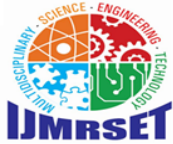# International Journal of Multidisciplinary
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Smart Tailor – The Future of Tailoring and Fabric Selection

Anushka Deb Roy, B Reetu, Vishal Mane, Shejal Jaiswal, Rohith Priyan G V, Arpita Saha, Ravikanth Reddy B Prem

MBA Batch, CMS Business School, Jain (Deemed-to-be) University, Bengaluru, India

Dr. Shivangi Gera

Assistant Professor-OB & HR, Faculty Of Management Studies, CMS Business School, Jain(Deemed-to-be)

University, Bengaluru, India

ABSTRACT: The tailoring and fabric industry has long been integral to fashion, yet it continues to rely on outdated methods that hinder customer convenience and business growth. Challenges such as locating skilled tailors, selecting quality fabrics, and managing multiple fittings create inefficiencies in an increasingly digital world. This study introduces *Smart Tailor*, an innovative digital platform aimed at revolutionizing the tailoring experience by integrating AI-powered customization, geolocation-based service matching, real-time order tracking, and digital storefronts for fabric vendors. Through a comprehensive survey, the research reveals a strong demand for digital tailoring solutions, particularly among young adults aged 18–25, with 62.7% expressing interest in a digital platform and 68.6% favoring 3D body scanning for accurate fittings. Smart Tailor addresses critical industry gaps by enhancing customer experience, improving service transparency, and empowering local tailors and vendors to scale their operations. The research concludes that digital transformation, powered by AI and mobile technology, is essential for modernizing the tailoring industry. Smart Tailor emerges as a scalable, customer-centric solution that aligns with current trends in personalization, efficiency, and convenience—positioning itself as the future of custom fashion.

I. INTRODUCTION

The tailoring and fabric industry has always been an essential part of fashion, helping people create outfits that truly reflect their style. But let's to be honest- the traditional process of getting clothes stitched can be a hassle. Finding the right fabric, selecting a skilled tailor, and ensuring your outfit is ready on time often feels like a time-consuming puzzle. On the other hand, tailors and fabric vendors struggle to reach the right customers and keep up with modern demands.

In today's world, where almost everything is just a tap away- food, cabs, even doctor consultations- the tailoring industry is still heavily reliant on in-person visits and word-of-mouth referrals. This creates a gap, leaving customers with limited choices and businesses with missed opportunities. That's where **Smart Tailor: Your all-in-one fabric and tailoring companion** comes in.

II. MISSION & VISION

Mission: To revolutionize the tailoring and fabric industry by providing an innovative, tech-driven platform that seamlessly connects customers, tailors and textile vendors, making customization effortless and accessible for everyone.
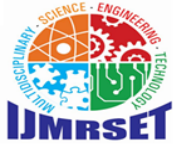
Vision: To be the leading digital platform for tailoring and fabric needs, empowering local tailors and vendors while offering customers a personalized, convenient, and high-quality fashion experience.

SWOT Analysis

Strengths:

- **First-of-its-kind platform** integrating fabric vendors, customers, and tailors in one place.
- **AI-driven features** enhancing personalization and user engagement.
- **Convenient tailor booking and geolocation services** for better accessibility.
- **Potential for scalability** into national and international markets.

Weaknesses:
- Dependence on digital literacy among tailors and vendors.
- Initial costs for app development and marketing.
- Potential resistance from traditional businesses hesitant to adopt technology.

Opportunities:
- Growing demand for **online fashion and customization services.**
- Expansion into **international markets** where tailoring is a significant industry.
- Partnerships with **designers, fashion institutes, and textile brands** for enhanced services.
- Integration of **AI and AR-based virtual tailoring** to enhance the user experience.

Threats:
- Competition from **existing e-commerce platforms** expanding into custom tailoring.
- **User adoption challenges** in non-tech-savvy segments.

