enterprises) to determine the viability of profitability based on the provided infrastructure of e-commerce platforms.

- Businessmen. This study will provide insights into the impact of e-commerce in the profitability that will be helpful for businessmen when it comes to decision-making for their businesses.

- Future Researcher. This study will serve as a useful reference for future researchers and will encourage them to conduct further studies and investigations in the same field with the connection to the variables used.

- Future Enterprise. The findings of this study will provide insights and knowledge about the impact of e-commerce.

- E-Commerce Platforms. This study will also benefit e-commerce platforms by increasing the customer base and building better consumer relationships.

Research Objectives

1. To assess the demographic profile of the respondents in terms of age of business, annual income, technology literacy, and type of business model they owned.

2. This research also aims to evaluate the various influences of E-commerce in gaining more profit in the fashion and apparel industry in terms of inventory management and supply chain management.

3. Lastly, the researchers aim to expand upon the possible impacts of e-commerce in terms of profitability in the fashion and apparel industry.

Statement of the Problem

The study aims to determine the viability of e-commerce based on the provided infrastructure, to ascertain its impact on the fashion and apparel business industry in selected areas of Taytay, Rizal in terms of profitability through supply chain management and inventory management to gauge E-commerce's influence on the industry.

Scope and Limitations

The scope of the study is focused on the impact of e-commerce and its influences on the fashion and apparel industry's profitability available within the major two online selling platforms: TikTok, and Shopee. This encompasses SMEs that are operating within the various bazaars of Taytay, Rizal. The setting of the study was concentrated specifically in Brgy. San Juan, Taytay for the year 2022 to 2023.

This research will not extend to the other factors that affect the profitability of the fashion and apparel industry and will be mainly focused on profitability in terms of supply chain management and inventory management. The results of this study will be applicable only to the respondents and the survey questionnaire will act & serve as the main source of data to formulate the hypothesis for this study.

CHAPTER II
REVIEW OF RELATED LITERATURE
Review of Related Literature

This represents a review of related literature and studies both foreign and local that the researcher abstracted from the local sources considered relevant to the topic.

Local Literature

This study by *Panganiban (2018)* highlights how Facebook Marketplace works within the Philippines where it is found that 97% of Filipinos are using Facebook all the time. This empowers the Philippine market to be more informed of their diverse options for online shopping and makes them fully aware or be updated of the intricacies of online shopping. As a result, Facebook became known as one of the best and most well-liked e-commerce platforms within the country. Whereas Facebook Marketplace is designed for e-commerce companies and individuals who sell goods on Facebook in one convenient location, Facebook Shops are exclusively made for company owners. This makes it simpler for Facebook users who want to buy known brands to find what they need. In addition , this platform also allows the sellers work on their sales and marketing strategies . However, there is still one big issue within this e-commerce platform which is, it lacks any consistent regulation. As a result, swindling or fraud better known as scams, abound within the platform and buyers/sellers need to be extra vigilant since the site lacks any form of a buyer or seller protection.

This study by *Humarang, J. (2022)* highlights how the pandemic forced many Filipinos to switch to alternate payment methods as health and safety concerns make cashless transactions increasingly attractive. The growing adoption of e-payment systems is further encouraged through the usage of marketing e-payment solutions and the realization of their convenience. The Philippines economy is predicted to receive help from e-commerce to the tune of 5.5% in 2022, up from 3.4% in 2021. Local businesses, particularly those appointed as micro, small, and medium-sized enterprises (MSMEs), have plenty of reasons to engage in online transactions. Based on this it is evident that the

country's entrepreneurial landscape is shifting to online platforms, which is inherently promising and better for all stakeholders involved.

A study by *Costales. J. (2022)* assessed the expected growth of e-commerce in the perspective of the government's initiatives to actively modernize its infrastructures and regulations. While the attached agency of the Department of Information and Communications Technology (DICT), the Cybercrime Investigation and Coordinating Center, is completing its guideline and adjusting to the country's current National Cybersecurity Plan, the DICT is continuing to increase initiatives to speed up free internet connectivity, especially in rural areas. By the end of this year, e-commerce sales are expected to expand by 25.9%, with Shopee, Lazada, and Zalora being the three most popular e-commerce sites in the Philippines. The most popular types of merchandise products often consist of these categories such as beauty, electronics, fashion, furniture, health, and domestic care. Moreover, e-commerce also supplies a more affordable and flexible marketing strategy, as well as client data that can be used for insights and analysis. From what we gathered, e-commerce strategies, with their variety of benefits, are profitable initiatives that can help organizations grow, may it be large companies or small businesses.

This study by *Quimba, F. M. A. & Calizo S. Jr. C. (2019)* highlight the performed research on the growth of e-commerce within the Philippines. The Philippine Statistics Authority's Survey of Information together with Communications Technology and the Annual Survey of Philippine Business & Industry were used in this study to examine the determinants of e-commerce adoption. According to the study, internal factors that affect e-commerce adoption in the Philippines most are firm size, the availability of computers, internet connectivity, and a company's use of information & communications technology (ICT) in other areas of firm operations. Besides that, it is important to deal with security and uncertainty-related limitations. Eventually, governmental agencies ought to help businesses use ICT so that they could encourage more MSME (Micro Small Medium Enterprises) to utilize e-commerce. Additionally, the government can also aid in facilitating access to financing for businesses planning to use e-commerce. Lastly, efforts should be

made to lower the price and raise the quality of internet services so that e-commerce can become more widely accepted within our country. In addition, *Quimba, F. M. A. & Calizo S. Jr. C. (2019)* (2019) have also noted that e-commerce accounts for 1. 3 trillion USD of the world's economy. It allows local businesses to broaden their markets well beyond Philippine shores. In addition, e-commerce accessibility within the Philippines has vastly improved with the onset of numerous buy and sell platforms currently available. Due to this, businesses can easily set up their own e-commerce facility by utilizing personalized websites and widely known e-commerce platforms.

This study by *Salonga, R. (2020).,* highlights how E-commerce was affected by COVID-19 in Makati City, Philippines. Since the lockdowns began, there have been more exciting opportunities for both experienced and fresh aspirants to realize their dreams and solidify their brands. On the other hand, the difficulties faced by e-commerce companies, such as the rise in supply chain prices, posed a serious threat to both customers' buying patterns and company sales. Additionally, there were also frequent delays in product production and delivery, which lowered customer satisfaction throughout various e-commerce platforms. Due to limited government efforts and the ongoing obstacles businesses face, these epidemic issues negatively impacted e-commerce. It is evident that perseverance, efforts, and actions are needed to address these difficulties, such as upholding strong moral corporate principles, making investments in staff, supporting, or realigning supply chains, and evaluating the potential benefits of implementing new e-commerce platforms. Business entrepreneurs need to show their resilience by adapting to changes in norms, legal precedent, and public opinion within that period. This flexibility shown within the pandemic must be made continually even though we reverted to current pre-pandemic norms so that the companies can continue to function well despite any circumstances that may arise in the future.

