

Let's Glow Together! Empowering Digital Communities for Natural Skincare Routines

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Abstract

This study examines the underlying issues that prevent users from regularly practising the natural facial masks into their routines. Through design thinking approach consumer experience including their pain points are identified. The steps involved empathy, define, ideate and prototype. Although design thinking is a mature approach in offering creative and user-centred solutions especially in computing, this methodology are still scarce in marketing and consumer behaviour. Thus, this research hopes to fill this gap. The findings revealed three critical challenge accessibility of premium-quality ingredients, the time and effort required for preparation and storage, and a gap in knowledge about how to tailor facial masks to individual needs. By recognizing the importance of overcoming these obstacles, the study proposes an innovative solution to bridge these gaps and encourage user engagement. Based on the findings from empathy, define and ideate stage, a proposed solutions was prototyped. WhatsApp Online Community Then, platform was established, designed to provide users with an engaging and supportive environment where they can access resources, share experiences, and gain expert insights. The group includes features such as daily skincare tips and reminders, a repository of user-generated facial mask recipes, live Q&A sessions with skincare experts, and collaborative challenges aimed at fostering motivation and community spirit. These elements are carefully crafted to enhance user engagement and create a sense of accountability and belonging. The prototype underwent rigorous testing through various methodologies, including user surveys, focus group discussions, feature testing. The results demonstrated a notable improvement in user consistency and satisfaction with natural skincare routines. Participants reported greater accessibility to high-quality ingredients and reliable information, increased motivation to adhere to their skincare goals, and a stronger sense of community. Pre- and post-test analyses further validated the effectiveness of the prototype, highlighting significant progress in users' understanding and application of natural skincare solutions. Nevertheless, the study acknowledges several limitations and areas for future development. The low-fidelity prototype employed in the testing phase offered a simplified version of the envisioned platform, which limited the exploration of more complex functionalities such as advanced

personalization and AI-driven recommendations. Additionally, while the group successfully addressed key user pain points, its overlap with existing online skincare solutions posed challenges in differentiating the platform. Future studies will explore the integration of advanced features, including personalized product recommendations, e-commerce functionalities, and collaborations with dermatology experts to further enhance credibility and usability. Efforts will also be made to ensure greater inclusivity and affordability, thereby extending the platform's reach to diverse user demographics. This research highlights the untapped potential of community-based platforms in transforming skincare routines. By addressing the practical challenges of ingredient accessibility, preparation, and knowledge gaps, the WhatsApp Skincare Community Group exemplifies an innovative and user-centered solution. This approach not only caters to the increasing demand for natural and sustainable skincare alternatives but also reinforces the importance of fostering connections between users, their heritage, and the environment. In conjunction the study underscores the need for continuous innovation and collaboration to empower individuals in achieving their skincare aspirations while aligning with modern values of sustainability and wellbeing.

Keywords: Natural Ingredients, Homemade Facial Mask, Skin Care Routine, Online Skincare Communities, Skincare Challenges.

Introduction

In today's fast-paced world, maintaining a consistent skincare routine can be challenging for many individuals. With the growing awareness and preference for natural ingredients in skincare, users often face additional hurdles, such as finding reliable information, sourcing high-quality products, and staying motivated. Over the years, studies have revealed that the use of natural facial masks in skincare routines has reduced. According to a survey conducted by Grandview research, and published in 2023, only 59% of those surveyed indicated a preference for skincare products that contained natural or organic ingredients (Grandview, 2023). This represents a steep decline from previous years when natural skincare products had more appeal. A fair amount of this decline can be justifiably attributed to the introduction of better-performing synthetic and lab-created ingredients, the inability to claim transparency from natural brands, and the increasing difficulty in formulating with natural ingredients as they lose their efficacy and high quality. Conversely, interest in natural skincare remains alive and well. A 2023 study by Drive Research confirmed this that they found that when respondents in the United Kingdom were asked if they would rather choose skincare products with sustainable packaging, 73% said yes (Intel, 2023). This suggests that the trend toward sustainability and the use of natural ingredients is unchanged, even if the use of natural facial masks has lessened (Deb, 2025). Maintaining a distinct skincare routine poses a hassle for users, further complicated by the wealth of information available online. Many reviews I encountered included sentiment analysis. For instance, a 2020 study published in the journal *Cosmetics* identified consumer confusion over where to find reliable skincare product information as its primary finding. This study with 89 postnatal subjects over a 4-week period and a national representative sample of 91 women demonstrated clinically significant quality-of-life enhancements among those reporting a 28-day facial rejuvenation routine. However, the study also noted challenges in finding trustworthy skincare product information (Zhang et al., 2020). The online community group not only enables members to share experiences and tips but also assists users in sourcing high-quality natural products. A survey by Market. US indicated that 54% of U.S. respondents actively sought skincare products branded as sustainable or environmentally friendly. By

