

**INTERNATIONAL JOURNAL OF SCIENCE FOR GLOBAL SUSTAINABILITY****Development of a Computerized System for Fashion Business**

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**ABSTRACT**

Although physical storefronts are still widely valuable and used, there has been substantial increase in electronic commerce in the fashion sector in recent years in Nigeria. The fashion sector alone presently accounts for 37% of e-commerce revenues to Nigeria's economy and the Nigerian eCommerce revenue is led by Electronics & Media with 39.3%, followed by Fashion with 22.3% (Otaru, A. 2022). The globalization of e-commerce has also had a significant impact on Nigeria's fashion industry while the wider African e-commerce landscape is being pushed by sales in fashion despite the prevalent challenges. This study provides a literary resource to the body of knowledge of the Nigerian fashion and e-commerce industry. It identifies the key factors that contribute to the success of e-commerce fashion businesses in Nigeria and develops a workable computerized system specifically designed for e-commerce fashion businesses. By leveraging technology, fashion businesses can streamline their operations, improve customer experiences, and stay competitive in the ever-changing fashion industry. Observations were made to understand the current state of the fashion industry and the challenges faced by fashion businesses. Documentation was used to gather information about the history of the fashion industry and the evolution of e-commerce. Interviews were conducted with fashion designers, fashion business owners, e-commerce experts and customers to gain insights into the key factors that contribute to the success of e-commerce fashion businesses. The outcome of this study is a workable computerized system specifically designed for the fashion industry. The system is designed to help fashion businesses streamline their operations, improve customer experiences, and stay competitive in the ever-changing fashion industry.

**Keywords:** Computerized system; Business; clothing and Fashion e-commerce.

**1.0 INTRODUCTION**

The fashion industry is a multibillion-dollar global enterprise devoted to the business of making and selling clothes (Major & Steele, 2023). Before the Covid-19 pandemic, the fashion industry global revenue was estimated between \$1.7 trillion and \$2.5 trillion (Euromonitor International & McKinsey, 2019). According to a Statista report, the revenue in the fashion segment is projected to reach US\$0.99tn in 2023, with an expected annual growth rate (CAGR 2023-2027) of 9.99%, resulting in a projected market volume of US\$1.45tn by 2027. It is now a worldwide industry with booming segments in almost every major country. (McKinsey, 2019). McKinsey in its State of Fashion 2017 report stated that Fashion is one of the world's most important industries, driving a significant part of the global economy. It is one of the key value-creating industries for the world economy. Furthermore, the growing influence of

globalization on various industries has necessitated a technological revolution, and the fashion industry is no exception. According to a Forbes article, technology is significantly impacting the fashion industry in many ways, including making it easier for consumers to get what they want, using fashion design software, and using 3D printing to create prototypes (Laster, D. 2021). In the current era, computers have become an indispensable component of almost every business, and it is difficult to imagine life without them. Possessing computer skills can significantly enhance one's career prospects. According to the World Economic Forum, on average, across participating OECD countries, only 52.5% of adults reporting lack of computer skills were employed, compared to 72.7% among those who mastered at least a basic level of proficiency to solve problems on computers. Indeed, employment rates increase with skill levels (World Economic Forum, 2020). With

their incredible processing power, computers have revolutionized the way people conduct business and manage their daily lives. (Sherman, F. 2019). In the contemporary context, computers have become indispensable tools, with millions of people using them worldwide. Everyone with a rudimentary understanding of technology may utilize computers, which are becoming standard tools. Fashion designers put in a lot of time making alterations, measuring, and trying to understand customer preferences. Computer technology may accelerate and simplify this procedure, giving the designer more time to sew and create designs. This study aims to evaluate how Nigerian fashion companies adopt and employ digital technology.