According to *Leong, B. (2021).*; the Philippines' e-commerce goods economy has expanded from 2010 by a yearly average of 35%, reaching US$26.58 million in 2017. Additionally, based on Statista's estimations, the Philippines' toys, hobby, and DIY online sales income is also expected to exceed US$952 million this year due to the onset of various

toy companies catering to nostalgic franchises by either creating figures or hobby-related products suited to their consumer's tastes. As for the fashion industry, their consumers within the Philippines were included in Zalora's Southeast Asia Trender Report in 2020, wherein it is stated that 57% of its customers were in the Philippines' central region, 31% were in the country's outskirts, and the remaining 12% were in the nation's remote regions. For e-commerce business owners, this means that while most of the money is made in urban areas, provincial sales also account for 43% of their sales so it's important to cater to that demographic. Meanwhile, Shopee's examination of its customer data during its 2019 5.5 sale revealed that Filipino buying habits often vary across the nation, especially in the field of fashion so it's pivotal to diversify your goods when entering this platform.

According to *De Leon, E. A. (2018);* the approximate total amount spent on online transactions by Filipino consumers in 2017 amounted to P92.5 billion. This amount is expected to expand to P122 billion in 2018, up 32% from the previous sum in 2017, and is projected to increase to P185 billion or more in 2020. On the other hand, it is estimated that mobile spending will amount to P56 billion in 2018 and P100 billion in 2020. Also, it is forecasted that cross-border spending will increase by 32% in 2018 from its estimated P41.5 billion total in 2017. In terms of making a cross-border transaction using a smartphone, the Philippines ranked third out of the seven Asia Pacific nations surveyed, according to the report. With 68% of cross-border spending on these items during the previous year, fashion goods were the most often bought category. Cosmetics and beauty products, which were bought by 56% of consumers, rounded out the top three cross-border purchases. 58% of Filipino respondents to the study used an app or website to conduct online shopping within the Philippines, while 13% used an app or website to conduct online shopping abroad. A total of 17% of consumers used an app or website to shop online, while 12% used social media platforms.

According to *Zialcita, S. (2019),* in January 2018, there were 67 million Filipinos online, and according to Internet World Statistics, this number is growing by 12% yearly. Additionally, Statista reported that the total e-commerce market revenue in 2017 within the Philippines amounted to $688 million or about P36 trillion pesos which is projected to

increase to $840 million or P44 trillion pesos in 2018. By 2019, the market is estimated to be worth $996 million, or over P53 trillion pesos, according to the forecasted revenue growth of 10.5% yearly. According to Campos, co-founder, and CEO of Zalora Philippines, e-commerce penetration is currently at about 2%, and he fully expects it to increase to 5-7% over the next few years which shows that business is increasing rapidly. E-commerce has a lot of potential, according to the government; In 2020, it seeks to increase e-commerce from 10% (2015) of the country's GDP to 25%. The government hopes to develop awareness that going digital will enhance small, medium, and micro enterprises (SMME's) ability to compete internationally. The convenience and innovation consumers look for can be credited for the country's continuous growth in e-commerce. This opportunity encourages business owners to move their operations online as 2019 begins.

According to *Ong et al. (2021)* As the world entered 2020, the COVID-19 pandemic affected everyone, forcing the government to implement lockdowns, quarantines, and social distancing which made consumers stay in their homes most of the time. Due to the prohibition of traditional shopping channels, customers decided to switch to e-commerce platforms to secure vital purchases and transactions. This later on led business owners to explore electronic transactions within a digitized system to do most of their business activities *(Harahap 2020).* A survey conducted by Global Web shows that 48% of Filipinos plan to do more online shopping even if the pandemic is over (*Abgelina et al. 2020).*

This study by *Gabinete et al, (2022)* highlights the B2B model is a transaction between one business to another. It is a process in the supply chain when a business purchases raw materials that will later be used for manufacturing purposes. Whereas B2C refers to the traditional retail model wherein a business sells directly to its consumers. In relation to E-Commerce, these transactions are applicable to be conducted through an online setting and delivered through in-house platforms or third-party services. The businesses involved, for example, Shopinas, follow the traditional model of retail but sell their goods and services through an online website. On the other hand, the C2C model allows customers to buy, sell and trade with one another through an online platform. In

exchange, the website or e-commerce platform is given a percentage of commission for every sale that they make.; In essence, the sellers are also the consumers within that context. For example, platforms such as Shopee, Carosell (OLX), and Lazada are examples of C2C Businesses that earn revenue through charging commissions and advertisements.

A study by *Bacay, I., Ramirez, R. A., Ramos, F. N., & Grimaldo, J. R. (2022)* highlights the consumers are most affected by flash sale discounts or events that bring time pressure to potential buyers as it pushes them to make hasty decisions within a brief amount of time which capitalizes on their FOMO whether to buy the product or not. Sales promotion can also vary from anticipated events or flash events. A study states that impulse decisions are created due to the rushed nature of sales promotion, regardless of the length of the event *(Guan et al, 2019).* Based on the study of *Liu et al (2021),* the closer it is to the end of a sale, the less rational consumers will be when searching for a product to purchase as they have to meet the deadline set by the brand or a seller to take advantage of the discount or sales promotional offered. Shopee Philippines for example is an online shopping platform that offers flash sales every single day during the span of their online sales event, making users wait and switch their notifications on for updates and reminders about it. This conditioning of consumers often leads to impulse purchases during sales events or offerings due to the limited availability discounts despite these products being available for a longer amount of time. Celebrity endorsement is one of the marketing or advertising strategies that businesses execute to advertise a brand or a product. Considering that celebrities have a profound influence and presence over social media, they are in a unique position within the endorsement context or advertising landscape as they receive constant media attention from their fans or followers. This allows businesses to utilize brand or exclusivity deals with celebrities to advertise e-commerce platforms and products to a wider online.

According to *Carlson et al, (2018)* the advertising appeal, otherwise known as content's quality and attractiveness to consumers, is also one of the marketing stimuli variables or factors that define a consumer's perception of a company's brand. This is primarily why key elements such as accuracy, uniqueness, timeliness, and relevance of

brand-related information need to be taken into consideration when publishing advertisements across social media platforms. *Dabbous, A., & Barakat, K. A. (2020)* cited the optimal to create innovative, creative, and quality content that captures an online consumer's attention since it often results in a higher level of online presence and consumer engagement.

According to *Research and Markets (2022),* almost half of the citizens within the Philippines now have access to the Internet. Despite having the second-largest population in Southeast Asia, the Philippines only makes up an insignificant portion of worldwide retail sales. However, several variables, including a young population, a growing middle class, better internet connectivity, and government initiatives, are making way for exponential improvement within the market. The publisher's study also predicts that by the middle of the next decade, overall Internet retail sales within the Philippines will exceed Singaporean and Malaysian retail sales. Based on this survey, well over half of all online purchases made within the country in 2018 were made using mobile devices due to the increase in web connectivity and availability that smartphones bring. Social media shopping is growing in popularity, with Facebook now becoming the third most popular platform for online sales worldwide. As for the local scene, the top two shopping apps for mobile commerce were Lazada and Shopee. Zalora, and eBay are also listed within the top five participants in the report. Recently, Lazada and Zalora stated efforts to build additional distribution facilities in the Philippines to improve the country's insufficient logistics system.

