Platform To Support One District One Product [ODOP] Initiative For Tamil Nadu

Mrs.Punitha.A[1,*], Aashifa.S[2], Vandhana.K[3] and Subashini.G[4]

[1]*Research Scholar, Department of IT, Puducherry Technological University & Assistant Professor, Manakula Vinayagar Institute of Technology,*

[2,3,4] *UG Scholar, Information Technology, ManakulaVinayagar Institute of Technology, Puducherry, India*

Abstract: The government of India started the one District One Product (ODOP) initiative to inspire conventional agencies and crafts in every district throughout the nation. The intention of the initiative is to create employment opportunities, boom the income of artisans and craftsmen, promote entrepreneurship, and keep cultural heritage. Beneath the ODOP initiative, each district is recognized based on its particular conventional industry or craft, and efforts are made to sell and develop that enterprise or craft via ability development, technology upgradation, marketplace linkages, branding, and packaging. In this proposed project the ODOP scheme has been implemented for the southern kingdom Tamil Nadu in our country. The proposed idea has been carried out as internet software using PHP,Laravel, HTML and JavaScript.

Keywords: ODOP, unique traditional industry, employmentopportunities, technology upgradation, local industries, PHP, HTML, JAVASCRIPT.

1. Introduction

ODOP (One District One Product) is a Government of India initiative Scheme that promotes local entrepreneurship and employment in every district. It includes economic development, preservation of traditional crafts, market diversification, and rural development. Strategies include product identification, development, and quality improvement, market linkages and promotion, financial support, monitoring and evaluation. ODOP utilizes local resources, skills, and crafts to drive economic growth and preserve cultural heritage. It creates income and employment opportunities for artisans and entrepreneurs, supports niche markets, and uplifts rural communities. It connects producers with markets, provides financial assistance, enhances skills, and ensures project effectiveness. The ODOP website has empowered local businesses, supported their growth and sustainability and contributed to the state's economic development by creating employment opportunities and fostering market diversification. The website developed using PHP, MySQL, and Laravel, employs server-side scripting and efficient data management. Laravel simplifies complex functionalities, ensuring a secure and user-friendly experience. The ODOP Tamil Nadu website successfully promotes local entrepreneurship, connecting producers with buyers, showcasing district-wise products, and expanding market opportunities. It has enhanced the visibility of unique products and fostering market diversification. It connects producers with markets, provides financial assistance, and ensures project effectiveness. ODOP is a transformative project fostering sustainable growth and self-reliance at the district level.

2. Related Work

This paper examined the implementation of the ODOP scheme and its positive impact on the growth of conventional industries and handicrafts [1] in Uttar Pradesh. The ODOP initiative has played a pivotal role in stimulating the handicraft sector, leading to improved livelihood opportunities for rural communities. It has fostered a sustainable financial ecosystem, empowering women entrepreneurs to envision, mobilize resources, and take calculated risks to achieve their aspirations. Handicraft products, often crafted using traditional techniques and handmade tools, showcase India's rich cultural heritage and skilled labor.

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This paper proposed an original approach to developing a recommendation system and examines its application [2] using a real-world shopping site. The growth of e-commerce has led to enhanced customer lifetime value and intensified competition within the online market. To remain competitive, platform owners must possess a comprehensive understanding of individual customers in order to generate personalized recommendations. Web recommendation systems have become indispensable components of all online e-commerce platforms. In this context, the paper introduces a unique process for constructing a recommendation system, offering fresh insights and perspectives.

This paper discussed the various factors that influence customer purchasing intention in internet shopping, specifically focusing on the context of One Tambon One Product (OTOP) [11] inspired by the One Village One Product (OVOP) concept in Japan. The primary objective is to gain a comprehensive understanding of these influential factors, which play a crucial role in enabling rural communities to establish their own official websites and effectively capitalize on the opportunities presented by e-commerce. By comprehending and leveraging these factors, rural individuals can harness the potential of e-commerce, thus reaping the benefits it offers in terms of economic growth and community development.

