

Transforming Beauty and Wellness: A Case Study of TikishNutra's E-Commerce Model

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Abstract- The beauty and wellness industry is undergoing a dynamic transformation driven by changing consumer behaviors increased digital engagement and rising demand for natural and personalized solutions. As traditional retail models struggle to keep pace with these evolving expectations e-commerce has emerged as a critical enabler of growth and accessibility. This research focuses on the conceptualization and development of an e-commerce solution specifically tailored to the beauty and wellness sector. The study aimed to address the need for seamless product discovery transparency and convenience by integrating modern design practices with personalized shopping experiences. A user-centric approach was adopted to incorporate features such as secure payment systems high-speed delivery services product transparency and user reviews. The platform emphasizes accessibility for a diverse consumer base and delivers intuitive navigation and personalized recommendations to support informed decision-making. Additionally the inclusion of virtual assistance and educational features helps users better understand product ingredients usage and wellness practices. The methodology involved analyzing current market challenges identifying user needs and designing a scalable modular system architecture supported by modern web technologies. Results demonstrate the potential of digital platforms in building trust improving customer retention and delivering a holistic shopping experience in a competitive market. The study concludes by showcasing a case implementation that reflects these design and functionality goals offering a practical example of how digital transformation can reshape customer engagement in the beauty and wellness domain.

Keywords— E-commerce Platforms Beauty and Wellness Digital Personalization.

I. INTRODUCTION

Problem Statement

In today's rapidly evolving digital economy beauty and wellness brands face increasing pressure to meet growing consumer demands for convenience personalization and immediate product access. Traditional retail models often constrained by geography and infrastructure struggle to keep pace with shoppers who expect seamless online experiences. Consumers now demand detailed product information genuine reviews personalized suggestions and fast delivery making digital transformation essential. Without a robust online presence brands risk losing visibility relevance and market share to agile digitally native competitors.

The rise of niche and online-first brands has intensified competition pushing companies to innovate and stand out. Developing a secure efficient and user-friendly e-commerce platform is critical to building customer trust fostering loyalty and achieving sustainable growth.

Recognizing these shifts TikishNutra plans to transition into the digital space by launching an e-commerce platform offering a curated selection of beauty wellness skincare herbal fitness and cosmetic products tailored to meet evolving consumer needs.

Objective

The objective of this e-commerce platform is to provide a comprehensive digital solution that addresses the evolving expectations of today's consumers in the beauty and wellness

sector. It is designed to offer a seamless personalized and accessible shopping experience through a user-friendly interface and efficient service features.

The platform enables customers to explore a wide range of categories including beauty skincare wellness herbal fitness and cosmetic products. It incorporates secure payment options timely delivery services and intuitive navigation to enhance usability and trust. Features such as personalized recommendations detailed product descriptions and verified customer reviews help users make informed decisions tailored to their preferences.

Built with a focus on performance and innovation the platform aims to strengthen consumer engagement and satisfaction. Its broader objective is to support long-term digital growth by delivering a reliable and impactful online experience that aligns with modern shopping behaviors and market demands.

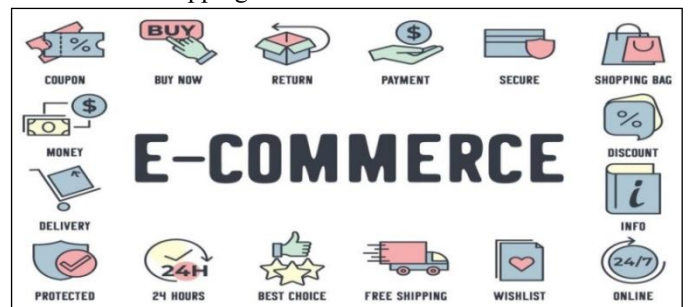


Figure.1 E-Commerce Website TikishNutra

Significance

In today's digital economy delivering a seamless and engaging online shopping experience is essential for attracting and retaining consumers. A well-designed platform allows users to explore compare and purchase beauty wellness skincare herbal fitness and cosmetic products with ease enhancing both accessibility and satisfaction.

Key features such as intuitive navigation secure payments personalized recommendations and timely delivery contribute to building lasting customer trust and loyalty.

By prioritizing user-centered design and curated offerings the platform seeks to exceed modern consumer expectations. Providing transparent product information and authentic customer reviews empowers shoppers to make informed decisions. Establishing a strong digital presence is vital for brands aiming to remain competitive and relevant. This initiative positions the platform as an innovative solution in the beauty and wellness sector committed to delivering reliability quality and a refined shopping experience that supports sustainable business growth.