Similarly, as the fashion industry has begun to digitize, a new kind of marketing has emerged with features that are only partially like those found in traditional offline settings. In both the industrial and consumer goods markets, the online environment now plays a significant role for business success. Although societal and technological changes, digital innovation, rising globalization, and changes in consumer spending habits have catapulted the fashion industry into the midst of seismic shifts (Keenan, 2022.), Marketing strategies, particularly for online fashion marketing has profound effect on the growth of the fashion businesses. Internet marketing is a strategy used by business executives to increase sales and create collaboration (Asia, 2017). Across the fashion landscape, retailers are investing time and money to enhance their digital platforms and develop their online strategies (Balchandani et al., 2021). Digital platforms have helped to established a new world in which consumers are more connected, communication is more pervasive, and shopping experiences are more fluid (Khandelwal et al., 2021). Consumers consult the Internet as a reliable source before making purchases of goods and services. For small and medium-sized businesses to obtain and maintain a competitive advantage, it is essential that they explore for opportunities in international markets because of the globalization of the business environment (Osano, 2019). The globalization of e-commerce in the fashion industry demands special consideration. In the process of internationalization, the Internet and online channels are viewed as a useful instrument for

lowering operational risks, information gaps, and physical liabilities. Such techniques may help to lessen the perception of risk associated with fake or counterfeit items, especially in the luxury apparel industry. Multi-brand retailers have a unique opportunity to expand their business internationally through new platforms and technologies. However, in such a challenging environment, it is important for businesses to manage customer views towards technical facilities. This special issue aims to explore online fashion marketing and sales, focusing on the impact of information technology and the effects of crossover between domestic supply chain channels and the internationalization process (Premier, 2020). The adoption of new technology has an impact on consumer behavior as well as company capability (Jose, 2017). This shift can be attributed to the rise in smartphone ownership and mobile Internet usage, as well as new 3D and consumer interaction capabilities (Kawa et al., 2023).

## 2.0 COMPUTERIZED SYSTEM

A computer is an electronic gadget used to change data or information. Data can be stored, retrieved, and processed by it. Using a computer to browse the web, play games, send emails, and type documents may already be common knowledge to you. It may also be used to create and edit presentations, videos, and spreadsheets. Most people only consider a desktop or laptop computer when they hear the word "computer," which is a personal computer. In contrast, computers come in a variety of shapes and sizes and are utilized for a variety of functions in our daily lives. A particular type of computer is used when you use an ATM, scan your groceries at the store, or use a calculator. Therefore a computerized system is a system that allow people to perform specific task such as buying of items online, calculations, drawing and designing, using computer such as mobile phones, laptop, desktop computer etc. these are stuffs people do manually when technology has not advanced to the this level. For instance if you want to buy pizza u have to walk or drive to the pizza shop to buy it and drive back to your house. With the advancement of technology you can seat down in your house with just your phone. and buy that stuff online and it will be deliver to your door step.

Computerized systems are becoming very important and useful in organizations due to the rapid growth of technologies and the need for easy management. It reduces inefficiency and cost. Below are some advantages of computerized system:

- a. It is very accurate
- b. It is easy to access data
- c. It is efficient
- d. It is secure

### 2.1 Fashion Business

Clothing, footwear, accessories, makeup, body piercing, and furniture are just a few examples of items where fashion is a significant style or practice. A distinct and frequently ingrained trend in a person's dressing sense is called fashion. Both the newest textile designs and the most well-liked behavioral trends are represented by them. Since "costume" is sometimes confused with the more technical term "costume," the former has been limited to specialized meanings like fancy dress or masquerade garb, whereas "fashion" refers to clothing generally, including the study of it. Despite the fact that some aspects of fashion have a gendered or asexual orientation, some trends are androgynous.

This term does not simply refer to the most recent, popular, or well-known clothing. In actuality, this societal phenomenon is of greater significance. In certain ways, fashion aids us in expressing who we are and portraying our personalities through visual information. Our clothing choices reflect our attitude toward the world and other people. It's a form of communication as well. We imbue parts of our personalities into everything we do, including how we act in certain settings, what we eat, and the clothing styles we select in stores. The main stream of fashion is made up of all of its components. Regardless of our personalities, everyone on the planet has something in common. Even if it's the tiniest detail.

### 2.2 Computerized system for fashion business

Computerized system for fashion business is a system designed to store customer body measurement details and enable customers to make cloth from the comfort of their home without

passing the stress of traveling down to any fashion house to make their cloths and also display various designs and trend of latest fashion wears for customer to make their own choice of designs.

### 2.3 Proposed technique/method

Four types of methodologies have emerged over time in the development of systems. These methods include:

- a. Traditional;
- b. Structured;
- c. Information modeling;
- d. Object-oriented.