According to *Katrina B. & Benedict., (2021).* After Indonesia and Vietnam, the Philippines has the third-highest percentage of online consumers for commercial products. This is simply due to the fact that most consumers participate in advertising initiatives such as reaching out and promoting cross-border offerings on Facebook, Twitter, Instagram, and online marketplaces like Lazada, Shopee, and Zalora; which is supported by the research of Hootsuite as well as We Are Social. Additionally, the Philippines has one of the most dynamic economies in the East Asia Pacific area, according to the World Bank. Up to 2019, the Philippines saw fast development, a big and youthful population, and significant

middle-class growth. Even though the country's GDP growth slowed to 5.6% in Q1 2019 due to the external economy, the World Bank had previously predicted that growth would pick back up to 6.1% in 2020 and 6.2% in 2021 because of the country's high domestic demand. Similar to other nations, the COVID-19 pandemic in 2020 resulted in social segregation laws, which forced e-commerce to fill the void left by brick-and-mortar establishments.

FOREIGN LITERATURE

Technology Literacy

Digital literacy is an important factor in e-learning applications, as it allows users to effectively access, manage, integrate, and evaluate information.

According to *Sariwulan et al. (2020),* digital literacy has a substantial and positive effect on the performance of small and medium-sized enterprises (SMEs). *Feriady et al. (2021)* suggest that the more digital economic literacy, the greater the number of business awareness of its benefits and operations. *Erlanitasari et al. (2020)* found that digital literacy has a favorable and direct effect on business performance. Individuals who find it difficult to adapt to new e-learning tools may find it difficult or feel groping imprisoned utilizing a system they don't like, but firms with greater capacities to embrace new devices can use them if they meet the individual's demands or are more favorable.

Age of Business

Coad et al. 2013, Vassilakis (2008), theories predicting how a firm's performance is affected by its age can be grouped into three broad categories. One stream of research suggests that older firms have better financial performance because they are more experienced and enjoy the benefits of "learning by doing," while younger firms are prone to "liabilities of newness." According to *(Barron et al. 1994,* the second stream of the literature suggests that older firms enjoy better performance due to selection effects, while a third suggests that aging can have a negative impact due to "inertia effects". Early

empirical studies often treated firm age and size as measures of the same phenomenon. Studies have shown that firm age has a negative relationship with growth rates, investor uncertainty, and plant failure rates. Older firms face a lower cost of capital and plant failure rates.

Loderer and Waelchli (2010) found that as firms get older, their return on assets, profit margins, and Tobin's Q ratios deteriorate. *Coad et al. (2013)* found that older firms enjoy higher productivity and profits when they investigated the relationship between firm age and performance measured by the ratio of profits to sales in Spanish manufacturing firms for the period 1998-2006.

Profitability

Ystats GmbH & Co. KG (2023) stated that the Asia Pacific e-commerce retail market is expected to expand at a significant compound annual growth rate of 11% (2022-2028); This growing preference for online shopping even extends to the Asia-Pacific retail market. Across the Asia Pacific region, there is a sudden rise in the number of internet users, thereby sustaining this growth trajectory. An example of this trend can also be seen in the estimate of World Bank which states that 96.1% of consumers in Korea used the Internet in 2019 and that rate is expected to keep rising in the future.

Al-ghananeem, (2021) states that E-commerce is responsible for the increased interest in online education and the increased volume of jobs available within the market which is important for the business growth and economic recovery of any country. During the Covid-19 Pandemic, most businesses were forced to close down due to lock downs and many workers lost their jobs or primary source of income, so they opted to venture into e-commerce as a means to generate income. Furthermore, due to Covid-19, physical sales suffer heavy losses but since e-commerce and similar marketplace platforms became more widely available businesses managed to stick around despite significant changes to the physical market.

The impact of e-commerce according to *Hertati, (2021)* is mainly job creation which brings about further economic growth for the country. He also mentions that the advantages of E-commerce are not merely limited to reduced product costs, increased product choice, and cheaper prices but also product comparison and faster response to market demand. This highlights the vast difference between e-commerce to the traditional retail method since it supplies the business with the ability to reach out to more customers and the market instantaneously responds to said consumers' demand.

According to *Ganeshan, M. K., & Arumugam, U. (2021),* e-banking has grown in popularity because of its comfort or easy access and adaptability as well as the different benefits it offers which are inherently linked to online transactions such as speed, efficiency, and accessibility. E-commerce has helped banking evolve through innovations such as app payments and one-click transactions, making it possible for banks to retain their customers in this digital age.

Li, M., Ji, S., & Liu, G., Dai W et al (2018) examined the forecasting of clothing sales volume on Taobao by utilizing the structure time series model and Taobao search data. Their study focused on exploring the real-time method of predicting clothing sales volume using a structured time series model and website search data. The authors utilized exponential smoothing, time series decomposition, and ARIMA models to predict sales based on historical data from Amazon. Weng Yingjing used a back propagation (BP) neural network to predict online sales and developed a framework that combined genetic algorithms with a radial basis function (RBF) and a neural network model to predict sales of perishable food. Weng Y. and Feng H. showed a BP neural network by incorporating variables such as the number of users, conversion rate, unit price, and the number of collections. They then verified the accuracy and validity of the model using sales data from Alibaba. However, there are many different product categories in the e-commerce sector, which means that there are multiple time series that needs to be evaluated. Also, the sales volume of products sold through e-commerce varies considerably and is easily influenced by a variety of variables, including price, promotion, rating, etc. Likewise, e-commerce

forecasting requires timeliness. Therefore, it is necessary to reformulate the mechanisms and methods for forecasting e-commerce sales.

According to the study of *Wu, J. (2022),* by predicting possible product sales over time, sales forecasting is a technique for predicting future revenue. Retailers may precisely prepare for the future of their e-commerce business with the help of correct sales estimates. Meeting consumer expectations requires accurate sales forecasting, which also offers insight into the market's expected response to a particular product. Forecasting influences practically every aspect of a business, from manufacturing to finance to operations. E-commerce operations are likely to experience interruptions due to a variety of factors without effective forecasting. All strategic choices involving planning, finances, marketing, operations, and inventory are influenced by forecasting. Improved inventory management due to better pipeline visibility is one of the key advantages of sales forecasting. By reducing the financial risk associated with excess inventory and storage, forecasting can avoid sales declines brought about by a failure to complete an order. This is crucial in a competitive e-commerce sector with more than 9 million sellers, especially on Amazon. Effective sales forecasting is one of the main obstacles in the way of this. The accuracy of your forecasting could be adversely impacted by inconsistent data or using an incorrect method. E-commerce businesses should invest in the right technology that can be smoothly linked with their e-commerce platform to have a clear understanding of sales performance and design a successful strategy. Retailers will be better able to meet customer demands if they can reduce the margin of error associated with measuring the correct amount of inventory.

Supply Chain Management

Rita, P., Oliveira, T., & Farisa, A. (2019). argued that the return of products poses significant challenges for sellers and e-commerce platforms alike since it's the main contributing factor to the financial losses experienced by the e-retail industry in India. Once the rate of product returns surpasses 10%, it may become a challenging burden for an e-commerce company to handle due to the sheer volume of the returns and may cause further division between the company's logistics and itself.