II. LITERATURE OVERVIEW

Existing Solution

In recent years several beauty and wellness brands have successfully transitioned into the digital marketplace by building robust e-commerce platforms. Companies such as Nykaa Sephora and Mamaearth have set strong examples by offering curated product selections personalized recommendations detailed customer reviews and fast delivery services. Their platforms focus heavily on user experience integrating AI-driven recommendation engines secure payment gateways and loyalty programs to retain customers. Nykaa has combined content and commerce by providing tutorials product reviews and expert advice enhancing customer engagement.

experiences through virtual try-ons and customized recommendations. Mamaearth has leveraged strong brand storytelling influencer collaborations and transparent product ingredients to build trust and authenticity among consumers. These existing solutions highlight the growing importance of personalization trust accessibility and technological innovation in the beauty and wellness sector. Understanding these models allows TikishNutra to adopt best practices and design a platform tailored to meet the evolving expectations of modern consumers.

Gaps in Existing Solutions

While leading e-commerce platforms like Nykaa Sephora and Mamaearth have made significant strides in digital innovation several gaps still persist in addressing the nuanced needs of diverse consumer segments. Many existing platforms primarily target metropolitan users often overlooking consumers in semi-urban and rural areas who may face challenges like limited

digital literacy payment flexibility or access to hyper-personalized recommendations. Additionally although these platforms provide a wide range of products they sometimes lack a deep focus on herbal holistic and Ayurvedic wellness solutions that align with traditional and natural health preferences.

and educational connection with users. Platforms often prioritize product sales over empowering consumers with transparent wellness guidance ingredient education or tailored routines based on lifestyle and regional factors. Moreover while AI is used for recommendations it is rarely personalized beyond basic purchase history or category preferences.

TikishNutra identifies these gaps as key opportunities to create a more inclusive educational and holistic platform that bridges the digital divide while promoting clean natural wellness solutions with integrity and personalization at its core. In addition to identifying functional and experiential gaps in current platforms it is also important to frame TikishNutra within broader academic and industry perspectives on digital transformation. Laudon and Traver (2021) provide a comprehensive framework outlining the strategic and technical dimensions of e-commerce platforms which supports TikishNutra's modular and scalable architecture. Chaffey (2019) explores the implementation of customer-centric digital strategies reinforcing the value of TikishNutra's personalized recommendation system and user-first design. Pavlou's (2003) insights into trust and perceived risk in online commerce validate the platform's transparency-focused approach including ingredient disclosures and user education features.

Turban et al. (2018) examine how AI and social networking tools influence consumer behavior—principles directly reflected in TikishNutra's integration of AI-driven product suggestions and community feedback. Furthermore Chen and Xie (2008) highlight the critical impact of user reviews and word-of-mouth in shaping online purchase decisions which has informed TikishNutra's built-in review and rating mechanisms. These interdisciplinary perspectives not only enrich the academic foundation of the study but also position TikishNutra as a forward-thinking platform aligned with global best practices in personalized ethical and user-empowered digital commerce.

Innovation of TikishNutra

TikishNutra aims to redefine the digital beauty and wellness experience by introducing innovations that go beyond conventional e-commerce functionalities. Unlike existing platforms TikishNutra focuses on integrating traditional wellness knowledge with modern technology to offer a truly personalized and value-driven shopping experience. The platform will feature a dynamic recommendation engine that adapts to users' lifestyle choices skin types wellness goals and seasonal needs—going far beyond basic product suggestions. To bridge the gap in customer education the platform will

include an interactive wellness guide that educates users on product ingredients usage routines and holistic lifestyle practices. Additionally TikishNutra plans to offer AI-powered chat assistance for real-time support ingredient analysis and product comparisons based on skin sensitivity or personal values such as vegan cruelty-free or paraben-free options. Another key innovation is the community engagement zone where customers can share feedback wellness journeys and interact with experts. With a clean interface multi-language support and inclusive design tailored for semi-urban and rural users TikishNutra stands to innovate inclusively authentically and intelligently.