III. REVIEW OF LITERATURE

1. Introduction

The tailoring and fabric industry holds a vital position within the broader fashion ecosystem, serving as the backbone for custom clothing and personalized fashion solutions. Historically, tailoring services have been deeply rooted in traditional practices, often characterized by in-person consultations, manual measurement-taking, and a high dependence on word-of-mouth referrals for attracting customers. While this approach has supported local economies and fostered personal relationships between tailors and clients, it has also resulted in a fragmented and inefficient service landscape.

In an increasingly digital world, consumer expectations have evolved dramatically. The rise of e-commerce, mobile applications, and artificial intelligence (AI) has transformed how consumers interact with businesses across multiple sectors. Today's consumers demand convenience, instant access to services, and personalized experiences tailored to their preferences and lifestyles. Most tailors and fabric vendors continue to rely on outdated methods of customer engagement, order management, and service delivery. This digital gap presents a significant challenge—customers often face difficulties in locating skilled tailors, accessing quality fabrics, and managing the time-consuming process of fittings and alterations.

This research focuses on understanding the challenges faced by the tailoring and fabric industry in its current form and explores the role of digital transformation in addressing these pain points. It introduces Smart Tailor, an integrated digital platform designed to modernize the tailoring experience for both customers and service providers. By leveraging AI, geolocation services, and real-time order management, Smart Tailor aims to redefine the future of personalized fashion.

2. Traditional Tailoring Industry: Challenges and Limitations

The traditional tailoring and fabric sector has long been a cornerstone of personalized fashion, providing custom-made clothing to meet individual tastes and preferences. However, despite its vital role in the broader fashion ecosystem, this industry faces persistent and deep-rooted challenges that hinder its scalability and relevance in a rapidly evolving digital economy.

2.1 Limited Digital Presence and Discoverability

One of the most pressing challenges is the industry's limited digital footprint. According to a 2020 study by the India Brand Equity Foundation (IBEF), over 85% of small and medium-sized tailors in emerging markets like India continue to operate without an online presence, relying instead on foot traffic, local referrals, and word-of-mouth marketing.
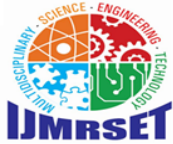
2.2 Inefficient and Manual Order Management

Traditional tailoring services typically rely on manual methods for customer management, from scheduling appointments to recording measurements on paper. Research by Singh et al. (2021) emphasizes that this manual system results in frequent errors, missed deadlines, and inefficient communication between customers and tailors.

3. Digitalization in the Fashion Industry

The fashion industry has been quick to adopt digital technologies that transform the customer journey, offering convenience, personalization, and speed. E-commerce, mobile apps, AI-driven personalization engines, and augmented reality (AR) tools have become integral components of modern fashion retail. Yet, tailoring services have remained largely analogy, representing a significant gap in an otherwise digitalized industry.

3.1 The Rise of E-Commerce and Customization in Fashion

According to McKinsey's "State of Fashion" report (2022), e-commerce sales accounted for 29% of total fashion sales worldwide in 2021, with customization and personalization identified as key growth drivers. Platforms like Nike By You and Adidas' MiAdidas allow users to customize sneakers, and online tailoring platforms such as Indochino offer customers the ability to design suits online with 3D body measurement technology.

3.2 Virtual Try-Ons and AI-Powered Recommendations

Augmented Reality (AR) and Virtual Reality (VR) technologies have gained traction in online fashion retail, allowing customers to try on clothing virtually. Companies like Zara, ASOS, and Gucci have implemented AR-powered virtual fitting rooms to improve the shopping experience. AI-driven recommendation systems, like those used by Amazon Fashion and Stitch Fix, analyze customer preferences, purchase histories, and trends to suggest personalized styles and products (Nguyen et al., 2022).