This paper focused the examination of local products and the implementation of the ODOP scheme in India [8]. In a similar vein, the Thai government introduced a policy aimed at promoting the sale of local community products through e-commerce platforms. The objective of this research was to thoroughly investigate and develop a prototype for an official website. The outcomes of the study reveal a positive correlation between the intention to purchase a product and factors such as social influence, perceived ease of use, website reliability, and product reliability. These findings highlight the significance of these factors in shaping consumers' purchase decisions.

This paper explored the government's establishment of the OTOP program to assist entrepreneurs [14] in selling their products online. The study emphasizes the significance of search engine optimization (SEO) in enhancing website performance. Neuro-linguistic programming was employed to train entrepreneurs in understanding SEO principles. The findings indicate that new visitors accounted for 26.1% of the website traffic, while returning visitors constituted 73.9%. In terms of traffic sources, organic searches comprised 42.64%, direct traffic accounted for 25.56%, and referral traffic represented 8.33%. These results underscore the importance of SEO in attracting and retaining website visitors, and highlight the effectiveness of the OTOP program in supporting entrepreneurs' online ventures.

These papers provided insights into the implementation and impact of the ODOP scheme on traditional industries and crafts, rural livelihood creation, entrepreneurship, and technology up gradation and skill development.

3. Existing System

The One District, One Product (ODOP) Programme initiated by the Uttar Pradesh (UP) government aims to promote locally made and specialized goods [1]. Uttar Pradesh boasts a rich array of unique products, such as the historic and nutrient-rich "Kala namak" rice, the captivating craft of wheat-stalk art, and the renowned zari-zardozi and chikankari clothing designs. The ODOP website in Uttar Pradesh serves as a vital platform to foster small-scale businesses and local entrepreneurship by offering comprehensive online resources on the distinctive goods and industries prevalent in each district. Despite its significance, the ODOP website faces certain limitations that hinder its optimal functionality. These include a lack of mobile-friendly design, limited language support, and ineffective product categorization and filtering options.

4. Issues in Existing System

The existing ODOP system in Uttar Pradesh faces limitations such as a lack of mobile-friendly design, which hampers navigation and access on smaller screens, limited support for regional languages, excluding non-English speaking users from accessing and understanding website content, and inefficient

product categorization and filtering options, making it challenging for users to narrow down their search results reach for promoted products.

- Lack of mobile-friendly design.
- Multilingual support.
- Inefficient product categorization and filtering options.
- Slow system response.

5. Objective of Proposed Work

The objective of the ODOP initiative in Tamil Nadu is to foster the growth and preservation of distinctive traditional industries and crafts in each district. This initiative focuses on several key goals, including generating employment opportunities in rural areas, increasing the income of artisans and craftsmen, encouraging entrepreneurship, preserving the cultural heritage of Tamil Nadu, and boosting the local economy. Through training, technical assistance, and marketing support, the initiative aims to empower artisans and promote sustainable economic development rooted in the region's traditional industries and crafts.

6. Web Development Tools

The project development process has been segmented into two distinct phases: front-end development and back-end development.

A. Front-End Development

Front-end development in the context of the ODOP initiative encompasses the creation of visually prominent elements, including the home page, admin panel, contact page, and shopping cart page. To accomplish this, a combination of PHP, the Laravel framework, HTML, CSS, and JavaScript were employed as essential technologies and tools.

For front-end coding, JavaScript, a client-side scripting language dedicated to web development, was mixed with HTML code. For creating web pages, HTML is used.Cascading Style Sheets (CSS), a style sheet language, were utilized to manage the visual appearance and layout of the pages.CSS files were linked with PHP class files to organize panels, define text appearance with the correct font, size, and color. JavaScript was also incorporated to enhance user interactions on the website. It allowed for client-side scripting, browser control, asynchronous communication, and dynamic content modification. JavaScript was used, for instance, to validate user input during registration and prompt for missing fields.

B. Back-End Development

The back-end development of the project is dependent on the utilization of a Database Management System (DBMS). In this particular project, MySQL DBMS was selected due to its open-source nature and compatibility with the General Public License (GNU). MySQL is a relational database management system that enables the creation, modification, and administration of databases.

The back-end functionality encompasses the management of the database, which includes tasks such as adding, dropping, altering, and updating tables. Tables are capable of storing various types of data, including integers and variable characters. Back-end development for this project employed PHP and the Laravel framework, which facilitated interactions with the database and facilitated server-side processing.