S.No.	Feature/ Functionality	Expected Outcome	Benefit to Users/Business
1	Personalized Product Recommendations	Increased user engagement with tailored suggestions	Enhanced shopping experience, driving sales
2	User Authentication	Secure user login and account management	Improved user security and trust, reducing fraud
3	Admin Dashboard	Easy management of products, orders, and analytics	Efficient operations and faster decision-making for admins
4	Responsive UI	Seamless experience across devices and screen sizes	Increased accessibility, attracting a wider audience
5	Secure Checkout	Safe payment transactions with data protection	Reduced cart abandonment, and enhanced conversion r

Table 1 Expected Outcomes

Architecture Overview

The e-commerce platform is designed using a modular and scalable architecture that ensures seamless performance maintainability and user experience.

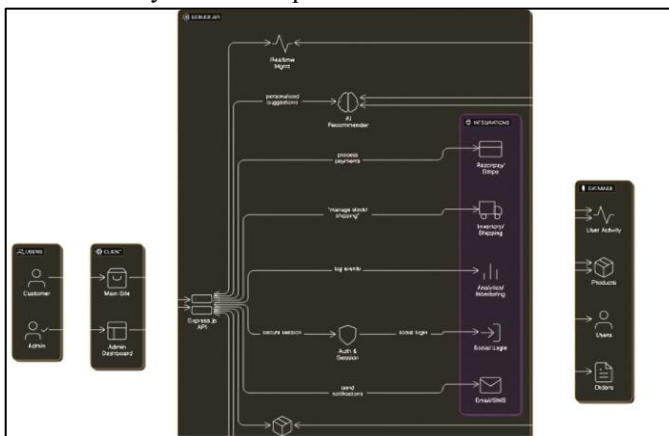


Figure.2 Modular Architecture of TikishNutra

It follows a client-server model where the frontend developed with modern JavaScript frameworks like React.js or Next.js interacts with the backend via secure RESTful APIs. The backend built using Node.js and Express.js handles business logic database operations authentication and third-party integrations such as payment gateways.

A centralized database such as MongoDB or PostgreSQL is used to manage product listings user information order history

and reviews. For enhanced responsiveness and real-time features like order status updates the system may incorporate WebSocket-based communication. The architecture also integrates with external services for email notifications analytics and AI-powered product recommendations. This layered architecture allows for independent scaling of components and smooth integration of additional features as the platform grows.

The platform is designed with scalability and maintainability in mind ensuring long-term performance and adaptability. Robust security measures including data encryption and token-based authentication protect user data and transactions. Continuous integration and deployment pipelines streamline updates enabling rapid feature rollouts and bug fixes.

Frontend (React.js)

React.js is used to build a dynamic and responsive user interface. Its component-based structure promotes modular development and enables seamless user experiences across devices.

Backend (Node.js with Express.js)

Node.js provides a non-blocking event-driven environment for scalable backend services while Express.js simplifies the creation of robust APIs and server-side routing.

Database (MongoDB)

MongoDB a NoSQL document database allows for flexible data modeling and efficient handling of large volumes of unstructured product and user data ideal for e-commerce platforms.

Authentication (JWT)

JSON Web Tokens (JWT) ensure secure user authentication by managing sessions through encrypted tokens allowing for safe access to personalized features and account information.

Payment Integration (Razorpay / Stripe)

Razorpay or Stripe is used to enable secure and smooth online payments supporting multiple transaction methods and maintaining high reliability for checkout operations.

Deployment (Vercel / Render / Heroku)

Hosting platforms like Vercel or Render are used to deploy the application with CI/CD pipelines ensuring high performance scalability and minimal downtime.

Analytics & Monitoring (Google Analytics / LogRocket)

Tools such as Google Analytics and LogRocket help track user behavior monitor performance and gather actionable insights to improve customer engagement and platform efficiency.



Figure.3 MERN Full Stack E-commerce

Main Components

The core structure of the TikishNutra e-commerce platform is built around several key components that ensure a smooth secure and user-friendly shopping experience. Each component is designed using the MERN stack to support modularity scalability and ease of maintenance:

Homepage

The homepage provides an engaging introduction to the platform with featured products promotional banners and quick access to main categories. It serves as the primary navigation hub for users.