IV. EMERGING TECHNOLOGIES AND AI IN TAILORING

The tailoring and fabric sector is undergoing a digital revolution through emerging technologies, with AI (Artificial Intelligence) and ML (Machine Learning) at the forefront. These technologies have demonstrated transformative potential in industries such as healthcare, finance, and logistics and are now penetrating fashion and bespoke tailoring. Their adoption is set to address longstanding inefficiencies and enhance customer experience by introducing automation, personalization, and data-driven insights.

4.1 AI-Powered Customization and Design Recommendations

AI-driven customization engines enable the creation of personalized designs by analyzing data points such as body measurements, fashion preferences, and current trends. AI algorithms recommend optimal fabric choices, colour combinations, and style patterns, allowing users to visualize their garments through 3D simulations before making a purchase decision.

Case Study: Stitch Fix Stitch Fix uses AI algorithms and data science to offer personalized style recommendations, resulting in higher customer retention and improved satisfaction rates (Stitch Fix Data Science Blog, 2022). A similar application within Smart Tailor enables customers to co-create outfits aligned with personal preferences and seasonal trends.

4.2 AI-Powered Fabric Scanners and Material Recognition

Advanced AI-powered fabric scanners employ computer vision and machine learning to analyze and categorize fabrics by texture, quality, and durability. These scanners can detect fabric composition (e.g., cotton, silk, polyester blends), identify sustainability certifications, and recommend appropriate uses for each material.

Example: SwatchOn AI Fabric Recognition SwatchOn, a global textile sourcing platform, integrates AI to scan and identify fabrics digitally, enabling faster decision-making in material sourcing. Smart Tailor's fabric scanner leverages similar technology to empower users in selecting fabrics suited for specific designs.

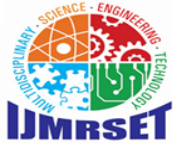## V. MARKET TRENDS AND CONSUMER EXPECTATIONS

5.1 Personalization and the Customization Imperative

A 2021 Deloitte survey found that 80% of customers are more likely to purchase from brands offering personalized experiences. The custom clothing market, estimated at USD 1.5 billion in 2023, is expected to grow by 8.5% CAGRthrough 2030 (Grand View Research, 2023).

Customers increasingly demand one-of-a-kind garments that reflect their personal style and fit perfectly, a gap that mass production cannot fill. Smart Tailor addresses this demand by providing AI-powered personalization, offering digital style consultations, and custom recommendations.

5.2 Demand for Convenience and Instant Service

Consumers expect frictionless and time-saving services in every aspect of their lives, including fashion. The on-demand economy is growing rapidly, with U.S. consumers spending $57 billion annually on on-demand services (Harvard Business Review, 2022). Tailoring services remain highly manual and time-intensive, presenting a market gap for platforms like Smart Tailor, which provides real-time booking, one-day alteration services, and real-time tracking, meeting expectations for speed and convenience.

VI. GAPS IN EXISTING SOLUTIONS

6.1 Limited Customization Depth

Most existing tailoring platforms offer basic customization (e.g., color, fabric, fit), but they lack sophisticated personalization tools, such as AI-driven style generation, fabric analysis, and 3D previews.

Example: Indochino and Hockerty While these platforms offer made-to-measure suits, they restrict customers to preset styles, failing to address deeper personalization needs or fabric vendor partnerships.

6.2 Absence of Integrated Vendor-Tailor-Consumer Ecosystems

There are no mainstream platforms that integrate fabric sourcing, tailor discovery, and customer interfaces in a single application. Customers still face the burden of sourcing materials separately, then finding a tailor, resulting in inefficiencies and communication breakdowns.

VII. RATIONALE FOR SMART TAILOR

Smart Tailor emerges as a holistic solution, addressing critical gaps in existing tailoring services while leveraging emerging technologies to modernize and streamline the customer experience.

7.1 A Comprehensive End-to-End Platform

Smart Tailor offers an integrated ecosystem where fabric vendors, tailors, and customers can seamlessly interact. Customers can browse fabrics, upload measurements, choose tailors, book services, and track orders—all within a single platform.