Rajput, S. (2022) cited that the concept of e-commerce is helpful in the development of the fashion industry in many ways. It allows customers to shop online in order to reach their favorite fashion brands and purchase them at a click of a button. In addition, studies, and research show that E-commerce sites are particularly helpful in increasing sales and improving business performance in the fashion & apparel industry since it widens their reach through the advertisement of their products to like-minded individuals. Rajput also mentioned that successful e-commerce fashion brands use social media platforms as an alternative method of advertisement to promote and sell their product. They do so by advertising their official website on various platforms such as Instagram, Facebook, Amazon, and eBay or by utilizing paid advertisement options within these sites. He also stated that e-commerce's accessibility spreads throughout vast distances which allows consumers to reliably communicate faster despite time differences or physical distance. This is primarily why today e-commerce allows businesses to reach their customers across the world and run globally without borders.

Smith, S. (2022) said that sales forecasting in e-commerce is a fundamental business management concept that is typically overlooked in online businesses but when used carefully, can provide competitive benefits. Consequently, e-commerce sales forecasting can be beneficial in many ways, particularly when handling a business. Establishing goals for your business by using sales forecasting to demonstrate that the sales volume you want to accomplish is higher than the volume of the previous year can inspire and direct you to go beyond your daily quotas. Smith also mentioned that it is impossible to carry out your business's efficient allocation of resources based on needs without forecasting sales. He also added that the two main objectives of forecasting sales in e-commerce are to track more business opportunities and the problems that may arise in the future such as raw material shortages, seasonal shifts, and changes in product trends.

Mani, M., K., & Joshi, S. (2022) mentioned that the use of efficient supply chain management in E-commerce can reduce expenses through its innate processes that result in better profit margins and ROI (Return on Investment). Additionally, a business also

needs to focus on managing an efficient and effective supply chain in order to ensure that there are little to no delays in the various business processes. Better management of the supply chain also ensures a balanced relationship between the demand and supply of the products. With the use of effective Supply Chain Management, the business can sustain itself despite competition and retain its successful trajectory in the long term. The SCM combines all the processes in supply maintenance and enables the right flow of information and data throughout the entire supply chain. This means that effective supply chain management is the foundation for the success and sustainability of an e-commerce-centric business. Therefore, delivery of the correct product, at the right place and time increases customer satisfaction and ensures the achievement of business goals.

Singhal, D. (2021) cited that supply chain management in e-commerce focuses on the acquisition of raw materials, manufacturing, and delivery of the right product at the right time. It has the functions of managing supply and demand, inventory tracking, distribution, and delivery to the customer. The effectiveness of supply chain management in e-commerce is measured by its ability to reduce costs and improve the cash flow of a business. When a customer wants to purchase a product from an e-commerce platform, they expect that the product will be delivered in a short period of time. That is why many customers prefer platforms that have effective logistics and deliver the exact products in a timely manner. Therefore, if the customers were to experience issues in buying their desired products and it is not delivered on time, they will instantly switch to other e-commerce platforms. The slow delivery process increases the risk of losing potential customers and can even have a negative impact on the status of the business. If a business provides supply chain management services, it can help e-commerce businesses to track and manage their inventory in real-time. Additionally, e-commerce businesses can also easily manage orders and payments. This means that. effective supply chain management often leads e-commerce-centric businesses to meet customers' expectations and demands.

According to *Li, J., Cui, T., Yang, K., Yuan, R., Liyan, H., & Li, M. (2021),* the demand forecasting method for e-commerce businesses is based on horizontal federated learning and convLSTM, so that businesses of the same kind can indirectly achieve the

goal of demand information sharing modeling through horizontal federated learning, under the assumption that their private data is not available locally. The outcomes demonstrated that the demand forecast model based on horizontal federated learning and ConvLSTM not only can improve the demand forecast model's accuracy and stability, but more importantly, also helps supply chain companies avoid potential privacy leakage issues when they use big data to forecast demand. This work only takes into account a small number of participants while utilizing horizontal federated learning to analyze the demand forecast of e-commerce firms because of the experimental cost and limitations of data privacy protection rules. The model's stability may deteriorate as the number of participants rises, necessitating the improvement of the model's generalizability. However, the issue that different types of node enterprise demand information cannot be shared and exchanged is more noticeable throughout the entire supply chain system where e-commerce firms are located, and the application potential of Federated Learning is bigger. A future study will shift focus to a vertically integrated demand information prediction system for e-commerce firm supply chains.

Inventory Management

Chan (2018) mentioned that inventory management tools in e-commerce can help businesses keep track of their stock levels in real time and swiftly analyze sales data. In addition, inventory management in e-commerce also helps businesses to forecast future demands and gauge appropriate production amounts. The data from an online inventory management application also aids in their ability to measure how well a certain product is doing. It allows businesses to recognize patterns and trends in real-time. Similarly, it also gives customers information about the current stock levels of a business. Inventory management plays an important role, especially for B2B companies that conduct business with customers through trading platforms. It is scalable and can expand along with a firm, which is one of its strongest characteristics.

Wibowo (2018) mentioned that focusing on expanding the e-commerce business is key to ensuring that resources are efficiently utilized to maximize profits. This means that if the business adopts inventory management software, it will be more than useful for them. Inventory management also allows businesses to assign unique barcodes and information

to certain items, so consumers can access this information when adding to cart or checking out. Additionally, it also lets businesses automatically update their stock levels and manage expected profits through the built-in digital infrastructures. It is also commonly found that e-commerce platforms with good inventory management software often have integrations which assure that whenever someone buys a product online, all the items in their shopping cart are synchronized across all sales channels.

According to *Kupila, M. (2020),* customers now have greater options in where and when they buy the items that power their daily lives thanks to online distribution platforms, this applies to the grocery industry as well. This transition has forced grocery suppliers and retailers to reconsider their strategic predictions for the future of their sector while also adapting internal tools and processes. Online grocery, often known as e-grocery, has expanded quite slowly in Finland, even though it is sometimes regarded as the best retail channel of today. The purpose of this study is to investigate the current e-grocery-related attitudes of significant participants in the food supply chain to better understand the reasons for the slow development of digital grocery as well as the potential future importance of online channels in Finland's historically highly concentrated grocery market. The information gathered suggests that constraints relating to supply and demand have delayed the development of Finnish e-grocery. However, this study suggests that Finnish suppliers and retailers have the opportunity to maximize the potential of their digital channels in order to better meet the current and future demands of Finnish grocery shoppers through the offered practical implications focused on corporate agility, shopper data-led collaboration, as well as improving service design in digital channels.