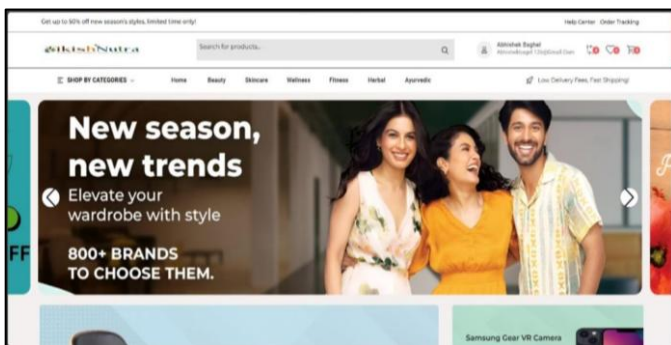


Figure.4 Home Page Prototype of Tikish Nutra

Product Listing Page (PLP)

This page displays products based on category or filters such as brand price or customer ratings. It is integrated with real-time search and filtering functionalities.

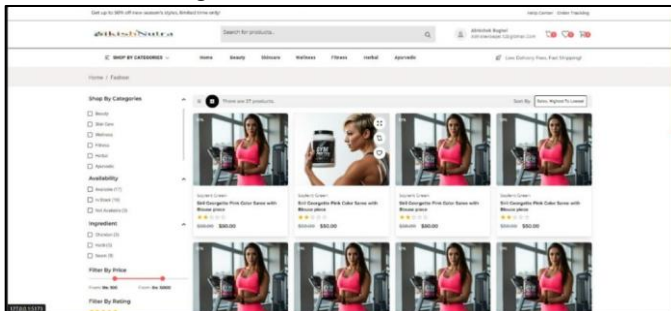


Figure.5 Product Listing Page Prototype of Tikish Nutra

Product Detail Page (PDP)

The PDP provides detailed information about a selected product including images specifications ingredients (for wellness or herbal products) reviews and related recommendation.

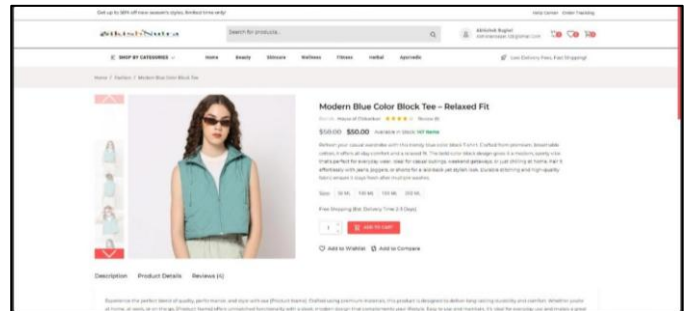


Figure.6 Product Detail Page Prototype of Tikish Nutra

Cart and Checkout System

Users can manage selected products through the cart and complete purchases securely via an integrated and user-friendly checkout process with payment gateway support.

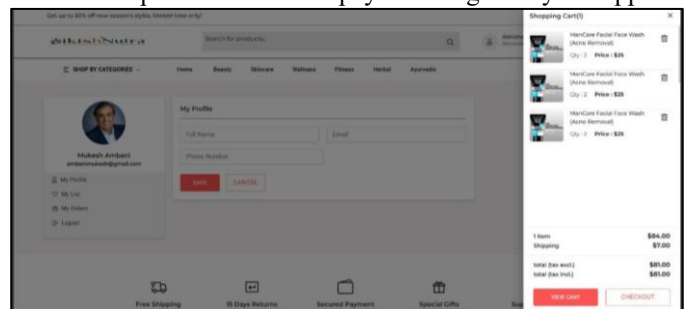


Figure.7 Cart and Check Out Prototype of Tikish Nutra

User Authentication and Profile Management

Secure login registration and password management features are supported via JWT. Users can manage personal information addresses and order history.

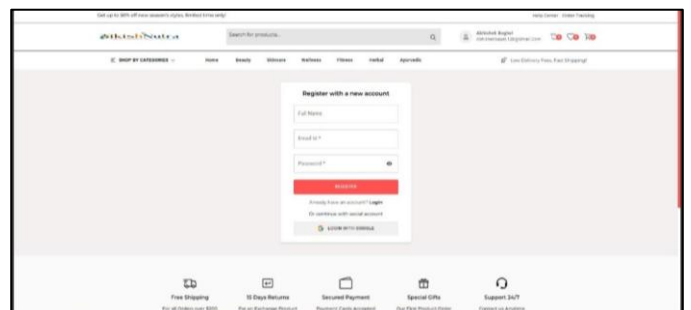


Figure.8 User Authentication Prototype of Tikish Nutra

Admin Dashboard

An admin panel to manage inventory update product listings process orders monitor user activity and view sales analytics.