networking within the community, users can learn about trusted sites for purchasing natural skincare products and others to be avoided. The benefits of maintaining a disciplined skincare routine with natural ingredients are widely known. A 2020 *Cosmetics* journal study found significant improvements in participants' quality of life after adhering to a 28-day facial skincare regimen, highlighting improved empowerment, happiness, and self-esteem. These effects persisted even after stopping product use, underscoring the long-term benefits of a skincare regime. Despite recent challenges, creating a WhatsApp online community group offers a supportive platform for sharing experiences, tips, and recipes, and obtaining expert advice. By fostering connections amongst users with similar interests, individuals can gain crucial insights and maintain motivation. This group can also serve as a resource for sourcing high-quality natural products and accessing reliable skincare product information. Such a community helps people appreciate the benefits of a routine, even when adapting to new or expected ingredient changes. In conclusion, while the popularity of natural facial masks has diminished in the 21st century, interest in natural skincare remains strong. Establishing an online community group on WhatsApp can create an ecosystem where consumers share recipes, experiences, and receive expert advice, helping them stay motivated and informed (Zhang et al., 2020). This project adopts a design thinking approach to understand the diverse needs and preferences of users and create a user-friendly and engaging solution. By leveraging the power of social support and technology, the WhatsApp skincare community group seeks to empower users to achieve their skincare goals and foster a sense of belonging. Through a comprehensive testing process, including before and after review as my testing, user surveys, focus groups, behaviour tracking, pre and post-test analysis on following up the tips, and expert reviews, as this effort aimed to evaluate the effectiveness and user experience of the prototype. The insights gained from this testing will provide more improvements and ensure the platform meets the needs of its users. This report details the journey of developing and testing the WhatsApp skincare community group prototype, highlighting key findings, challenges, and future directions for enhancing the user experience and promoting consistent skincare routines with natural ingredients.

Literature Review

Barriers to Adoption

High Prices and Limited Availability. Tampubolon et al. (2024) conducted a study in Indonesia to identify the primary barriers to the adoption of natural skincare products. Their research highlighted high prices and limited availability as significant obstacles. Many consumers find natural products to be more expensive than conventional ones, making them less accessible to a broader audience. Additionally, the limited availability of these products in certain regions further contributes to consumer resistance.

Lack of Information The same study by Tampubolon et al. (2024) also emphasized the lack of information as a crucial barrier. Consumers often lack the necessary knowledge about the benefits and proper usage of natural skincare products. This information gap leads to uncertainty and reluctance to switch from conventional products to natural alternatives.

Perceived Risk and Hassle of Preparation Maslikhah et al. (2024) utilized the Push-Pull-Mooring framework to analyse the barriers influencing consumers' transition to green skincare products. Their study identified usage barriers such as perceived risk and the hassle of preparing natural products. Consumers are often concerned about the effectiveness and

safety of natural products, which can deter them from making the switch. Moreover, the perceived effort required to prepare and use natural skincare products adds to the reluctance.

Sociodemographic Factors Mitterer-Daltoé et al. (2022) explored the influence of sociodemographic factors on women's perception and use of natural skincare products. Their findings indicate that age and education significantly impact how women perceive and adopt natural skincare products. Older women and those with higher education levels tend to have a more positive perception and are more likely to use natural products. These factors highlight the need for targeted education and marketing strategies to reach different demographic groups effectively.