The prior methodologies such as traditional, structured, information modelling are described as "Functional-Oriented". It is a programming paradigm whereby functions are used to construct programs. Some characteristics are:

- a. It is based on the concept of mathematical functions, which execute calculations using conditional expressions and recursion.
- b. It does not support iteration in the same way as loop statements and conditional statements such as If-Else do.
- c. Data is immutable.

In terms of analytic aspects, attempted to make a differentiation between the object-oriented strategy and other techniques. The main difference between object-oriented analysis (OOA) and other types of analysis, according to him, is that when using the object-oriented methodology, there is an inherent composition of all prerequisites around objects, which coordinate the two practices (procedures) and states (data), which are displayed after true items that the system interfaces with. This is in contrast to traditional analysis methodology, which considers the two sides separately. Procedures and information are considered independently. The main tasks in the object-oriented analysis (OOA) is:

- a. Identifying the objects.
- b. Organizing the objects.
- c. Describing the interactions between the objects.
- d. Defining the behavior of the objects

### 2.4 The Model View Controller (MVC) Design

The model view and controller called the MVC is an architecture pattern which is used to separate application into three basic logical layers. Each of

this layers have their own specific roles. MVC is one of the most widely used industry-standard framework for web development.

#### **i. Model Layer**

The model layer corresponds to all data-related logic that the user works with. This can represent data that is being transferred between the view and the controller layers. For example, an employee object will retrieve the employee's data from the database, manipulate it and update the data back to the database.

#### **ii. View Layer**

This layer is used for all the user interface logic of the application. For instance, the employee view will encompass all user interfaces and fields such as text boxes dropdowns etc. which the final user interacts with.

#### **iii. Controller Layer**

Controllers act as an interface between the model layer and the view layer to process all the business logic and incoming requests, manipulates data using the Model component and interact with the view to render the final output. The controller will handle all http requests and get data from the model and pass it to the view layer for the user to see and access it.

### **2.5 Related Review work**

Due to the growth in the research of fashion system, technologies may have improved regarding the system. we present a survey of selected literature which lingers around computerized system for fashion business.

Bernal & Prentice (2018) researched on new marketing strategies in fashion e-commerce is part of a more general path of renewal regarding marketing research and marketing models that have been adopted to address the growing role of new technologies in marketing processes and, in general, the interface between business and consumer players in contemporary society. Particularly during this period of change, traditional marketing models and tools can be seen to co-exist with new models and tools.

The study by Noris et al. (2021) showed that academics and practitioners are becoming more interested in digital fashion, especially when it

comes to the field of communication and marketing. Online fashion retailing, according to Miell et al. (2017), is a significant growth industry. Innovative online fit and sizing technologies that make purchases easier are still being developed and launched, but there are still issues with how digital expectations of fit and size affect consumer choice.

Pookulangara (2021) opined on the fastest-growing e-commerce sector is retail fashion; yet, the industry is grappling with a severe return problem for online purchases. Retailers are slowly but steadily adopting new online tools to assist customers in making better fitting judgments. The current study looks into the impact that True Fit®, an online sizing technology, has on customer trust while making sizing selections online, as well as their eventual desire to use True Fit®. The following variables are included in the study: perceived ease of use of True Fit, perceived utility of True Fit®, convenience of using True Fit®, and intention to utilize True Fit. Data were collected via an online survey (n = 577). Data were analyzed using descriptive statistics, factor analysis and Structural Equation Modelling, all the hypotheses were supported.

Grogan et al. (2020) revealed that whole-body scanning is increasingly used in the clothing industry, including in large-scale sizing surveys and virtual fitting. However, the impacts of 3D scanning on women's body satisfaction are unclear as no previous studies have investigated impacts in a controlled experiment. This experiment investigated any causal effect of 3D whole-body scanning, as used in clothing applications, on women's body satisfaction.

The problematization of customizing processes in the fashion sector is the subject of Perna et al. (2017) research. They looked into how businesses dealt with and planned customization processes that rely on using particular Information and Technology (IT) tools, including online sales configurators. The roles of customers and their influence on the creation of customisation techniques was taken into account in the majority of studies on customization in fashion. They thoroughly explored how to co-develop customized

products and how to decide which IT system to apply to let clients design their own items.