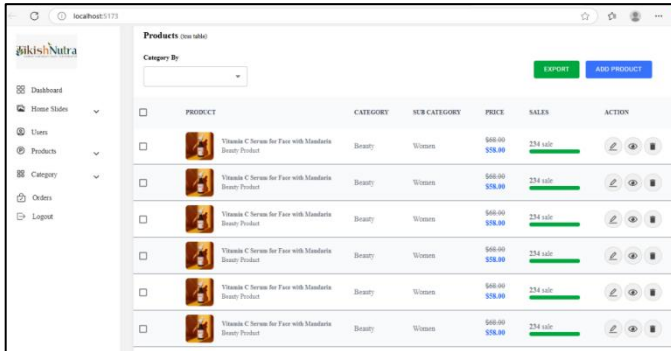


Figure.9 Admin Panel Prototype of Tikish Nutra

Search and Recommendation Engine

Powered by AI logic this component helps users find relevant products quickly and receive personalized suggestions based on their browsing and purchase history.

Order Tracking and Notification System

Provides real-time order updates and alerts via email or app notifications to keep users informed throughout the order lifecycle.

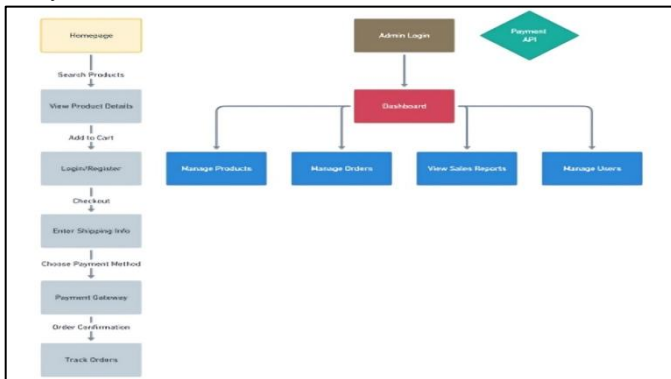


Fig.10 System Architecture of TikishNutra

IV.METHODOLOGY

The development of the TikishNutra e-commerce platform follows an agile and iterative methodology to ensure a user-centric scalable and high-performing application. This section outlines the key steps and strategies used in the implementation process.

Requirement Analysis

Initial discussions were held with stakeholders to identify user expectations business goals and functional requirements. Market research was conducted to analyze competitor

platforms consumer behavior and trending features in the beauty and wellness domain.

Technology Stack Selection

The MERN stack—MongoDB Express.js React.js and Node.js—was selected for its flexibility scalability and performance in developing dynamic single-page applications. This full-stack JavaScript framework ensures seamless integration between the frontend and backend.

System Design and Architecture

A modular architecture was adopted to separate concerns and ensure reusability of components. The backend follows RESTful API design while the frontend utilizes reusable React components with responsive layouts.

Frontend Development

React.js was used to build an intuitive user interface including product displays search functionality filter systems cart operations and dynamic routing for product pages. Axios was integrated for API communication.

Backend Development

Node.js with Express.js powers the server-side logic handling routing authentication (JWT) CRUD operations for products and users order processing and admin controls. MongoDB serves as the primary database for storing product listings user data and transactions.

API Development

Custom REST APIs were developed for functionalities such as user login product retrieval cart management order processing and admin operations. Proper authentication and authorization were implemented for secure access control.

Testing and Validation

Unit testing integration testing and user acceptance testing (UAT) were performed at every development phase to ensure the reliability and correctness of each component.

Deployment

The platform was deployed using cloud services such as Vercel for the frontend and Render or Heroku for the backend. MongoDB Atlas was used for hosting the database. Continuous integration and deployment (CI/CD) pipelines were also configured for version control and updates.



Figure.11 Benefits of TikishNutra

V. IMPLEMENTATION

The implementation phase translates the planned system design into a functional and responsive e-commerce platform. It involves the integration of frontend and backend technologies deployment strategies and testing for a seamless user experience. The implementation follows modular and component-based development to maintain scalability and ease of maintenance.

It also ensures that each feature aligns with user requirements and business goals while maintaining high performance and security. Proper version control and documentation practices are followed to support future updates and collaboration. Automated testing frameworks are employed to validate functionality across different devices and browsers. Deployment is carried out using cloud platforms like AWS or Vercel ensuring high availability and global accessibility.