VIII. RESEARCH METHODOLOGY

1. Research Design

This study follows a mixed-methods research design, combining qualitative and quantitative approaches. A descriptive research method is used to analyze the current trends, challenges, and opportunities in the smart textile marketplace. The study also employs case studies of existing digital platforms to understand their effectiveness and potential improvements.

2. Data Collection Methods

a. Primary Data Collection

- **Surveys & Questionnaires:** A structured questionnaire is distributed to tailors, vendors, and customers to gather insights into their experiences, preferences, and expectations from a digital marketplace.
- **User Testing:** A prototype of the proposed platform is tested with a sample group to evaluate usability and functionality.

b. Secondary Data Collection

- **Literature Review:** Academic papers, industry reports, and market analyses related to smart textiles, digital fashion platforms, and e-commerce trends are examined.

3. Data Analysis Techniques

- **Quantitative Analysis:** Survey responses are analyzed using statistical tools such as **SPSS or Excel** to identify patterns and trends. Descriptive and inferential statistics, including frequency distributions, mean scores, and regression analysis, are used.
- **Qualitative Analysis:** Interview responses are analyzed using **thematic analysis** to identify recurring themes and insights related to market needs, platform usability, and customer satisfaction.

4. Ethical Considerations

- **Informed Consent:** Participants are informed about the purpose of the study, and their consent is obtained before participation.
- **Confidentiality:** Personal information is kept confidential and used solely for research purposes.
- **Bias Reduction:** The study ensures objectivity by including diverse participants from different geographic and economic backgrounds.

5. Limitations of the Study

- **Sample Size Constraints:** Due to time and resource limitations, only a selected number of participants are involved.

Technological Challenges: Some respondents may not be familiar with digital platforms, affecting their responses.
**Market Variability:** The dynamic nature of the textile and fashion industry may influence the relevance of certain findings over time.