According to *Om Kshirsagar, Pradyuman Agarwal, Pranav Bhootra, Raahil Patel, and Rajat Modi (2022),* e-commerce will cause an emerging revolution that will change how businesses can acquire and offer goods & services. The fundamental advantages of e-commerce ultimately stem from how tasks are carried out in the retail channel and how modifications impact ownership, expenses, and efficiencies. A co-word analysis to figure out the structure of 250 articles on inventory management and e-commerce is one of the key discoveries, along with trends. Another is the information flow of reverse logistics,

which demonstrates the correct flow of different product attributes. Co-authorship among several authors has also been demonstrated in relation to the effects of logistical aspects, storage, and the use of physical locations for a variety of concerns. On the other hand, modern warehouses are huge buildings where multiple resources and procedures interact. As we've seen, keeping track of today's warehouses' inventory presents many difficulties. These mostly manage small orders with condensed delivery windows. Several papers have made an effort to address this issue by developing their own solutions. To continue to be effective and competitive, the most recent technical developments are being used by retailers in their daily business operations.

In the study by *MacAs and others (2021)*, they discussed that effective inventory management is crucial, especially for businesses that focus on retail. The inventory management's responsibility is to maintain raw material or other supply inventories at levels that deliver the highest levels of service at the lowest possible cost, including work in progress and finished goods.

The demand pattern policy, according to *Marsudi's (2019)* reviews inventory management in the manufacturing sector in how it aids in identifying the most effective approaches in inventory systems like economic ordering quantity, material requirement planning, and product storage. This review also states how these approaches have benefited the sector in terms of planning, delivery processes, and on-time production, tying it with factors such as the environment, technology, systems, and procedures.

In the study of *Khan et al. (2019),* organizations benefit from inventory control management through improved sales effectiveness, easy retrieval, and storage of material, and reduced operational costs. The study also discovered a significant relationship between the utility of inventory control management and operational feasibility in addressing the customer-related concerns of an organization. Lastly, these cost-effectiveness techniques are put into practice to improve a business's return on investment.

Sridhar et al, (2021) discussed that for the past few years, one of the most important components in many retail sectors has been inventory management. He also added that for retail stores maintaining a diverse product offering and an ideal stock level is a constant operational issue if they were to solely rely on the traditional method of inventory management. Therefore, it is beneficial for firms to utilize new innovations made in regard to inventory management in order to maintain a competitive advantage and improve their longevity.

According to *Giri and Chen (2022)* customers can now view and select from a huge variety of products that are categorized digitally because of the expanding number of e-commerce platforms. They also state that fashion consumers' buying habits have undergone a significant change as a result of several reasons, including but not limited to social media, fashion shows, and other events. Customers today prefer to choose their products from the vast selection of possibilities and want them to be delivered as soon as humanly possible. It might be difficult for business owners to meet customer needs quickly due to this change in consumer behavior. Thus, it is critical for sellers to utilize efficient and prompt replenishment of inventory in advance based on the forecast future demand patterns. To address this challenge, it is important to study the complexity of the fashion market and managerial strategies that would allow products to be designed, produced, and delivered on time. Additionally, the fashion apparel industry has been undergoing significant transitions due to factors such as dynamic pricing strategies, inventory management, globalization, and consumer centrist and technology-oriented product design and manufacturing.
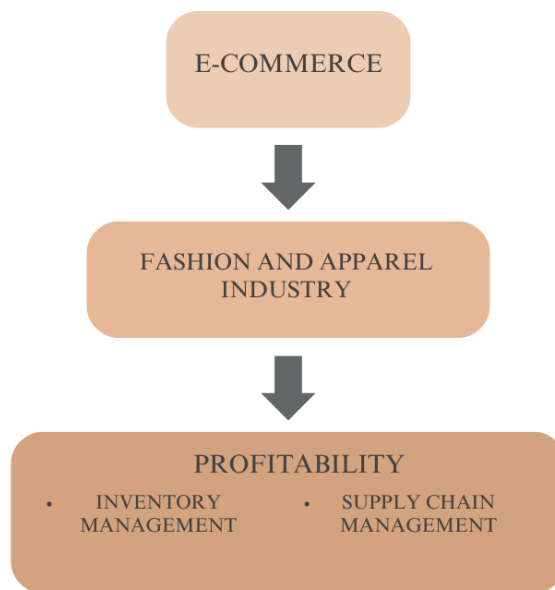
CHAPTER III
THEORETICAL FRAMEWORK/CONCEPTUAL FRAMEWORK

Theoretical Framework

This study is supported by Transaction Cost Theory. Transaction Cost Theory, formally proposed by *Ronald Coase (1937)* and expanded upon by *Oliver Williamson (1991)* is arguably the most used theory when it comes to business and e-commerce studies. This theory concludes that costs will arise when you get someone else to do something for you. Further, the theory states that when the transaction cost is low, buying the goods and services on the market was the preferred option. This theory is built on the assumption that rationality and opportunism are bound for self-interest with guile. Transaction Cost Theory also addresses why certain businesses choose and change their strategies and when is the perfect time to do it. It proposes that businesses should aim to minimize transaction costs not just for inside dealings but as well as for outside transactions.

Conceptual Framework

This research will focus on the negative and positive influences of E-Commerce on the fashion and apparel industry's profitability in selected areas of Taytay, Rizal in connection with the above-mentioned theory.

Figure 1. Conceptual Framework

Definition of terms

For a better understanding of study, the following important terminologies are defined in the context of this research.

Profitability: It refers to measuring the total business income relative to its expenses.

Supply Chain Management: It refers to the management of the flow of goods and services and includes all processes that transform raw materials into final products.

Inventory Management: It refers to the process of ordering, storing, using, and selling a company's inventory.

E-Commerce: It refers to the activity of buying and selling products and services using the internet. These business transactions can occur in many ways, maybe in business to business, business to consumer, consumer to consumer and consumer to business.

Fashion and apparel industry: It refers to a design that deals with more generations of ideas while the apparel industry produces garments that are generated fashionable clothing for men and women.

Annual Income: It refers to the amount of revenue that earn during the year before any deductions may occur.

Technology literacy: It refers to effectively using technology tools to access, manage, integrate, evaluate, create, and communicate information.

Business Model: It refers to a conceptual structure that describes how an organization fulfills its purpose.

Physical Shops: It refers to a physical space that displays and sells products and customers can visit.

Hybrid Shops: It refers to the combination of offline and online shopping.

E-Commerce Platforms: It refers to an online application that allows businesses to use and manage their website, marketing, sales, and operations.

Transaction Cost Theory: It refers to a theory arguably used when it comes to business and e-commerce studies. This theory concludes that costs will arise when you get someone else to do something for you.

Online Market: It refers to an e-commerce site or platform that allows sellers to connect with buyers.

CHAPTER IV
RESEARCH METHODOLOGY

This chapter discusses the methods and procedures that will be involved in undertaking the thesis. It includes the plan and configuration of the investigation concerned to obtain answers to the problems mentioned above.

Research Design

This study used the quantitative research method which is designed for the researcher to gather information needed to analyze the possible impacts of e-commerce in the profitability of the fashion and apparel industry within Taytay. This method will enable the researcher to interpret the theoretical meaning of the findings and hypothesis development for further studies.

Research Locale

The researchers' study will be conducted at Barangay San Juan Taytay, Rizal. Administering the data gathering at Barangay San Juan, Taytay, Rizal will be easier and more convenient for the researchers as the majority of the researchers are from Taytay. Moreover, Taytay has plenty of potential respondents since it is the garment capital of the Philippines.