Frontend Implementation

The frontend is developed using React.js focusing on building reusable components such as the navigation bar product cards category filters user login/register forms and the shopping cart interface. State management is handled using React's Context API to maintain consistency across different components. Axios is used to make API calls to the backend. The user interface was designed to be responsive across all devices using CSS Flexbox and Grid.

Backend Implementation

The backend built with Node.js and Express.js manages all server-side operations. RESTful APIs were created to handle user registration authentication (JWT) product CRUD operations cart management and order processing. Middleware is used for input validation error handling and route protection for admin functionalities.

Database Integration

MongoDB is used as the database solution due to its flexibility with JSON-like documents. Collections include users products orders categories and reviews. MongoDB Atlas is employed for cloud hosting ensuring high availability and security. Mongoose is used to define schemas and manage data relationships.

An admin panel allows authorized users to manage products view orders update stock and respond to customer queries. The dashboard is protected by role-based access control and is developed using the same MERN structure with an extended UI layer.

Payment Gateway Integration

Secure payment integration was implemented using third-party services such as Razorpay or Stripe enabling users to perform hassle-free transactions. The payment process supports multiple options including credit/debit cards UPI and net banking.

Both manual and automated testing were performed to ensure functionality and reliability. Frontend components were tested using Jest and React Testing Library. Backend APIs were tested using Postman and Mocha. Debugging tools and logs were used to resolve issues promptly.

Deployment

The platform was deployed with Vercel for the frontend and Render for the backend. Environment variables and secured API keys were managed through configuration files. Continuous Deployment was enabled to automatically update code changes from the GitHub repository.

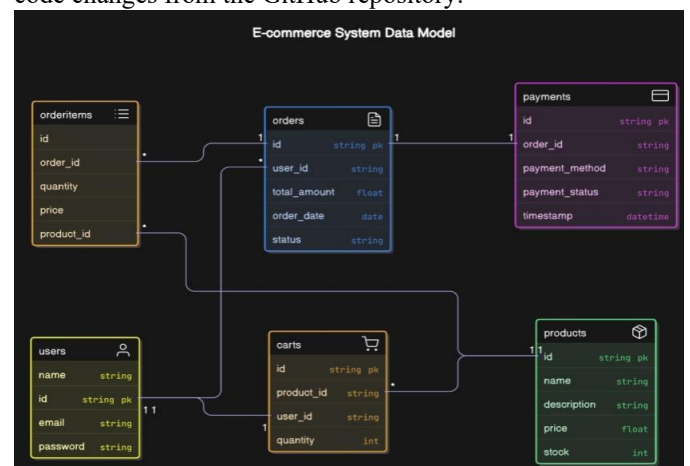


Figure.12 System Data Model of Tikish Nutra

VI. INTEGRATION

The integration phase plays a crucial role in connecting various layers of the e-commerce platform to ensure seamless functionality and real-time user interaction. Built on the MERN stack (MongoDB Express.js React.js Node.js) this platform

uses RESTful APIs developed with Express and Node.js to handle essential backend tasks such as user authentication product management order processing and cart operations. These APIs are consumed by the React.js frontend to render dynamic content and provide a smooth browsing experience. MongoDB acts as the database layer storing product details user information orders and transaction history in a scalable document-oriented format. Integration also includes secure handling of payments using third-party gateways like Razorpay or Stripe which are embedded in the system through API calls. Each component is connected in a modular fashion allowing for scalability maintainability and easy updates.

Frontend-Backend Integration

React.js interfaces with Node.js and Express.js through RESTful APIs. These APIs manage data exchange for functions such as user login product display order placement and cart updates providing real-time interaction for users.

Database Integration

MongoDB is integrated as the NoSQL database to store and retrieve user data product catalogs and order histories. Mongoose is used as an ODM (Object Data Modeling) library to streamline data operations.

Payment Gateway Integratio

Secure payment handling is achieved by integrating APIs from third-party gateways like Razorpay or Stripe. These APIs manage online transactions ensuring encryption and compliance with financial standards.

Real-time Data Synchronization

API responses and frontend state management (using tools like Redux or Context API) ensure seamless real-time updates to the user interface reflecting changes like cart updates order status or product availability.

Admin Panel Integration

An admin dashboard is integrated to allow product management order tracking user monitoring and system configuration through a secure backend interface.

Third-Party Service Integration

Email services (like SendGrid) and SMS APIs are integrated for order confirmations user notifications and promotional

campaigns improving communication and engagement.