The Impact of Natural Ingredients on Skin Health

The benefits of natural ingredients in skincare have been extensively documented, with numerous studies highlighting their effectiveness and safety. Gawel-Bęben et al. (2024) reviewed novel natural compounds for skin protection and treatment, emphasizing their potential in addressing various skin disorders. Their research underscores the importance of modern extraction and preparation techniques in enhancing the efficacy, safety, and stability of natural ingredients in cosmetics and dermatological products. Similarly, Günal-Köroğlu et al. (2025) discussed the state of the art in anti-aging skincare, focusing on the role of plant-based phytochemicals. Their findings highlighted the effectiveness of ingredients like tea tree oil and rosehip seed oil, which possess antibacterial and antioxidant properties, respectively. These natural compounds have shown highly in results in combating skin aging and improving overall skin health. Mach et al. (2019) conducted a systematic review on natural active ingredients and skin hydration, reinforcing the importance of ingredients like aloe vera and chamomile for their soothing and hydrating effects. Their research supports the integration of these natural ingredients into regular skincare routines to enhance skin hydration and provide relief from skin irritations. Consumer behavior towards natural skincare products is influenced by various factors, including health concerns, environmental awareness, and product attributes. Kamwendo and Maharaj (2018) revealed that consumers are willing to pay a premium for natural and organic products due to their perceived health and environmental benefits. Chin et al (2018) identified product effectiveness, brand reputation, and price as critical determinants of purchase behavior. A study by SciTech Journals (2022) emphasized the importance of marketing strategies that highlight the benefits of natural ingredients and address consumer concerns about product quality and availability. These findings underscore the need for consumer education and strategic marketing to promote the adoption of natural skincare products.

Methodology

Design Thinking Approach

The empathy stage of this study was to understand the users' needs, challenges, and experiences related to their skincare routines. To achieve this, approximately 10 users were interviewed to gather insights into their experiences and difficulties. The interviews were conducted in various languages preferred by the users, and the audio recordings were transcribed into English. The study successfully gathered detailed knowledge about user needs, motivations, and pain points, which is essential for developing solutions that address the specific challenges faced by users in maintaining consistent skincare routines with natural

ingredients. Then the user’s interview is transferred into a narrative story each respectively. Then define stage has been synthesized to uncover the key issues. These insights were organized and analyzed, leading to the development of three user personas, POV statements, and "How Might We" questions. Users voted on the most relevant issues, guiding the direction for ideation. From the ideation, designation of prototype is done.