Figure 2. Google Map of Survey Location

Population and Sampling

According to Crossman (2020), the main benefit of simple random sampling is that each member of the population has an equal chance of being chosen for the study. The researchers will use simple random sampling as their technique to gather respondents in which they will be choosing random registered fashion and apparel business owners in Barangay San Juan, Taytay, Rizal to answer their survey questions. Out of the 413 registered fashion and apparel business owners in San Juan, Taytay, they will gather 81 respondents to answer the survey questionnaires to resolve the research questions given in the study. The population data will be gathered from the Barangay Hall of San Juan, Taytay.

Slovin's formula:

n = sample size

N = population size

e = acceptable margin of error

Whereas: $n = N / (1+Ne^2)$

$n = 413 / (1+413(0.10)^2$

$n = 413 / (1+413(0.01)$

$n = 413 / (1+4.13)$

$n = 413/5.13$

$n = 80.507$ or 81

Research Instrumentation

The researchers will be conducting a survey through Google Forms. The researchers will make 15-35 questions that will be divided into two parts. The first part will consist of their profile which includes the respondents' age of business, annual income, technology literacy level, and the type of business model they own. The second part will include questions about our dependent variables such as supply chain management, profitability, and inventory management.

Data Gathering Procedures

The researchers will use the Google Form survey questionnaires with the assurance that they will follow the ethical considerations they need such as asking permission to conduct a survey before proceeding. Furthermore, they will use Google Forms as the platform in which the survey questions will be provided. Moreover, after proceeding to the survey questions, the researchers will ask for clarification or suggestions to gather a clear and precise answer from the respondents to accurately interpret and analyze the gathered data.

Statistical Treatment of Data

In describing the profile of the respondents and other categorical types of questions, frequency and percentage were used to present it.

$$\% = \frac{f}{n} \times 100,$$

Where:

f is the frequency.

n is the total samples

Likert scale type questions such as overall impact of e-commerce, impact to supply chain management and inventory were presented using weighted mean and standard deviation,

$$Weighted\ Mean = \frac{f_1 x_1 + f_2 x_2 + f_3 x_3 + f_4 x_4 + f_5 x_5}{n},$$

Where f is the frequency of responses and x is the scale (coded from 1 to 4)

Standard deviation

$$SD = \sqrt{\frac{\sum_{i-1}^{n}(x_i - \bar{x})^2}{n-1}}$$

Mean will be interpreted such as below:

Mean		Interpretation
1.00	1.80	Strongly disagree
1.81	2.60	Disagree
2.61	3.40	Neutral

3.41	4.20	Agree
4.21	5.00	Strongly agree

In determining whether the relationship of impact of e-commerce to supply chain management and inventory to overall impact, person r was utilized.

Pearson r

$$r = \frac{n\left(\sum XY\right) - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\left[n\sum X^2 - \left(\sum X\right)^2\right]\left[n\sum Y^2 - \left(\sum Y\right)^2\right]}} ,$$

Where:

r Pearson Coefficient

n number of the pairs of the stock

$\sum XY$ sum of products of the paired stocks

$\sum X$ sum of the x score

$\sum Y$ sum of y score

$\sum X^2$ sum of the squared x scores

$\sum Y^2$ sum of the squared y scores

A statistical software was used to carry out the calculation for Pearson r correlation coefficient.

CHAPTER V

PRESENTATION AND DISCUSSION OF FINDINGS

This chapter contains the analysis, presentation, and interpretation of the findings resulting from this study. Each table aims to answer each objective listed in the previous chapter of this study.

Table 1. Demographic Profile

Table 1.1 Distribution of Respondents according to Age

	Frequency	Percentage (%)
18 and below	1	1.2
19 - 25 years old	19	23.5
26 - 35 years old	35	43.2
36-45 years old	19	23.5
46-60 years old	7	8.6

Table 1.1 Distribution of Respondents according to Age

A total of 81 business owners were included in the study. The owners are usually from 26 to 35 years old (43.2%) while 23.5% of them are from 36 to 45. Additionally, 46 to 60 years old comprised 8.6% of the total respondents.

Table 1.2 Distribution of Respondents according to Gender

	Frequency	Percentage (%)
Male	14	17.3
Female	67	82.7

Table 1.2 Distribution of Respondents according to Gender

Majority of the business owners are female (82.7%) and remaining 17.3% are male.

Table 1.3 Distribution of Respondents according to Duration in the Industry

	Frequency	Percentage (%)
1-5 years	50	62.5
6-10 years	27	33.8
11 years and above	3	3.8

Table 1.3 Distribution of Respondents according to Duration in the Industry

Duration in industry was also obtained where 62.5% of them has been in the industry from 1 to 5 years. Additionally, 33.8% of them are from 6 to 10 years in industry while 3.8% exceeds 10 years.

Table 1.4 Distribution of Respondents according to Estimated annual income of their Business.

	Frequency	Percentage (%)
Php200,000 and below	12	14.8
Php200,001 - Php500,000	19	23.5
Php500,001 - Php750,000	27	33.3
Php750,001 - Php1,000,000	13	16.0
Above 1 million	10	12.3

Table 1.4 Distribution of Respondents according to business annual income

On estimated annual income of their business, most is earning from 500,001 to 750,000 (32.9%) while 23.2% is earning from 200,001 to 500,000. On the other hand, 12.2% is earning above 1 million annually.

Table 1.5 Distribution of Respondents according to Type of Business

	Frequency	Percentage (%)
Hybrid (both physical and online)	66	83.5

Online shop	10	12.7
Physical Store (Tiangge)	3	3.8

Table 1.5 Distribution of Respondents according to Type of Business

The majority of the business owners operate hybrid type, implying a mix of physical and online stores. On the other hand, 12.7% are purely online shops while 3.8% are purely physical stores.

Table 1.6 Distribution of Respondents according to Proficiency in utilizing e-commerce application

	Frequency	Percentage (%)
Yes	80	98.8
No	1	1.2

Table 1.6 Distribution of Respondents according to E-commerce proficiency

Only one of them is not proficient in utilizing e-commerce application while 98.8% are proficient.

Table 2 Approximate percentage of Physical and Online Sales

	Physical Sales		Online Sales	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Zero (0%)	3	3.7	1	1.2
1-20%	5	6.2	3	3.7
21% - 40%	4	4.9	15	18.5
41% - 60%	22	27.2	23	28.4
61% - 80%	32	39.5	10	12.3
81% - 100%	15	18.5	29	35.8

Table 2. 1 Physical and Online Sales Percentage

Results reveal that a typical business on fashion and industry, 39.5% of them obtain their profit mostly from physical sales, which is 61 to 80%. Additionally, 18.5% of the business obtained 81 to 100% from physical sales. On online sales, 35.8% of them are earning 81 to 100% from online sales, while 28.4% is from 41 to 60%.