According to Jain and Kumar (2019), fashion is ever-changing, and people of all ages and genders are eager to learn about and wear the current trends. Individuals were initially reliant on physical stores, but the emergence and success of e-commerce changed the game by allowing people to purchase from the comfort of their own homes. The introduction of fashion shopping apps has not only made purchasing easier, but it has also improved the overall shopping experience. In a study conducted by Amofah & Chai (2022), 535 respondents from six regions in Ghana were surveyed to investigate the factors influencing e-commerce adoption in Ghana, focusing on the mediating and moderating roles of trust and payment method. The study employed the Partial Least Square Structural Equation Model (PLS-SEM) to estimate the survey response and they found a direct relationship between the UTAUT variables and e-commerce adoption. Trust significantly mediates the UTAUT variables and e-commerce adoption. The mediation was highest between social influence and trust but lowest between effort expectancy and trust. The study challenges practitioners and managers of e-commerce platforms to consider the mediating role of trust to improve adoption and the sustainable usage of e-commerce.

Hwangbo et al. (2018) proposed a new method of recommending fashion products to customers by extending the existing collaborative filtering method to reflect the characteristics of fashion products. First, they considered the fact that fashion products are sold online and offline, and preferences for fashion products also appear online and offline by using online click data and offline purchase data to generate recommendations.

The research design was a 2 (levels of brand-based product expectation) x 2 (levels of perceived product performance) factorial experimental design. We developed two mock-up apparel retailer web pages for the data collection, and 120 participants provided usable responses.

Creanga (2019) reported one of the sectors of the economy that pollutes the environment the most is fashion. Massive production and consumption have aided in the development of "throwaway fashion" and the "take, make, dispose" philosophy. In this environment, the fashion industry began the transition to a new, more sustainable system, which not only challenges the conventional wisdom regarding the production of fabrics and clothing but also regarding the impact of consumer decisions on fashion and other aspects of life. It is well known that digital technologies helped sustainable firms gain popularity in Western Europe.

Kalbaska and Cantonis (2018) provided digital practices in fashion are gaining more attention, starting from digital communication, online reputation, up to e-commerce. Such highly moving dynamics related both to the fashion market as well as to new available technologies and communication tools require well-prepared and skilled employees, able to navigate in this constantly changing environment with needed competences, updated knowledge, and creativity.

Dennison and Montecchi (2017) researched on the effects they have on female fashion consumers in terms of subsequent purchase intention decisions. Using the Elaboration Likelihood Model as the theoretical framework, this study focused on examining the effects of three peripheral cues; source credibility, review volume and valance on purchase intention, and also investigated how fashion clothing involvement moderates these relationships.

Pan, B. carried out a study about the fact that fashion is causing harm to society and the environment and that even though there are more ways to get information about fashion, people still don't have better choices when it comes to buying clothes. He developed a new way of making clothes that focuses on what customers want and is better for the environment. They tested this with a company called DEPLOY demi-couture and it worked well.

### **3.0 PROCESS OF MAKING A CLOTH FOR EXISTING CUSTOMER**

Usually when they want to make a cloth in the fashion house, the designer will first of all brainstorm a design and sketch it in a piece of paper. Get any random body measurement size in the notebook they usually keep various customer measurement detail, then select a fabric that will be good to make that particular design. Then she call one of the tailor in the company give him the sketch of the design, the body size is going to make the cloth for. And the fabric he is going to use to sew the cloth. Then when he is done making the cloth he will bring it back for the designer to check it out. If there is any mistake he will go and correct it. And if there is no error the person in charge of folding clothes, will fold it inside packing bag. Then the customer will come and pick it up. In this research three actors were recognized in the process of making a cloth:

- a. Designer
- b. Tailor
- c. Cloth-folder

### 3.1 Processes Involve in Making Cloth

Normally in every fashion industries in Nigeria if a customer want to make a cloth. They have to travel down to the fashion house or industry from where ever they are for the designer to take their body measure, discuss with them how they want the cloth to be made, make payments and so on. Before proceeding to make the cloth. Which is very stressful for the designer and the customer. Which manual and old school. Below is a use case diagram of the existing System

The system consists of actors which is:

- a. Customer
- b. designer
- c. Tailor

### 3.2 How Customer Data's are Collected and Stored in the Existing System

Customer data's are collected by the tailor. Where by the tailor will measure the necessary part of the customer body and write the values down in a notebook. With the customer names and home addresses.