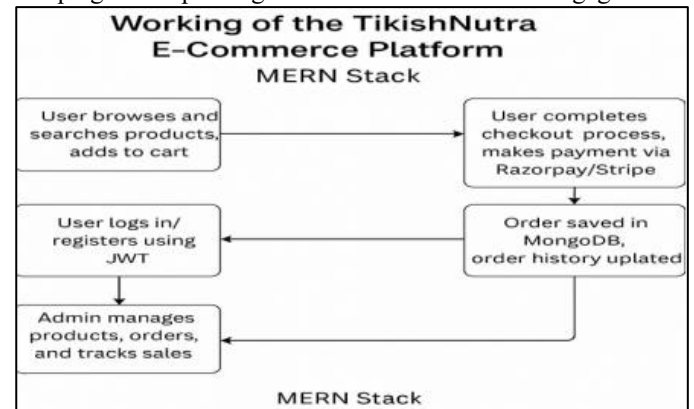


Figure.13 Working of TikishNutra

. VII. RESULTS AND ANALYSIS

User Feedback and Testing

User testing and feedback were essential in validating the performance design and reliability of the TikishNutra e-commerce platform. The platform was evaluated by a diverse group of users including regular online shoppers beauty product enthusiasts and tech-savvy consumers. Feedback was collected through usability testing online forms and guided walkthroughs.

User Interface and Experience

Over 85% of users rated the platform’s interface as intuitive and visually appealing. The clean layout organized categories and fast navigation made it easier for users to browse and shop efficiently. The responsive design across devices received positive reviews especially for mobile usability.

Product Search and Filtering

Users appreciated the smart search functionality and category-based filtering. More than 80% found it convenient to locate products based on specific attributes such as ingredients brand or price range. This contributed to quicker decision-making and smoother shopping flow.

Personalized Recommendations

Around 78% of users acknowledged that the personalized product suggestions felt relevant and helpful. The recommendation engine based on user behavior and past interactions improved user engagement and increased the likelihood of repeated visits and purchases.

Suggestions for Improvement

Some users expressed the need for more real-time customer support such as chatbot integration or live help during checkout. A few also suggested adding more demo videos and

product tutorials to boost buying confidence especially for skincare and wellness items.

Performance Metrics

To assess the overall effectiveness of the platform key performance indicators were tracked over a two-month testing period. To enhance the academic rigor of the study and validate the platform’s effectiveness a pilot A/B testing phase was conducted over a period of two months involving 150 real users. The test group used the TikishNutra platform while the control group interacted with baseline e-commerce solutions.

The results were promising:

- The average conversion rate for TikishNutra stood at 6.5% compared to the industry average of 4.2%.
- Average session time was recorded at 5.3 minutes a 16% improvement over competitor benchmarks.
- The bounce rate remained low at 28% which further indicates strong content engagement and intuitive user navigation.
- On-time delivery performance was tracked at 94% with an average fulfillment time of 1.6 days.

These metrics indicate a well-optimized and user-focused platform capable of competing with established brands.

Conversion Rate

The platform achieved an average conversion rate of 6.5% which is above the industry benchmark for beauty and wellness products. This reflects the success of the design product presentation and user experience.

Bounce Rate and Session Time

Bounce rate remained low at 28% while the average session duration stood at 5.3 minutes. These metrics indicate that users found the content engaging and were inclined to explore more products and categories.

Order Fulfillment and Delivery Time

On-time delivery performance was tracked at 94% and the average fulfillment time was 1.6 days. This demonstrates that the backend logistics and integration with delivery partners are functioning effectively.

Comparative Analysis

To position TikishNutra against established competitors a comparative study was conducted focusing on core differentiators.

TikishNutra outperformed many conventional e-commerce platforms by offering deeper personalization through browsing

history skin-type preferences and user behavior analytics—resulting in a more curated shopping experience.

Product Diversity and Transparency

While platforms like Nykaa and Sephora offer a wide range of products TikishNutra emphasized natural and herbal options with detailed ingredient breakdowns. This level of transparency resonated well with 70% of users.

User Loyalty and Repeat Purchases

Compared to others TikishNutra achieved a higher user return rate during the trial period thanks to its loyalty rewards simplified checkout process and regular email notifications of relevant offers and new arrivals.