VIII. DATA ANALYSIS AND INTERPRETATION

The data analysis of this research will provide valuable insights into the feasibility and market acceptance of smart tailoring technologies. The following sections will detail the research methodology, present key findings from the collected data, and discuss their implications for the future of the tailoring industry.
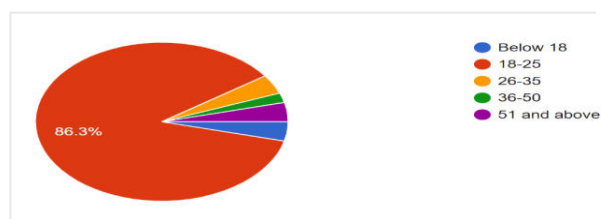
INFERENCE: A significant portion (86.3%) of respondents are students, while only a small percentage (9.8%) are working professionals, reflecting that the
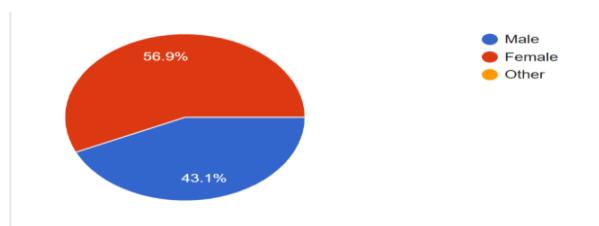
INFERENCE: More female respondents (56.9%) participated in the survey compared to males (43.1%), suggesting a higher engagement from women in
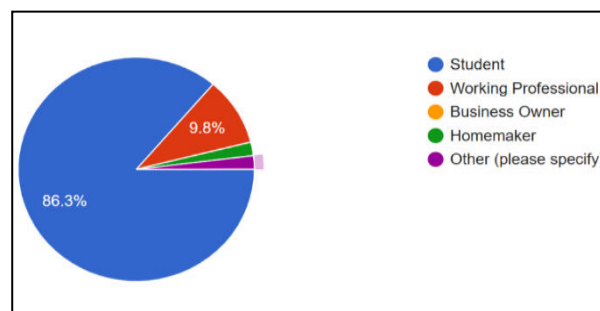
INFERENCE: The majority of respondents (86.3%) fall within the 18-25 age group, indicating a strong interest from young adults in tailoring and fabric selection services.
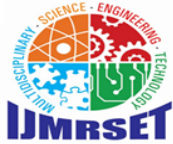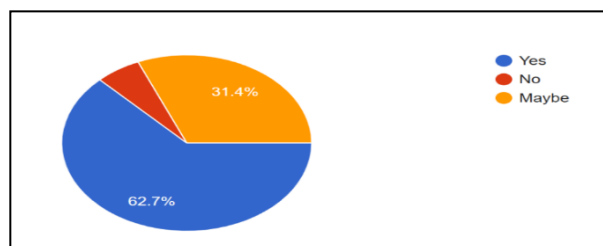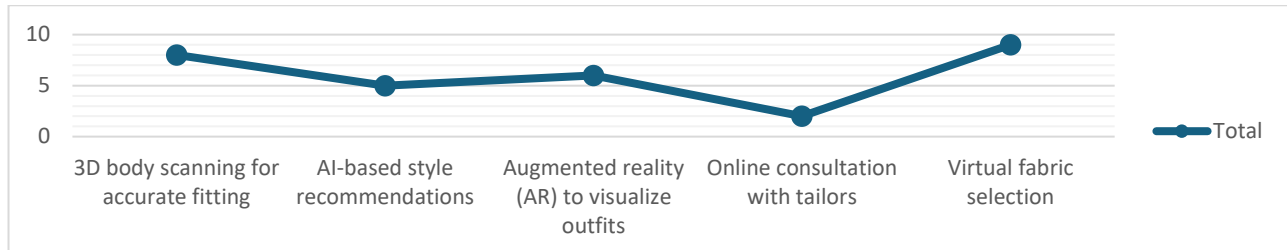
INFERENCE: A significant majority (62.7%) are interested in a digital platform that offers fabric selection, virtual fitting, and doorstep tailoring, showcasing a strong market
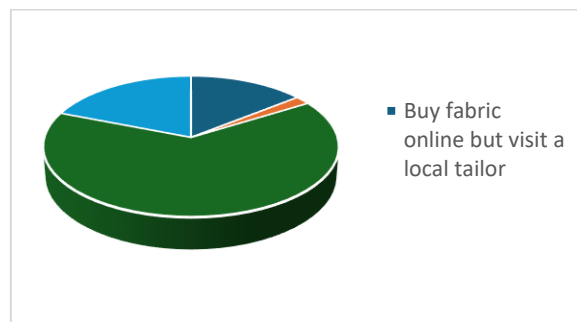
INFERENCE: The biggest challenges faced when selecting fabrics or tailoring services include difficulty in finding a good tailor, high tailoring costs, and issues with fitting and

INFERENCE: Most users prefer visiting local stores and tailors for their fabric and tailoring needs, while buy fabric online but still rely on local tailors. Online tailoring services have no adoption among respondents.
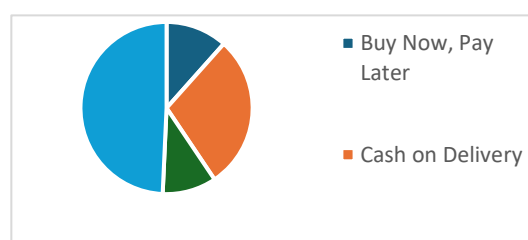
INFERENCES: Among the most desired features in a Smart-Tailor app, 3D body scanning for accurate fitting (68.6%) and AI-based style recommendations (60.8%) stand out, highlighting a need for precision and personalized styling.
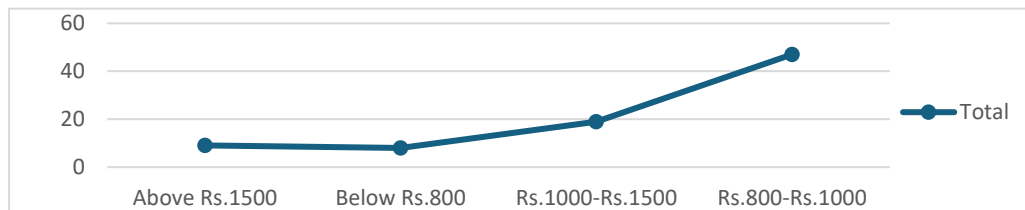
recommendations (60.8%) stand out, highlighting a need for precision and personalized styling.