Two main actors where identified in this sub system:

- a. Customer
- b. tailor

### 3.3 When a Customer Want to Make a New Cloth in the Existing System

If a customer want to make a new cloth they have to make a cloth they have to travel or drive down to the fashion house, meet with the designer to choose a design in the various fashion magazines there. Then negotiate a price with the designer. In some fashion house they have fixed price for any cloth you want to make. Then the designer will call a tailor to come and take the customer measurement. That is if the customer does not have an existing measurement details in the company. Else the designer will just sketch out the design with the materials and give it to the tailor to sew that particular design. Then when the tailor is done sewing the cloth he will bring it back to the designer to check the cloth. If there is error the tailor will correct it. If there is no error it will be giving to the person in charge of packing clothes to pack the cloth. Then call the customer that he or her cloth is ready. Then they will come and pick it up.

In this sub system four actors are identified which is:

- a. Customer
- b. Designer
- c. Tailor
- d. Cloth-folder.

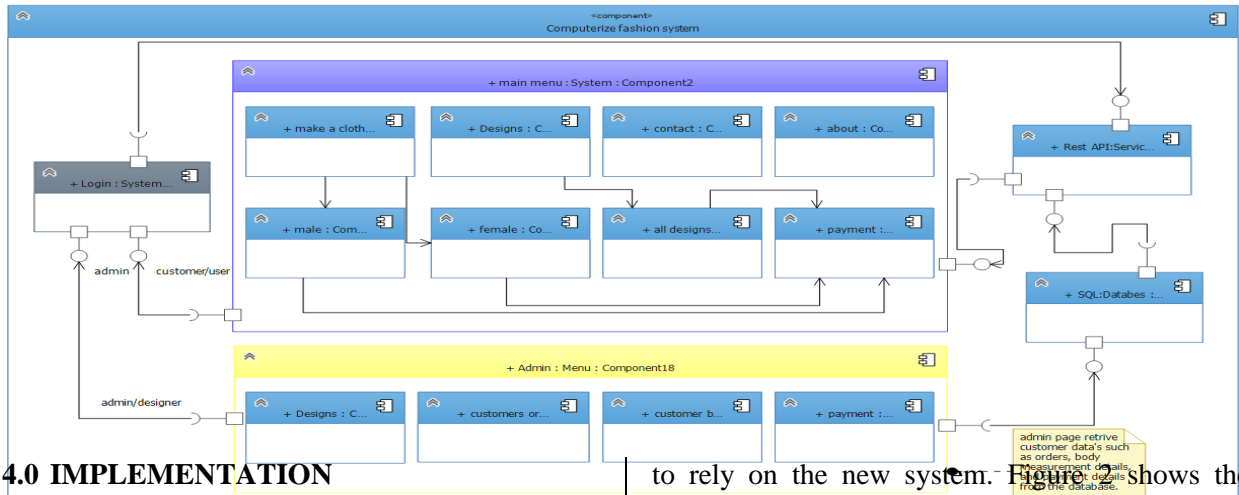
### 3.4 Analysis of the proposed system

A new system in the area of managing customer's data's in the fashion house and enabling customer to make their cloth online without coming to the fashion house has been proposed. To accomplish this, the new system's specifications were established after a thorough assessment. This was accomplished by thoroughly examining the new system. The first phase in the analysis was to re-examine the behavior of the existing system at a lower level, paying special attention to the problem that the proposed solution addresses. The use case analysis was used at this stage.

### 3.5 Model and Architecture of the Proposed System

This section indicates the architecture of the proposed system, and a component model diagram is used to depict it. Figure1 below is the component model diagram for the proposed computerized fashion system.

**Figure 1: Component model diagram of the proposed system**



**4.0 IMPLEMENTATION**

The implementation phase of the systems development life cycle (SDLC) is by far the most expensive and time-consuming part of the process. Technically, implementation refers to the computer programming and deployment of a technical specification, algorithm, or software component. The physical design specifications must be converted into workable computer code during implementation. The code is then tested until the majority of the errors have been found and repaired, after which the system is installed, user sites are prepared for the new system, and users must learn

to rely on the new system. Figure 1 shows the product home page. Even after the system has been deployed, new features and business logics will be introduced, and repairs will be made as issues are discovered by users. In this study, three design tasks were identified. They are:

- i. The web application program coding;
- ii. database implementation;
- iii. The testing of the program.

**4.1 Performance Evaluation Metric of model**

The evaluation of the metric of the system is shown in table 1.