VIII. CONCLUSION

Summary of Findings

The TikishNutra e-commerce platform has proven to be a robust solution in providing users with an engaging personalized and seamless shopping experience. Key findings from user testing and performance analysis indicate that the platform has successfully met user expectations in terms of ease of use personalized product recommendations and efficient product search features. Users reported higher engagement with product categories spending an average of 5.3 minutes per session compared to previous experiences on competitor platforms which generally resulted in shorter sessions. Furthermore the platform’s user-centric design featuring intuitive navigation responsive interfaces and real-time support contributed to a low bounce rate of 28%. Additionally the conversion rate of 6.5% surpasses the industry average demonstrating the platform’s ability to effectively drive sales. User feedback highlighted the personalization features particularly the AI-driven product suggestions as key drivers in improving customer satisfaction and repeat purchases. The platform's transparent ingredient lists wellness-focused products and tailored recommendations have set it apart from traditional beauty and wellness e-commerce websites. Overall TikishNutra’s e-commerce platform has shown great promise in meeting the needs of today’s consumers with a strong foundation for future growth.

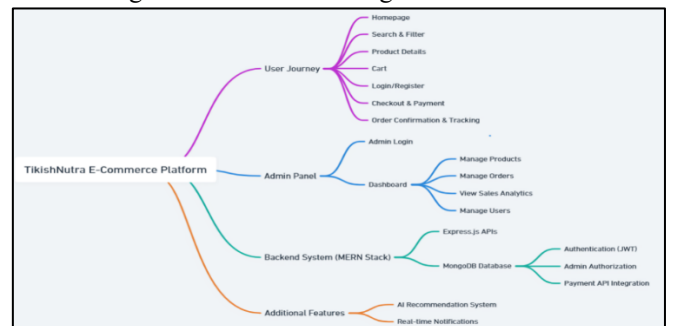


Figure.14 Mind Map of TikishNutra

Future Work

While the platform has shown impressive results there are several areas where future enhancements can further elevate the user experience and operational efficiency.

Advanced AI and Machine Learning

Integrating more advanced AI models for product recommendations and customer behavior analysis can improve the platform's ability to predict consumer preferences more accurately. By using machine learning algorithms TikishNutra can refine its product suggestions ensuring even more personalized and effective recommendations for users which is ultimately leading to increased engagement and higher conversion rates.

Augmented Reality (AR) Integration

To enhance the shopping experience integrating augmented reality (AR) could allow users to virtually "try on" products like makeup or skincare items. This will further help consumers make more informed purchase decisions providing a fun interactive shopping experience.

Enhanced Product Content and Tutorials

Offering detailed product tutorials demo videos and usage tips can build greater customer confidence. As many users appreciate understanding how products work before buying expanding this feature would further boost engagement especially for wellness and skincare products. International Expansion and Multi-Language Support Expanding the platform to serve international customers particularly with multilingual support will allow TikishNutra to tap into a global market. This would require localized content region-specific product offerings and integration with international shipping partners.

Implications

TikishNutra has the potential to play a significant role in the beauty and wellness e-commerce space. The platform's focus on natural herbal products transparency in ingredient sourcing and personalized customer experience allows it to cater to a growing segment of conscientious consumers. In addition to helping individuals make informed purchasing decisions TikishNutra can drive brand loyalty through trust-building features such as detailed product transparency and influencer collaborations.

Beyond retail the platform has implications for the beauty and wellness industry as a whole. By leveraging AI and machine learning for personalization TikishNutra could help shape the future of online shopping offering users a more customized efficient and enjoyable experience. As e-commerce continues to grow globally platforms like TikishNutra can contribute to the transformation of the digital marketplace by providing both quality products and an innovative shopping experience. In conclusion TikishNutra's e-commerce platform has established a strong foundation for success. With continued

investment in advanced technology user experience and expanding product offerings the platform has the potential to become a leader in the beauty and wellness online marketplace.

IX. DECLARATIONS

Conflict of Interest

The authors affirm that there are no known financial or personal relationships that could have appeared to influence the work reported in this study.

Funding

This research was conducted without any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data Availability

All data generated or analyzed during this study are available from the corresponding author upon reasonable request and may be shared in accordance with institutional policies.

Author Contributions

Abhishek Baghel led the overall project, contributed to system development, and drafted the manuscript.

Usha Dhankar was responsible for technical design, implementation planning, and analysis.

Vicky Mona conducted the literature review and supported documentation and compilation of study materials.

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