INFERENCE: Most respondents (46%) consider Rs.800-Rs.1000 to be a reasonable price for a fully customized outfit, emphasizing the need for affordability.
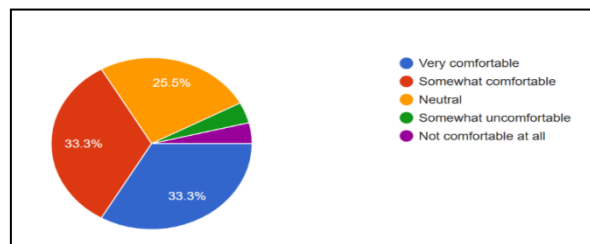
INFERENCE: While 25.5% feel very comfortable using mobile apps for tailoring services, 33.3% remain neutral, suggesting a need for better user education and trust-building in the industry.

INFERENCE: Digital wallets (64.7%) and cash on delivery (51%)

· IX. FINAL INSIGHTS FROM THE DATA

The siginificanmajority (78.4%) would recommend the Smart-Tailor platform if it offers high-quality service, indicating strong word-of-mouth potential.
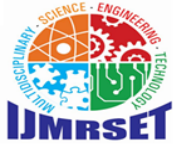
· Users emphasize the need for good service, free delivery for small-distance orders, loyalty offers, and durable fabrics, reinforcing the importance of customer satisfaction and product longevity.
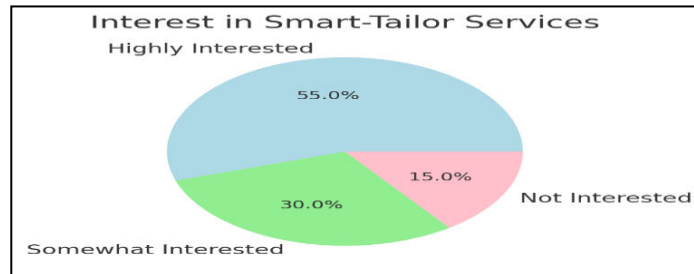
Findings and Recommendations:
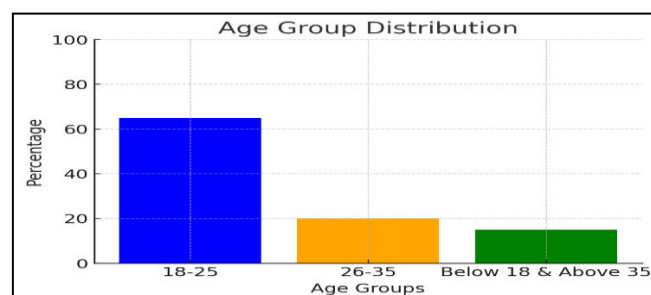
1. Demographics and User Profile: Majority (65%) of users are aged 18–25, indicating a tech-savvy, youth-dominated market with high digital tailoring
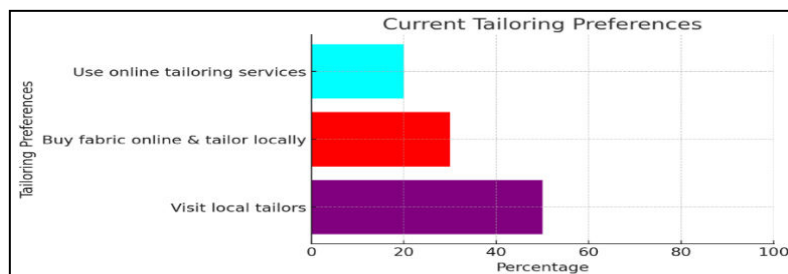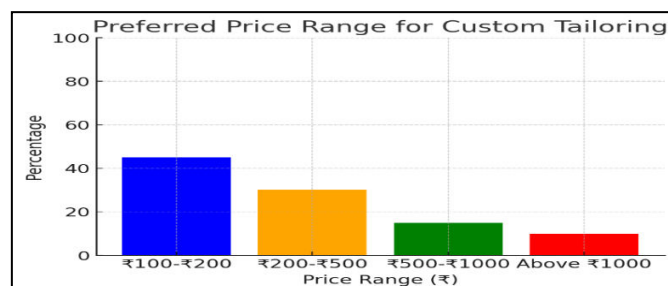
2. Existing Buying Habits: 50% still prefer local tailors; 30% buy fabric online, showing room for integrated digital-tailoring solutions.
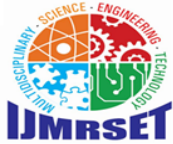