**Table 1: Performance evaluation metric of model**

Purpose	Survey Question	Evaluation Process	Evaluation Method
To know if the system is user friendly	How can user interact with the system	Using the navigation buttons provided	Tested
How fast does the system responds to requests	How easy it is to give customers feed back	Base on how fast your internet connection	Tested
To check if the payment method is functioning well	How reliable and flexible is the payment subsystem?	Try making payment after placing an order	Tested
How to check logic behind when placing an order to make new clothes	Does the system store customer measurement details	Apply to make a new cloth	Tested

**Figure2: product page**



Male/Female

 <p><b>Son of zeus</b> 30,000 ★★★★☆</p>	 <p><b>Female kaftan gown</b> 20,000 ★★★★☆</p>	 <p><b>Cream cotton fabric</b> 15,000 ★★★★☆</p>	 <p><b>Classis men agbada</b> 50,000 ★★★★☆</p>
 <p><b>Black wide cut s hawl lapel suit</b> 50,000 ★★★★☆</p>	 <p><b>Female jump suit</b> 20,000 ★★★★☆</p>	 <p><b>Female hot mini gown</b> 25,000 ★★★★☆</p>	 <p><b>Lace fabric</b> 30,000 ★★★★☆</p>
 <p><b>Men classic moden agbada</b> 50,000 ★★★★☆</p>	 <p><b>Classis Female gown</b> 70,000 ★★★★☆</p>	 <p><b>Moden men native atire</b> 50,000 ★★★★☆</p>	 <p><b>Classis men shinny suit</b> 80,000 ★★★★☆</p>

**5.0 CONCLUSION**

The fashion industry has evolved significantly from the days when fashion designers relied on notebooks to store customer data. The development of computerized systems for fashion

businesses has eliminated the need for customers to visit the fashion house repeatedly to place orders and pick up their finished clothes, amongst other challenges faced, allowing fashion businesses to gain insights into customer

preferences and trends, which can inform their decision-making and keep them ahead of the competition. Designing and implementing a fashion system requires extensive software engineering experience, including planning, requirements collection, analysis, system design, and coding execution. By leveraging technology, fashion businesses can optimize their supply chain, reduce costs, and improve the quality of their products.

## REFERENCES

- Amed, I., Balchandani, A., Beltrami, M., Berg, A., Hedrich, S., & Rölken, F. (2019). Ten trends for the fashion industry to watch in 2019. McKinsey & Company. <https://www.mckinsey.com/industries/retail/our-insights/ten-trends-for-the-fashion-industry-to-watch-in-2019>
- Amofah, D. O., & Chai, J. (2022). Sustaining Consumer E-Commerce Adoption in Sub-Saharan Africa: Do Trust and Payment Method Matter? *Sustainability*, 14(14), 8466. MDPI AG. <http://dx.doi.org/10.3390/su14148466>
- Andrea Perna, Andrea Runfola, Valerio Temperini, & Gian Luca Gregori. (2018). Problematizing customization and IT in the fashion industry: A case study of an Italian shoemaker. *Journal of Global Fashion Marketing*, 9(1), 73-86. <https://doi.org/10.1080/20932685.2017.1399081>
- Barocas, A., Bhatia K., Dalmia A., Khandelwal B., Mehta M. & Ratajczak D. (2021). The Creative Destruction of Fashion Marketing. The Boston Consulting Group (BCG). <https://www.bcg.com/publications/2021/modern-marketing-for-sustained-advantage-and-growth-in-the-fashion-industry>
- Barrabi, T. (2017). Retail apocalypse: 20 big retailers closing stores in 2017. Fox Business. <http://www.foxbusiness.com/features/2017/09/19/retail-apocalypse-20-big-retailers-closing-stores-in-2017.print.html>
- Euromonitor International. (n.d.) State of Fashion 2022: An uneven recovery and new frontiers [Report]. McKinsey & Company.
- Euromonitor International. (2019). Apparel and footwear in the United Kingdom. Retrieved from <https://www.euromonitor.com/apparel-and-footwear-in-the-united-kingdom/report2>
- Fashion eCommerce report 2022. (n.d.). Statista. <https://www.statista.com/outlook/dmo/ecommerce/fashion/worldwide#revenue>
- Guercini, S., Bernal, P., & Prentice, C. (2018). New marketing in fashion e-commerce. *Journal of Global Fashion Marketing*. <https://doi.org/10.1080/20932685.2018.1407018>
- Kawa, A., Abubakari, A., & Ofori, K. S. (2023). Cross-Border E-commerce and Supply Chain Management. In J. Sarkis (Ed.), *The Palgrave Handbook of Supply Chain Management*. Palgrave Macmillan. [https://doi.org/10.1007/978-3-030-89822-9\\_76-1](https://doi.org/10.1007/978-3-030-89822-9_76-1)
- Laster D. (2021). Three Ways Technology Is Significantly Impacting The Fashion Industry. Forbes Business Council. <https://www.forbes.com/sites/forbesbusinesscouncil/2021/12/09/three-ways-technology-is-significantly-impacting-the-fashion-industry/?sh=382c38e0718f>
- Major, J. S. and Steele, . Valerie (2023, March 4). fashion industry. *Encyclopedia Britannica*. <https://www.britannica.com/art/fashion-industry>
- Maria Cristina Morra, Valeria Gelosa, Francesca Ceruti, & Alice Mazzucchelli. (2018). Original or counterfeit luxury fashion brands? The effect of social media on purchase intention. *Journal of Global Fashion Marketing*, 9(1), 24-39. <https://doi.org/10.1080/20932685.2017.1399079>
- McBain, W. (2021, October 1). E-commerce powers Africa's rapidly expanding fashion sector. *African Business*. <https://african.business/2021/10/trade-investment/e-commerce-powers-africas-rapidly-expanding-fashion-sector>
- McKinsey & Company. (2019). State of fashion 2022: An uneven recovery and new frontiers. Retrieved from <https://www.mckinsey.com/industries/retail/our-insights/state-of-fashion-2022-an-uneven-recovery-and-new-frontiers>
- Miell, S., Gill, S., & Vazquez, D. (2018). Enabling the digital fashion consumer through fit and sizing technology. *Journal of Global Fashion Marketing*, 9(1), 9-23. <https://doi.org/10.1080/20932685.2017.1399083>
- Mir-Bernal, P., Guercini, S., & Sádaba, T. (2018). The role of e-commerce in the internationalization of Spanish luxury fashion