7. Proposed System

The proposed system for ODOP (One District One Product) in Tamil Nadu aims to address the limitation of the existing system, specifically the ODOP website in Uttar Pradesh, which is not applicable to Tamil Nadu. Currently, the existing system serves as an online platform for showcasing district-specific products and connecting producers with potential buyers. However, it has limitations such as a lack of user-friendly interface, limited features, and inadequate promotion of products. These drawbacks hinder the full potential of the system and impact its effectiveness, which hinders the promotion of local entrepreneurship and economic growth in the state. To overcome this limitation, the proposed system for ODOP Tamil Nadu seeks to develop a dedicated website specifically designed for the state. The proposed system will

feature a user-friendly interface, enhanced functionalities, and efficient promotion of district-specific products in Tamil Nadu. It will utilize technologies such as PHP, MySQL, and the Laravel framework to ensure seamless content management, secure data storage, and optimal performance.

The outcome of the proposed system is to provide a comprehensive platform for local entrepreneurs in Tamil Nadu, facilitating market linkages, expanding market reach, and driving economic growth. By addressing the drawback of the existing system and creating a tailored solution for Tamil Nadu, the proposed system aims to promote local entrepreneurship, create employment opportunities, and showcase the unique products of the state. In comparison, while the existing system is limited to Uttar Pradesh, the proposed system for ODOP Tamil Nadu will bridge the gap and cater specifically to the needs of the state. With its user-friendly interface, advanced functionalities, and dedicated promotion of district-specific products, the proposed system is expected to be more effective and impactful in promoting local entrepreneurship and fostering economic growth in Tamil Nadu.
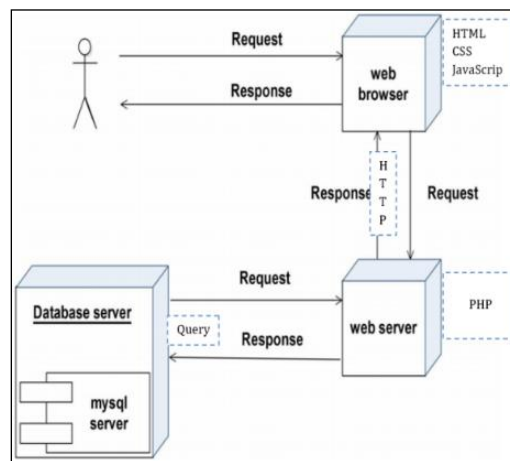
Figure 1. Integration diagram of a Software

8.Architecture of Proposed System

The One District One Product (ODOP) initiative in Tamil Nadu is to support and foster traditional industries and crafts in every district of the state. Here is the list of modules that could be associated with the ODOP initiative in Tamil Nadu

1.Product and Vendor Identification
2.Product development
3.Web Application creation
4.Central Administration
5.Centralized Database
6.Delivery Service and Payment
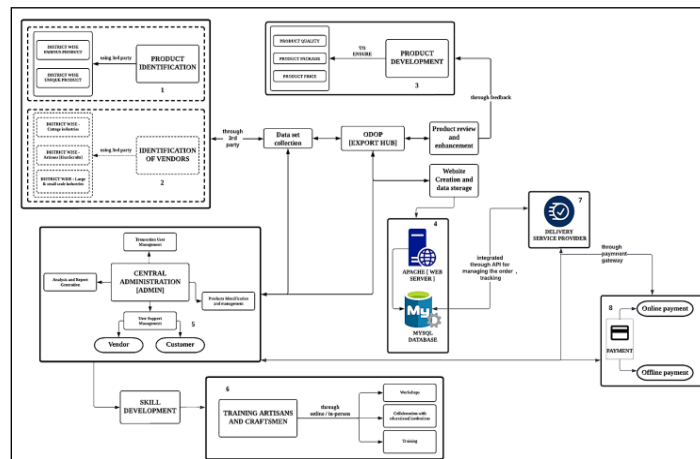
Figure 2. Architecture diagram of proposed system