Results

Empathy



Figure 1: Empathy map of Vaithiswary



Figure 2: Empathy map of Zahir Azzat



Figure 3: Empathy map of Nur Syazwani

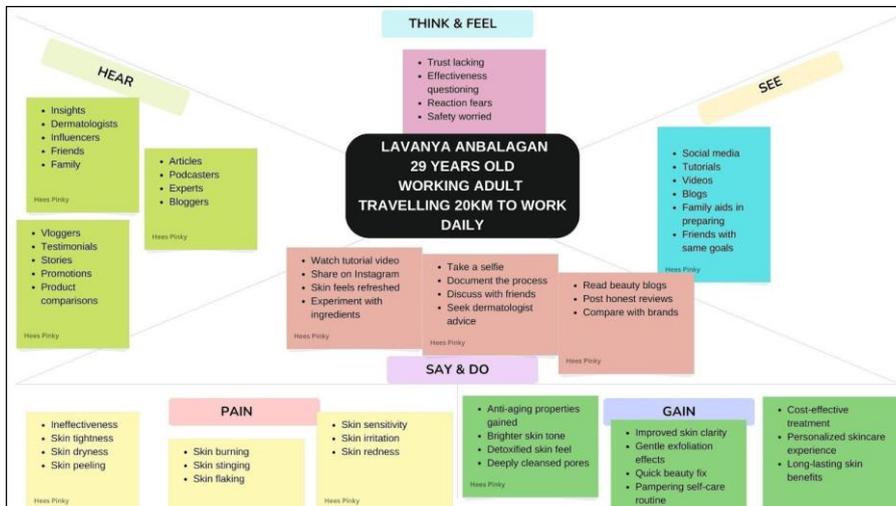


Figure 4: Empathy map of Lavanya



Figure 5: Empathy map of Avina

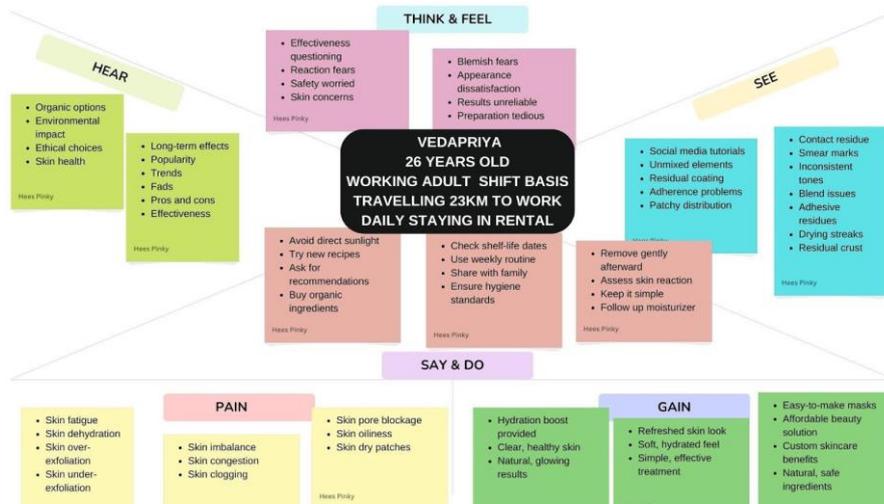


Figure 6: Empathy map of Vedapriya



Figure 7: Empathy map of Vikineswary



Figure 8: Empathy map of Jashwini



Figure 9: Empathy map of Shankgari



Figure 10: Empathy map of Kartik Rao

Define

Meera, 26, honors her heritage through the age-old skincare rituals passed down by her family. Despite her dual role as an employee and part-time student, she remains devoted to her turmeric-based homemade masks. This glowing practice, though challenged by ingredient sensitivity and staining, connects her to tradition while nourishing her skin.

Sarah, 28, a vibrant teacher and wife, juggles life’s demands with a passion for natural skincare. Her go-to blend of coffee beans and Greek yogurt reflects her love of wholesome, time-efficient beauty. Navigating sensitive skin and a tight schedule, she favors organic ingredients that are both gentle and effective ensuring her skin glows even in life’s busiest moments.

Lim, 28, is the global skincare explorer. Single and employed, his curiosity drives him to experiment with the latest trends, grounded in a preference for natural and organic solutions. Budget constraints and sensitive skin push him to be resourceful and meticulous in his product choices. Together, their stories reveal how skincare is more than a routine it’s an act

his emotional burden. Still, Zahir remained determined, motivated by subtle improvements fewer breakouts, smoother texture, and a more balanced complexion. Each success, no matter how small, felt like a step forward. For Zahir, skincare became more than a regimen it was a form of self-discipline and self-care, helping him navigate the chaos of daily life with resilience, hope, and a touch of personal pride.

C: Nur Syazwani, 25, balanced her life as a working professional, wife, and mother to a spirited toddler while committed to her skincare routine. Driven by a belief in natural ingredients, she prepared a homemade mung bean and yogurt mask each night after putting her son to bed. The process required soaking beans, blending to the right consistency, and mixing with yogurt often challenging due to texture issues and storage hassles. Her energetic child and her husband's limited availability added to the strain, making her routine harder to maintain. Still, Syazwani persisted, refining her technique with clean tools and tutorial videos. Despite messy nights and varied results, she valued the soothing ritual. The mask enhanced her skin's texture and radiance, offering both visible improvements and emotional comfort. For Syazwani, the nightly ritual became more than skincare it was a small but meaningful act of self-care and resilience amid the chaos of everyday life.