- multi-brand retailers. *Journal of Global Fashion Marketing*, 9(1), 59-72. <https://doi.org/10.1080/20932685.2017.1399080>
- Otaru, A. (2022, June 01). Fashion sector accounts for 37% of e-commerce revenue in Nigeria, says NEPC. *The Guardian*. <https://guardian.ng/business-services/fashion-sector-accounts-for-37-of-e-commerce-revenue-in-nigeria-says-nepc/>
- Palmer J.(2019). What Are the Advantages of Computers in Business? *Chron Small Business*. <https://smallbusiness.chron.com/advantages-computers-business-473.html>
- Pan, B. (2016). Smart systems for improved customer choice in fashion retail outlets. In R. Miller (Ed.), *Information Systems for the Fashion and Apparel Industry* (pp. 109-120). Woodhead Publishing. <https://doi.org/10.1016/B978-0-08-100571-2.00006-3>
- Patricia SanMiguel & Teresa Sádaba. (2018). Nice to be a fashion blogger, hard to be influential: An analysis based on personal characteristics, knowledge criteria, and social factors. *Journal of Global Fashion Marketing*, 9(1), 40-58. <https://doi.org/10.1080/20932685.2017.1399082>
- Peter C. Verhoef, P. K. Kannan, & J. Jeffrey Inman. (2015). From Multi-Channel Retailing to Omni-Channel Retailing: Introduction to the Special Issue on Multi-Channel Retailing. *Journal of Retailing*, 91(2), 174-181. <https://doi.org/10.1016/j.jretai.2015.02.005>
- Petersen L. (2019). Importance of Computers in Business. *Chron Small Business*. <https://smallbusiness.chron.com/importance-computers-business-4012.html>
- Premier. (2020). Four Ways Technology Can Enhance Your Supply Chain. *Harvard Business Review*. <https://hbr.org/sponsored/2020/11/four-ways-technology-can-enhance-your-supply-chain>
- World Economic Forum. (2020, October 20). Top 10 work skills of tomorrow: How long it takes to learn them. <https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them>
- Sherman, F. (2019, February 5). Importance of computers in business world. *Chron*. <https://smallbusiness.chron.com/importance-computers-business-world-4013.html>