8.1 Product and Vendor Identification

This Moduleinvolves researching and analyzing data to identify high-potential traditional products and industries. This includes consulting stakeholders, artisans, and experts, and conducting market research. The goal is to select viable products considering factors like feasibility and market demand. The process promotes economic development and preserves traditional craftsmanship. Implementation involves using PHP interacts with the database, Laravel handles business logic, and HTML, CSS, and JavaScript create an appealing and user-friendly web interface.
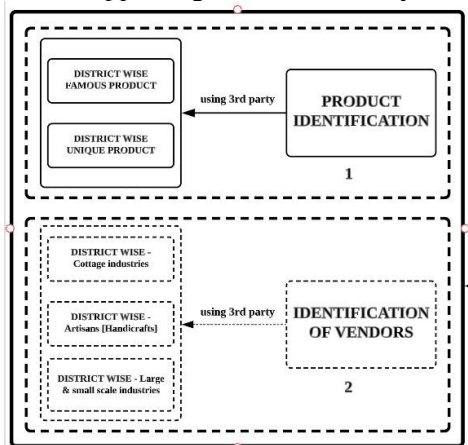
Figure 3. Product and Vendor Identification

8.2 Product development

The product development module in the ODOP initiative focuses on improving existing products based on user feedback. It aims to enhance product quality, price, and packaging methods to meet market expectations. User suggestions are incorporated to make the products more appealing and competitive. HTML and CSS are used to design the user interface, while PHP and Laravel handle the backend development tasks for retrieving and processing product data. The module emphasizes continuous improvement and adaptation to ensure user satisfaction and product relevance.
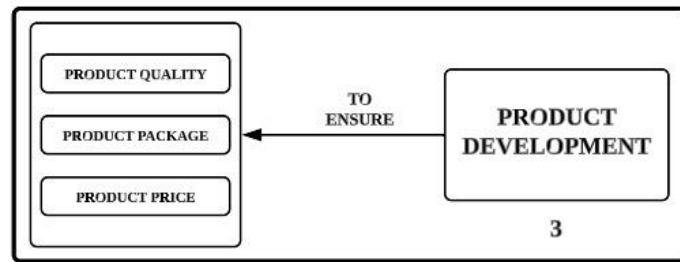
Figure 4. Product Development

8.3 Web Application creation

In the ODOP initiative, web application development follows the mobile view controller architecture. It utilizes PHP, HTML, CSS and JavaScript for providing an interactive and user-friendly experience. A MySQL database is used for efficient data storage and retrieval. Laravel ensures organized code and manages various functionalities. HTML structures pages, CSS enhances visual appearance, and JavaScript enables dynamic functionality. PHP, with Laravel's query builder, facilitates seamless database communication. This technology stack enables efficient user interactions and effective information management.
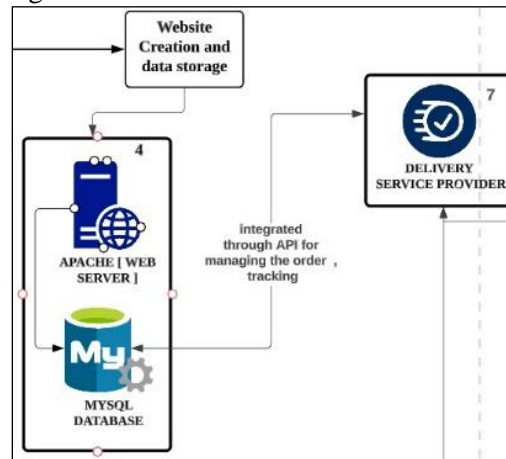
Figure 5. Web Application creation

8.4 Central Administration

The Central Administration module in the ODOP initiative relies on PHP and Laravel for server-side processing and database interaction. HTML and CSS are used for structuring web pages and enhancing their design, while JavaScript adds interactivity. This module is responsible for setting policies and guidelines, providing strategic direction, and supporting district administrations in implementing the ODOP initiative. The admin oversees progress, ensures policy implementation, and offers guidance and support for the overall success of the initiative.