D: Lavanya, 28, balanced a demanding job and family life with her skincare goals, focusing on reducing hyperpigmentation. Living with her in-laws and fiancé, she carved out time each evening to prepare a homemade facial mask using coffee beans, honey, and yogurt. Grinding the beans into a fine powder, she mixed the ingredients into a thick, aromatic paste, though achieving the right consistency was often a challenge. Some nights the mixture was too thick or too runny, leading to frustration. Despite this, Lavanya applied the mask twice a week, carefully avoiding her eyes and massaging it into her skin. The exfoliating coffee, nourishing honey, and soothing yogurt left her skin feeling refreshed and visibly improved. Sharing her progress on social media, she inspired others while finding joy in the ritual. For Lavanya, skincare became more than beauty it was an act of resilience and self-care amid the chaos of city life and familial responsibilities.

E: Avina, 26, balanced work and family life while pursuing clear, radiant skin. Living with her parents and three sisters, she followed a nightly routine using a turmeric and milk mask to combat acne. Though she faced challenges like inconsistent texture, storage issues, and occasional breakouts, she stayed dedicated. Her sisters supported her journey, sometimes joining in for a shared ritual. Avina refined her technique with online tutorials and adjusted her methods over time. With patience and consistency, her skin improved noticeably. For Avina, the routine became more than skincare it was a meaningful act of self-care and a source of pride.

F: Vedapriya, 24, left her village for city life to pursue her career, bringing with her cherished family skincare rituals. Living alone, she found comfort in a nightly turmeric and milk facial mask, aiming to reduce hyperpigmentation and maintain radiant skin. Though she faced challenges with texture, consistency, and ingredient storage, she remained committed. Her video calls with her mother and grandmother kept her grounded, offering both guidance and emotional heritage. Through discipline and patience, she nurtured both skin and spirit.

G: Vikineswary, 26, balanced life as a part-time PhD student and lecturer in the busy city of Klang. Living alone in a modest rental, she revived a cherished family skincare ritual to reduce hyperpigmentation using a turmeric and milk mask each night. Though the texture often varied and the process was messy, she persisted, carefully blending the mixture and applying it after long days of work. The mask's soothing effects and gradual results gave her comfort and motivation. Her nightly routine became a symbol of self-discipline, heritage, and healing a quiet act of care amid academic pressure and personal transformation.

H: Jashwini, 25, a newly employed graduate, balanced her demanding routine with a commitment to skincare. Inspired by family traditions, she adopted a nightly ritual using Multani Methi powder, known for its purifying properties. Despite inconsistent textures and the occasional mess, she persisted, mixing the mask carefully and applying it with focus. The mask soothed her skin, reduced redness, and improved elasticity. Online tutorials helped refine her technique, while her glowing, clearer complexion boosted her confidence. For Jashwini, the routine was more than skincare it was a grounding practice of self-care and ancestral wisdom amid the pace of modern professional life.

I: Shangkari, 27, a newly married homemaker, balanced household duties with a strong commitment to skincare. Inspired by family traditions, she used a homemade sandalwood and rose water mask each evening to brighten and soothe her skin. Though she often struggled with texture and consistency, she remained dedicated, applying the mask carefully after her chores. Encouraged by her husband's compliments and social media tips, she refined her technique and maintained the routine. Over time, her skin showed noticeable improvements, boosting her confidence. For Shangkari, the ritual became a quiet act of self-love and resilience, woven into her daily life.

J: Kartik Rao, 19, juggled his mechanical engineering studies with a committed skincare routine to combat acne and oiliness from his greasy work environment. Each evening, he prepared a homemade mask using honey, yogurt, and turmeric, often adjusting for inconsistent textures. Despite messiness and strong scents, Kartik persisted, applying the mask with care and using online tutorials to refine his technique. Living with his family, he balanced responsibilities while finding comfort in the ritual. Over time, his skin improved less redness, better texture, and a healthy glow. The journey became a reflection of his discipline, self-care, and growing confidence.