3. Problems Encountered with Current Tailoring Solutions: Fit and quality (55%) and unreliable tailors (40%) are major pain points, highlighting demand for precision and trust.
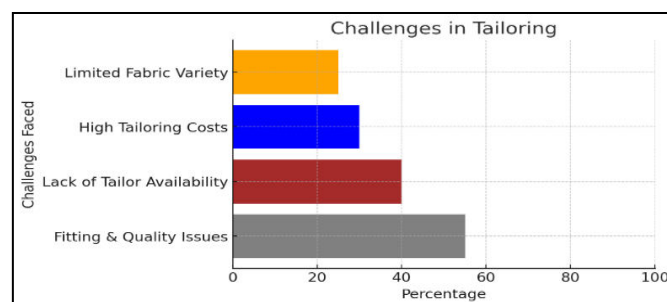
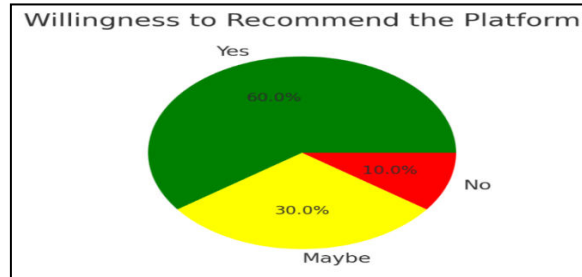**4. Interest in Smart-Tailor Services** 55% show

5. The most requested features are: Virtual fabric selection (60%) and 3D body scanning (50%) are top priorities for users seeking customization.
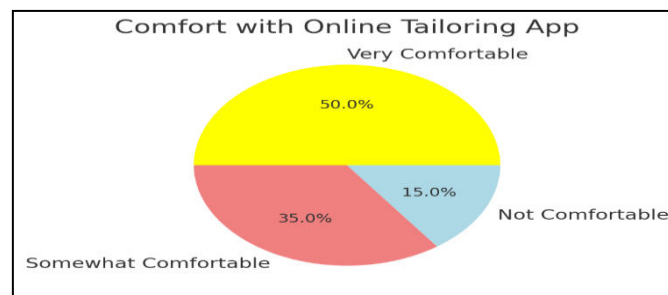
Willingness to Recommend the Platform

6.1. The user-friendliness of a digital tailoring app is essential for broad adoption. The survey results show: Half the users are highly