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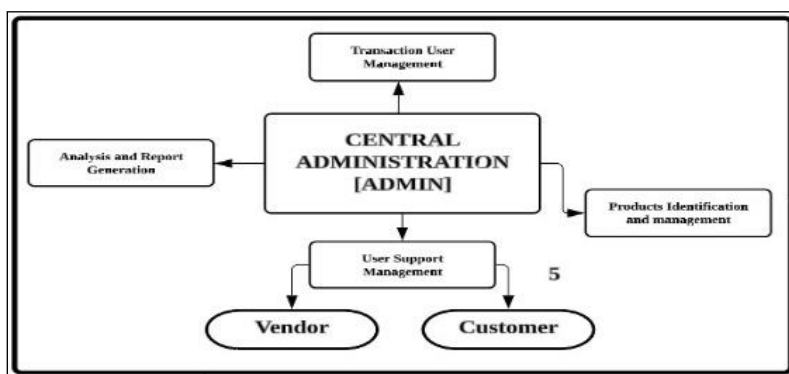
Figure 6. Central Administration

8.5 Centralized Database

The centralized database stores various data, including products, artisans/vendors, industry profiles, market analysis, and customer information. It supports data-driven decision-making and enables monitoring and evaluation of the initiative's progress. Centralizing the data facilitates efficient management, retrieval, and analysis, contributing to the effective implementation and continuous improvement of the ODOP initiative.PHP and Laravel handle server-side processing and database interaction for the centralized database in the ODOP initiative. HTML structures web pages to display data from the database, while CSS ensures an appealing design. JavaScript adds interactivity and dynamic functionality for an enhanced user experience.
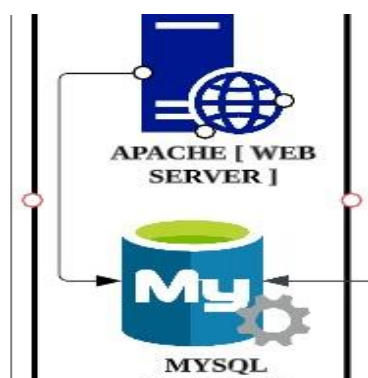
Figure 7. Central Databases

8.6 Delivery Service and Payment

The delivery service integration involves PHP communicating with the delivery service's API to retrieve shipping options, calculate fees, and generate labels. The selected shipping method and details are stored in the database. For payment integration, PHP interacts with Laravel's payment gateway libraries, encrypting and securely transmitting user payment information for authorization and processing. After payment confirmation, the database is updated, and an order confirmation is generated for the user. These processes ensure seamless delivery service and secure payment handling on the e-commerce website.
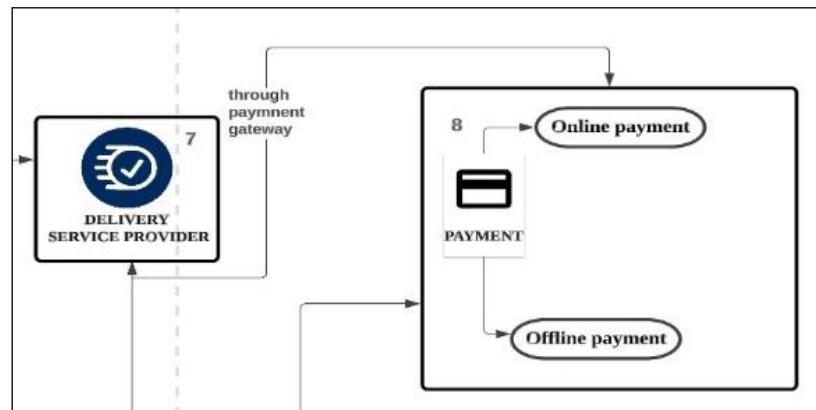
Figure 8. Delivery Service and Payment

9.Work Flow of Proposed System

The proposed workflow of the One District One Product (ODOP) system can be outlined as follows:

Customer:
- Customers can register and create an account to access additional features.
- Registered customers can view the available products and make purchases.
- Customers can contact the system administrator through the Contact page for any inquiries or support.
- Customers can view their purchased products and order history.

Seller/Operator:
- Operators have access to the admin panel and can perform various actions.
- Operators can add new products, edit existing product information, update product details, and remove products from the system.
- Operators can view customer information related to their orders and contact details.
- Operators can manage shipping by sending confirmation emails and tracking the status of orders.