Table 3. Impact of E-commerce on Supply Chain

	Mean	SD	Interpretation
Is it easier to establish supplier relations online?	3.55	1.03	Agree
Does the period of the delivery time of your products affect your ROI?	4.04	0.90	Agree
Do you gather raw materials for production, or do you strictly rely on retails?	3.81	0.78	Agree
Does e-commerce platforms aid you in resupplying raw materials?	3.63	0.97	Agree
Are supply documents easier to track using paperwork or digital storage?	3.51	1.03	Agree
Is the demand for products easier to spot within e-commerce platforms over word of mouth in the industry?	3.99	0.80	Agree
Is supply chain management easier to accomplish through the use of e-commerce platforms?	3.93	0.59	Agree
Overall mean	3.78	0.90	High

Table 3. Impact of e-commerce on Supply Chain

The overall mean is 3.78 implying they that e-commerce has a high positive impact on their supply chain management of their business. All positive seven attributes were rated as agree. The highest mean is 4.04, which denotes that the period of the delivery time of their products affects their ROI while lowest mean is 3.51. This still suggests that they agree that it is easier to establish supplier relations online.

Table 4. Impact of E-commerce on Inventory Management

Table 4.1 Method of Business in identifying number of stocks

	Frequency	Percentage (%)
Automatic (System generated)	13	16.0
Manual (physically counted)	15	18.5

Both	53	65.4

Table 4.1 Method of business in identifying number of stocks

Results show that majority of the business uses two methods, both automatic and manual system (65.4%) while 16% use only automatic.

Table 4.2 Frequency of replenishing their e-commerce inventory.

	Frequency	Percentage (%)
Daily	32	39.5
Weekly	46	56.8
Monthly	3	3.7

Table 4.2 Frequency of replenishing their e-commerce inventory

Weekly turns out to be the most common frequency of replenishing inventory (56.8%) while. 39.5% replenish daily.

Table 4.3 Frequency of keeping track their inventories.

	Frequency	Percentage (%)
Daily	31	38.3
Every other day	21	25.9
Weekly	29	35.8

Table 4.3 Frequency of keeping track of inventories

Results also reveal that most of them keep track of their inventories daily (38.3%) while 35.8% do it on a weekly basis.

Table 4.4 Impact of e-commerce on Inventory using.

Resulting overall mean of 3.78 implies that the impact of e-commerce to inventory using is at high positive level. Among the eight attributes, six of them are rated as agree while two are rated as neutral and none as strongly agree. The highest mean is 4.16 which denotes that they agree that e-commerce inventory management is a system that helps retailers improved their business. The lowest mean on the other hand is only 3.28 which suggests that they are neutral on whether there are any issues encountered with their stock replenishment when managing both physical and online shop.

	Mean	SD	Interpretation
Do you try to predict the future inventory needs based on the demand of your e-commerce business?	3.93	0.67	Agree
Do you agree or Are you in favor that inventory management plays a vital role in enhancing your business	4.10	0.56	Agree
Do you agree that e-commerce inventory management is a system that help retailers grow their business?	4.16	0.49	Agree
Is it easier to manage the inventory in e-commerce platforms?	3.77	0.87	Agree
Do you think E-commerce platform has a positive impact in inventory management in your business?	4.10	0.49	Agree
Is there any issues encountered with your stock replenishment when managing both physical and online shop?	3.28	1.16	Neutral
Do you utilize any inventory management system in your e-commerce business?	3.58	0.93	Agree
In your experience, did you suffer any losses from e-commerce returns	3.40	1.09	Neutral
Overall mean	3.79	0.88	High

Table 4.4 Impact of e-commerce on inventory using

Table 5. Test of Relationship on Overall Impact of E—commerce to Impact to Supply management and Inventory.

	Pearson r	p value	Decision	Conclusion
Impact on Supply Management	0.498	0.0001	Reject null	Significant
Impact to Inventory	0.484	0.0001	Reject null	Significant

Table 5. Impact of E-commerce on Supply Management and inventory

Resulting p-value of 0.0001 which is less than the level of significance of 0.05 denotes that the null hypothesis should be rejected. This denotes that the relationship between the impact of e-commerce to supply management and impact is significantly

related to the overall impact. Furthermore, resulting positive coefficients of 0.494 and 0.484 suggest that as the impact of e-commerce to supply management or impact on inventory increases, the overall impact also increases.

SUMMARY AND FINDINGS

This study was conducted for the purpose of assessing the impact of e-commerce on the business of fashion and apparel industry. A total of 81 business owners were part of the survey and below are the findings:

Profile of the Business owners and their Business –   Most of the owners is from 26 to 35 years old (43.2%) while majority are female (82.7%). The duration of business in this industry is usually from 1 to 5 years while estimated annual income is usually from 500,001 to 750,000 (33.3%). A typical fashion and apparel business is hybrid type, a combination of physical and online method (83.5%), while almost all are proficient in utilizing e-commerce application (98.8%).

Percentage of Income – Usually the source of income is still from physical sales which is usually from 61 to 80%. Online sales, on the other hand, are either 81 to 100% income to their business or 41 to 60%.

Impact of E-commerce to Supply chain management – overall mean is 3.78 which denotes that the impact of e-commerce to supply chain management is at a high positive level. The highest mean is 4.04 while lowest is 3.51.

Impact of E-commerce to Inventory – overall mean is 3.79 which denotes that the impact of e-commerce to supply chain management is at high positive level. The highest mean is 4.16 while lowest is 3.40. Additionally, the method of identifying stocks is still usually a combination of automated and manual (65.4%). Most common frequency of replenishing is usually weekly (56.8%) while usual keeping track of inventories is daily (38.3%).

Test of Relationship – Impact of e-commerce to supply chain management (r=.498) and impact to inventory (r=.484) is positively significantly related to the overall impact of e-commerce to overall impact.

CHAPTER VI

Conclusions and Recommendations

CONCLUSION

The study has successfully gathered enough data that was done or administered, and valid results were derived. It can now be concluded that the overall impact of e-commerce to their business is at high positive level as they strongly agree that understanding e-commerce platforms affect their volume, it offers more flexibility for them to sell their products, easier to recognize through the tools available, offer more foot traffic and has lower maintenance cost. Specific to supply chain management, e-commerce also tuns out to have a highly positive impact as they agree that it is easier to establish supplier relations, supply documents are easier to track, and demand for products easier to spot. Specific to the impact of e-commerce to inventory, results reveal also a high positive impact as they agree that future inventory can be predicted, it plays a vital role, it helps retailers grow their business, easier to manage inventory, and minimal issues on stock replenishment. In totality, the study has proven how influential is the use of e-commerce to a business. This is now the trend, for business to keep up and continue to stay in the industry, business owners should start adapting and embracing the changes. Innovation is now the key for the continuous survival and growth of a business.

RECOMMENDATION

Based on the findings of this study, several recommendations are made:

For Taytay Rizal Government:

The government should come up & offer Tech literacy programs for elderly business owners so that they could adapt to the changing market environment and retain their competitive advantage rather than relying only on social connection and bulk sales to maintain a steady stream of profits.

For Current and Future Fashion and Apparel Business owners:

Business owners should maintain their eagerness & interest by adapting their business structure to the ever-changing top e-commerce platforms so that they can maximize their profit and business goals. They should also familiarize themselves with the new features and tools

present within the e-commerce platform in order to gain a competitive advantage within previously stated e-commerce platforms.