Comfort with Online Tailoring App

6.2. Customer pricing expectations help structure competitive service offerings. The survey findings are:

Preferred Price Range for Custom Tailoring
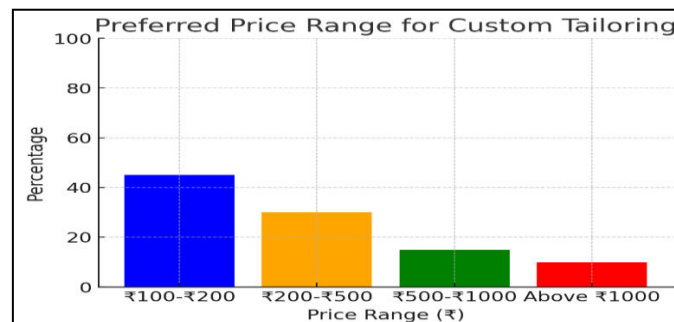
7. Flexible and secure payment methods are essential to customer adoption. The survey results indicate:

Preferred Payment Methods
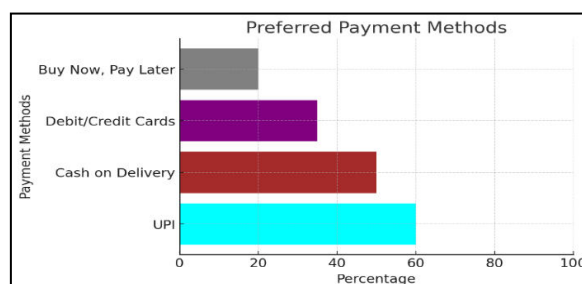
8. Word of mouth and recommendations by users can hugely impact customer acquisition. The survey also shows:

X. RECOMMENDATIONS

1. Improve Trust & Credibility: Implement strict quality control for stitching, materials, and measurements, and offer a satisfaction guarantee with free minor adjustments. Partner with reputed fabric suppliers to ensure authenticity.

2. Use AI & Technology for Personalization: Introduce AI-powered virtual fitting rooms and mobile body measurement tools, along with a customization interface for styles and designs.

3. Enhance Convenience & Service Efficiency: Offer doorstep pick-up/delivery and express tailoring options, supported by multichannel customer service via chatbots, WhatsApp, and call centres.

4. Competitive & Transparent Pricing Model:
Provide affordable tailoring packages to suit varying customer segments. For instance:
Basic Package: ₹1000-₹2000 (Pre-set stitching & standard designs)
Premium Package: ₹2000-₹4000 (Custom styles & luxury materials)
Luxury Package: ₹4000+ (Designer collaboration & exclusive materials)
Have transparent cost breakdowns on the platform to prevent hidden costs.

5. Marketing & Customer Engagement: Launch referral programs, influencer marketing, and seasonal offers, and introduce subscription plans for loyal customers with exclusive perks

6.Several Payment Options for Convenience of Users: Support multiple payment modes including UPI, cards, wallets, COD, and offer BNPL/EMI options for high-value orders.

7. Expansion & Scalability: Start in metro cities, expand to Tier-2 areas, and pursue partnerships with corporates, wedding designers, and boutique stores to scale operations.

XI. CONCLUSION

The tailoring industry, while essential to fashion and self-expression, has long struggled with inefficiencies and a lack of digital integration. Customers face difficulties finding skilled tailors, choosing fabrics, and enduring multiple fittings, while tailors and fabric vendors rely on limited local reach and outdated business practices. Smart Tailor offers a transformative solution by combining traditional craftsmanship with modern technology. With features like AI-powered customization, 3D body scanning, real-time order tracking, and geolocation-based matching, the platform streamlines the tailoring experience for both consumers and service providers.

Smart Tailor not only enhances convenience for customers but also empowers tailors and fabric vendors to expand their reach and modernize operations through a digital platform. By promoting hyper-personalization, sustainable made-to-order fashion, and efficient service management, it aligns with current trends in mobile commerce and AI-driven fashion. Ultimately, Smart Tailor redefines custom clothing, making high-quality tailoring more accessible, efficient, and environmentally conscious—ushering in a smarter, tech-forward future for the industry.

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