Admin:
- The administrator has full control and additional privileges in the system.
- Admin can perform all actions available to customers and operators.
- Admin can add new products, modify product information, and manage the product inventory.
- Admin can manage customer information, including adding new customers, updating customer details, and deleting customer accounts.
- Admin can handle order fulfillment, sending confirmation messages, and managing customer inquiries.

Visitor:
- Visitors can browse the website and view the available products.
- Visitors can search for specific products and compare them.
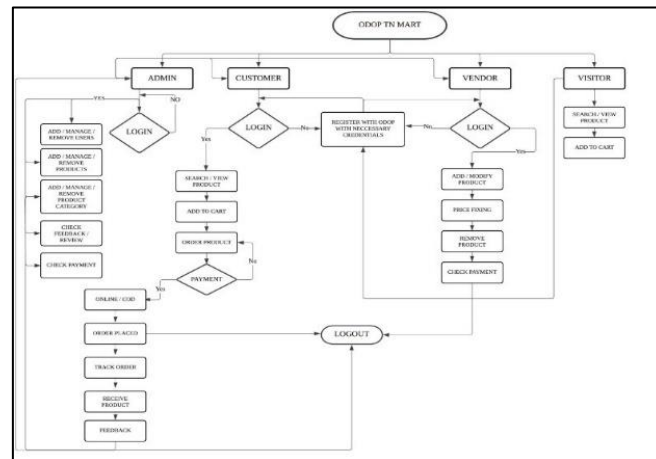- Visitors do not have access to advanced features available to registered customers.

Figure 9. Work Flow of the Proposed System

10.Result and Discussion

The ODOP initiative in Tamil Nadu aims to stimulate the state's economy by identifying and promoting unique and valuable products from each district for potential export. This project has opened avenues for customer engagement with local businesses, showcasing the potential for economic growth. It has emphasized the importance of sustainable development and job creation. Through the ODOP initiative, Tamil Nadu has provided a platform for local manufacturers to showcase their products globally, address export challenges, and receive support for expanding production. Furthermore, it has facilitated customer interaction with local businesses and increased demand through enhanced competitiveness.

11. Screenshots
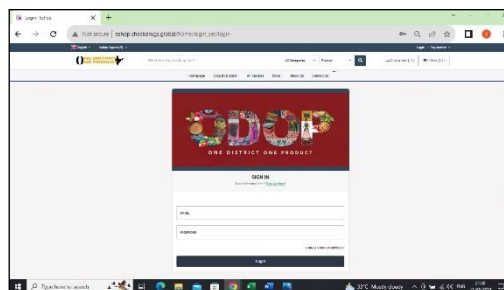
Figure 10. Login Page
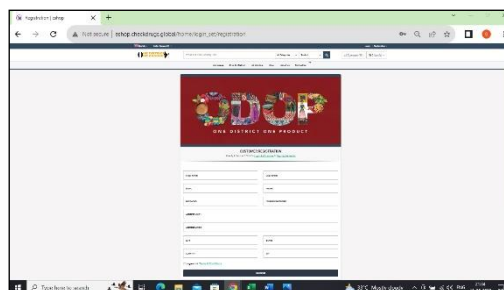
Figure 11. Customer Registration Page
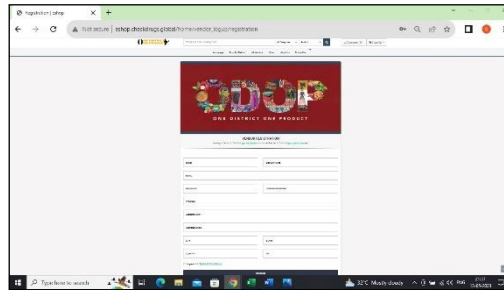
Figure 12. Vendor Registration Page
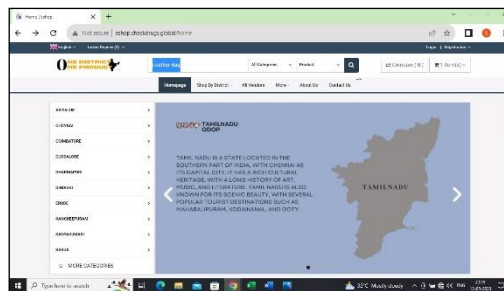
Figure 13. Product Search Page
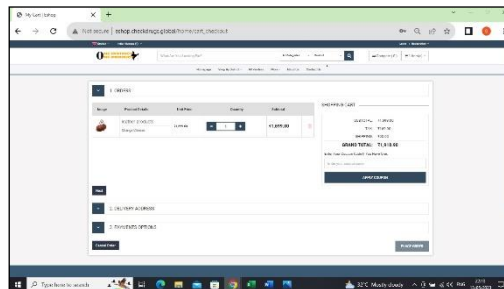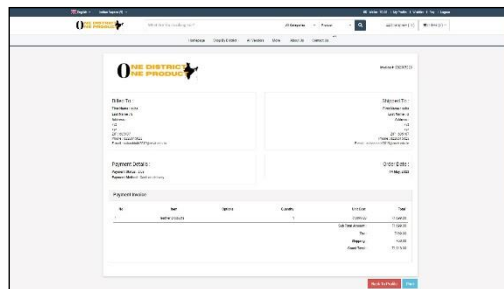