The Define stage aimed to synthesize insights gathered from 10 user interviews to uncover key issues. Major pain points included inconvenience, limited ingredient availability, and challenges in maintaining consistency due to time constraints. These insights were organized and analyzed, leading to the development of three user personas, POV statements, and "How Might We" questions. Users voted on the most relevant issues, guiding the direction for ideation. The resulting problem statement highlighted that users struggle to maintain a consistent facial mask routine using natural ingredients, primarily due to inconvenience, ingredient sourcing, and poor time management in their busy daily lives. Meera, 26, honors her heritage through the age-old skincare rituals passed down by her family. Despite her dual role as an employee and part-time student, she remains devoted to her turmeric-based homemade masks. This glowing practice, though challenged by ingredient sensitivity and staining, connects her to tradition while nourishing her skin.

Sarah, 28, a vibrant teacher and wife, juggles life's demands with a passion for natural skincare. Her go-to blend of coffee beans and Greek yogurt reflects her love of wholesome, time-efficient beauty. Navigating sensitive skin and a tight schedule, she favors organic ingredients that are both gentle and effective ensuring her skin glows even in life's busiest moments.

Lim, 28, is the global skincare explorer. Single and employed, his curiosity drives him to experiment with the latest trends, grounded in a preference for natural and organic solutions. Budget constraints and sensitive skin push him to be resourceful and meticulous in his product choices. Together, their stories reveal how skincare is more than a routine it's an act of personal care, identity, and resilience. Whether rooted in tradition, inspired by efficiency, or fueled by discovery, their journeys highlight the diverse paths toward radiant, healthy skin.

In the Ideate stage, various "How Might We" questions were crafted to tackle the key challenges from the Define stage. Ideas focused on showcasing visible results through before-and-after photos and user testimonials to build trust and motivation. Transparency was also prioritized by sharing ingredient origins and quality standards to enhance credibility.

To continuously evolve the platform, strategies for collecting and analyzing user feedback were explored, ensuring the experience remains user-centered. Another prominent idea was to build an online community or support group where users could exchange tips, share progress, and support each other on their skincare journeys. These focus areas fueled brainstorming sessions and guided the development of creative, user-driven prototypes aimed at promoting consistent skincare routines using natural ingredients.

The Prototype stage involved creating a tangible representation of the solutions ideated during the previous stage. To address these challenges, an online community group on WhatsApp can be developed. This platform would allow people to share tips, recipes, experiences, and gain expert advice. Users looking to incorporate natural ingredients into their skincare routine could learn a lot from the group. By connecting with those with similar interests and goals, users can gain unique insights and remain inspired to adhere to their routines. A low-fidelity prototype was initially developed to visualize the core features and user flow of the WhatsApp Skincare Community Group. This prototype was sketched in basic wireframes, focusing on the layout and functionality rather than detailed aesthetics. The primary aim was to quickly explore different ideas and gather feedback from user. Key features included: **Home Screen:** A welcome message, navigation menu, and access to main chat, daily reminders, recipes, Q&A sessions, challenges, and user profiles. **Main Chat Group:** A message list for user interactions, highlighted admin messages, and an input box for sending text and attachments. **Daily Reminders:** A section for daily skincare tips and a log of past reminders. **Recipes:** A repository of user-shared facial mask recipes and a form to submit new recipes. **Q&A Sessions:** Scheduled and archived interactive Q&A sessions with skincare experts. **Challenges:** Details of ongoing challenges, a challenge log, and records of past challenges and winners. **User Profiles:** User profile information, settings for notifications, privacy, and account management. Once the low-fidelity prototype was sketched, it was presented to users for feedback. Based on the feedback, iterations were made to refine the design. The prototype stage was crucial in identifying potential issues early on and ensuring that the final product effectively met user needs and expectations as shown in the figure below:

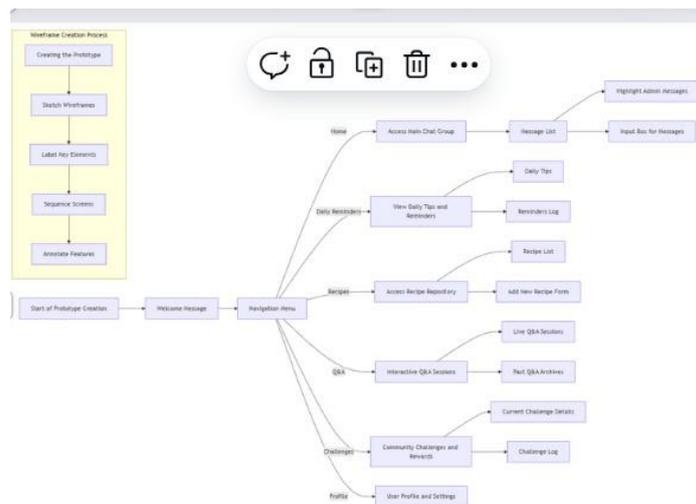


Figure 13 shows the low fidelity interface of the prototype

The Testing stage focused on evaluating the effectiveness and user experience of the WhatsApp Skincare Community Group prototype. Several methods were employed to gather comprehensive feedback and insights from users.

Features

Testing: Different versions of group features were tested to determine which versions yielded better engagement and routine consistency. For instance, daily reminders were compared to weekly reminders, and text-based tips were compared to multimedia content using polls as quiz or reviews. **User Surveys:** Qualitative and quantitative feedback was gathered from participants through surveys. These surveys covered various topics, including usability, engagement, and overall satisfaction with the group features and content. **Focus Groups:** Virtual discussions were conducted with participants to gain in-depth insights and explore user feedback. These focus groups provided valuable information about user thoughts on group activities, feature usability, and their overall experience within the community. **Behavior Tracking:** User behaviour within the group was monitored and analysed. Key metrics included message frequency, participation in challenges, and interaction with content. This data helped evaluate engagement levels and identify trends among users. **Pre- and Post-Test Analysis:** Changes in participants' skincare routines and attitudes were measured before and after their involvement in the group. Criteria such as consistency in mask application and knowledge of natural ingredients were used to assess the impact of the group on user behaviour and knowledge.



Figure 13 shows the prototype testing

Discussion

The findings of this research underscore three principal barriers to the consistent use of natural facial masks in daily skincare routines: accessibility to premium-quality ingredients, preparation and storage effort, and knowledge gaps in tailoring masks to individual needs. These insights emerged from a comprehensive design thinking approach involving empathy mapping, persona development, ideation, and iterative prototyping. The narrative stories drawn from diverse user profiles highlight a nuanced understanding of how personal contexts influence skincare behavior—whether rooted in tradition, efficiency, or experimentation. The innovative WhatsApp Skincare Community Group prototype offered an interactive solution that directly addressed user pain points. The feature set—including expert Q&A sessions, peer-to-peer recipe sharing, and daily reminders—was shown to significantly improve consistency and motivation in skincare practices. The positive outcomes from pre- and post-test analyses reinforce the value of a socially supportive platform in promoting adherence to natural skincare routines. For research, this study extends the application of design thinking into the consumer behavior domain, where it remains underutilized. It demonstrates the power of empathetic inquiry and iterative development in understanding and shifting habitual consumer practices. Scholars can leverage this approach to explore broader lifestyle-related challenges, especially in health, wellness, and sustainability contexts.

For industry practitioners, especially those in natural skincare, digital wellness platforms, and consumer engagement, this study serves as a blueprint for designing user-centered, community-driven solutions. It highlights the untapped potential of leveraging everyday social tools like WhatsApp to drive brand trust, user education, and meaningful behavioural change. Moreover, incorporating storytelling and user experience narratives into product development could yield more emotionally resonant, retention-driven platforms.

Conclusion

This research reaffirms that sustainable skincare practices are deeply personal and shaped by cultural, logistical, and psychological factors. By applying the design thinking methodology, the study illuminated key pain points and proposed a practical, empathetic solution—an online WhatsApp community that effectively fosters routine adherence and shared learning.

Through user engagement, feature testing, and behavioural analysis, the prototype proved capable of improving consistency, access to ingredients, and user confidence. While the current low-fidelity design demonstrated promise, future iterations must explore advanced personalization, AI-driven recommendations, and dermatologist collaborations to expand reach and enhance credibility. In closing, this project contributes meaningfully to both academic research and industry innovation. It exemplifies how digital communities can nurture empowerment, resilience, and wellbeing redefining skincare not as a solitary chore but a collective journey infused with culture, support, and sustainable values.

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