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APPENDIX A. SURVEY QUESTIONNAIRE

STI COLLEGE ORTIGAS-CAINTA

Bachelor of Science in Management accounting

THE IMPACT OF E-COMMERCE IN THE PROFITABILITY OF THE FASHION AND APPAREL INDUSTRY IN SELECTED AREAS OF TAYTAY, RIZAL

Survey Questionnaire

DEMOGRAPHIC PROFILE:

1. Name (optional):

2. Name of Shop:

3. Age:

    Check all that apply.
    □ 18 and below
    □ 19 - 25 years old
    □ 26 - 35 years old
    □ 36-45 years old
    □ 46-60 years old

4. Gender

    Mark only one oval.

    ○ Male

    ○ Female

5. Contact information (optional):

6. How long have you been in the industry?

    Mark only one oval.

    ⬭ 1-5 years

    ⬭ 6-10 years

    ⬭ 11 years and above

7. Estimated annual income of your business:

    Mark only one oval.

    ⬭ Php200,000 and below

    ⬭ Php200,001 - Php500,000

    ⬭ Php500,001 - Php750,000

    ⬭ Php750,001 - Php1,000,000

    ⬭ Above 1 million

8. Type of business owned.

    Check all that apply.

    □ Physical Store (Tiangge)

    □ Online shop

    □ Hybrid (both physical and online)

9. Are you proficient in utilizing e-commerce applications?

    Mark only one oval.

    ⬭ Yes

    ⬭ No

10. What is the approximate percentage of your physical sales?

Mark only one oval.

⭕ 0-20%

⭕ 21% - 40%

⭕ 41% - 60%

⭕ 61% - 80%

⭕ 81% - 100%

⭕ N/A (strictly online)

11. What is the approximate percentage of your online sales?

Mark only one oval.

⭕ 0-20%

⭕ 21% - 40%

⭕ 41% - 60%

⭕ 61% - 80%

⭕ 81% - 100%

⭕ N/A (strictly physical)

SUPPLY CHAIN MANAGEMENT:

12. Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Strongly Agree
Is it easier to establish supplier relations online?	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Does the period of the delivery time of your products affect your ROI?	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Do you gather raw materials for production, or do you strictly rely on retails?	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Does e-commerce platforms aid you in resupplying raw materials?	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Are supply documents easier to track using paperwork or digital storage?	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Is the demand for products easier to spot within e-commerce platforms over word of mouth in the industry?	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Is supply chain management easier to accomplish through the use of e-commerce platforms?	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

INVENTORY MANAGEMENT:

13. What method/s does your business use to identify the number of your stocks?

Mark only one oval.

$\bigcirc$ Manual (physically counted)

$\bigcirc$ Automatic (System generated)

$\bigcirc$ Both.

$\bigcirc$ Other:

14. How often do you replenish your e-commerce inventory?

Mark only one oval.

⭕ Daily

⭕ Weekly

⭕ Monthly

15. How frequent do you keep track of your inventories?

Mark only one oval.

⭕ Daily

⭕ Every other day

⭕ Weekly

⭕ Monthly

16. Mark only one oval per row.

	Strongly disagree	Disagree	Neutral	Strongly Agree
Do you try to predict the future inventory needs based on the demand of your e-commerce business?	◯	◯	◯	◯
Are you in agreement that inventory management plays a vital role in enhancing your business	◯	◯	◯	◯
Do you agree that e-commerce inventory management is a system that help retailers grow their business?	◯	◯	◯	◯
Is it easier to manage the inventory in e-commerce platforms?	◯	◯	◯	◯
Do you think E-commerce platform has a positive impact in inventory management in your business?	◯	◯	◯	◯
Is there any issues encountered with your stock replenishment when managing both physical and online shop?	◯	◯	◯	◯
Do you utilize any inventory management system in your e-commerce business?	◯	◯	◯	◯
In your experience, did you suffer any losses from e-commerce returns	◯	◯	◯	◯

APPENDIX B. GANTT CHART

MONTH / ACTIVITY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
Planning for thesis title	▓									
Title Presentation	▓									
Chapter 1		▓								
Chapter 1 and 2		▓								
RRL and chapter 2 rough draft			▓							
Proposed title change			▓							
2nd revision of the title			▓							
Final revision of the work and draft of survey questionnaires			▓							
Final copy			▓							
Consultation with research adviser				▓						
Revise research title				▓						
Final revision of work				▓						
Approval of survey questionnaire				▓						
Distributing of survey questionnaire				▓						
Looking for statistician				▓						
Meeting with statistician				▓						
Chapter 4 to 6				▓						
Editing of final output				▓						
Final paper				▓						

APPENDIX C. ACTUAL RESEARCH EXPENSES

Prepared by: Wennie Hope A. Udtahan

Quantity	Specifics	Approximate Cost	Actual Cost
48	Photocopy of paper chap 1-3	5 per pages	240
1	Grammarian	1300	1300
1	Book Bind	350	350
1	Statistician	3200	3200
6	drinks	120	120
1	foods	740	740
5 copies	Photocopy of final paper	600	600

Godwin Dave M. Garcia Daniel Louis P. Hobayan

Pauline H. Sibug Wennie Hope A. Udtahan

Noted by:

Elizabeth D. Garcia   Odeza P. Hobayan
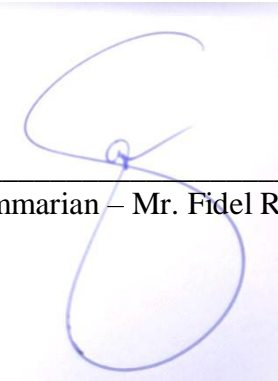
Rolando F. Sibug   Welfredo M. Udtohan

Approved by:

Mr. Evan Jethro H. Matias, MBA   Ms. Rachelle M. Aguila, CPA, MBA

GRAMMARIAN CERTIFICATE

This is to certify that the undersigned has viewed, went through and provided the correction in grammar of the whole paper and all pages of the study titled "**The Impact of E-Commerce in the Profitability of the Fashion and Apparel Industry in Selected Areas of Taytay, Rizal** "written by the members of the study: "Godwin Dave M. Garcia; Daniel Louis P. Hobayan; Pauline H. Sibug; and Wennie Hope A. Udtahan, " . The whole paper is grammatically sound.
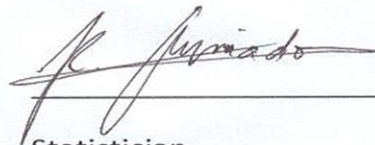
_____
Grammarian – Mr. Fidel Reyes

CERTIFICATION OF STATISTICIAN

This is to certify that the research study titled "**The Impact of E-Commerce in the Profitability of the Fashion and Apparel Industry in Selected Areas of Taytay, Rizal**" by "Godwin Dave M. Garcia; Daniel Louis P. Hobayan; Pauline H. Sibug; and Wennie Hope A. Udtahan" was analyzed using the most appropriate statistical tool. This also certifies that only licensed software was used. The results is statistically sound.

This certification is issued for the purpose of her research documentation.

_____
Statistician

Reginald P. Arimado