Figure 14. Place Order Page
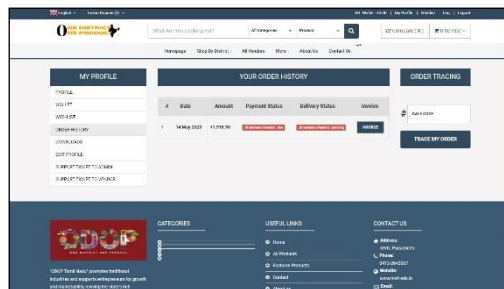

Figure 15. Invoice Page
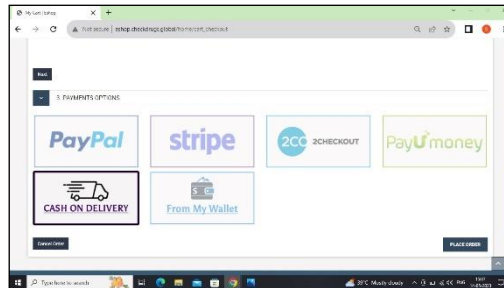
Figure 16. Delivery Page
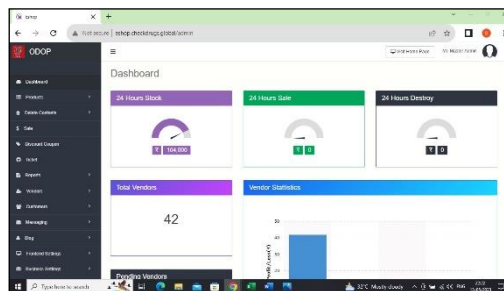

Figure 17. Payment Page

Figure 18. Admin Page
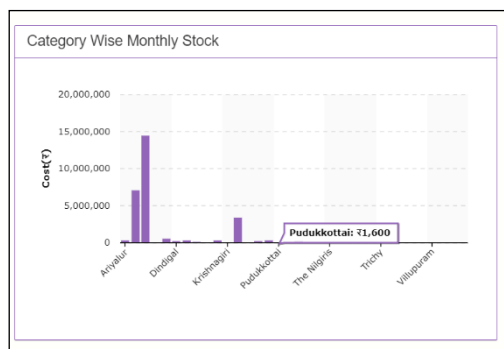

Figure 19. Monthly Sale Chart Image

Figure 20. Monthly Stock Chart Image

12.Conclusion & Future Enhancement

In summary, Technology has made substantial advancements, greatly enhancing the online shopping experience, and this trend will continue in the future. While some predict the dominance of online shopping, there remains a demand for physical stores in market areas where consumers

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prefer a hands-on approach. Hence, the ODOP project presents an innovative strategy to foster local entrepreneurship, preserve cultural heritage, and drive regional economic development. By identifying and promoting distinct products from each district, the ODOP initiative can establish a sustainable income source and generate employment opportunities for communities, all while contributing to the overall economic growth of the country.Some of the possible future enhancements for the one district one product initiative is Leveraging technology, enhancing the value chain, promoting eco - friendly products, encouraging innovation, creating tourism opportunities and these future enhancements can help to improve the sustainability and competitiveness of traditional industries and crafts, and also create more employment opportunities in the sector.

Acknowledgements

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