

Challenges with Halal Traceability for BB Glow Treatment: A Review Analysis

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ABSTRACT

BB Glow treatment is a fusion of skin and semi-permanent makeup, which has recently emerged as a signature aesthetic procedure in the beauty community. However, halal traceability for BB Glow treatment is complex and challenging due to the many ingredients used and the halal certification that must be fulfilled. This study aimed to review the challenges of halal traceability in BB Glow treatment. The study utilised a review analysis methodology to synthesise resources regarding halal traceability challenges, especially the BB Glow treatment products. The review analysis revealed several challenges with halal traceability for BB Glow treatment, including: (a) ingredient ambiguity in BB Glow products; (b) absence of halal-certified BB Glow brands; (c) cross-contamination during manufacturing; and (d) limited awareness among practitioners and consumers. In conclusion, this study indicates that the halal traceability challenges faced by BB Glow treatments stem from various factors. Future studies should provide a framework for halal traceability in BB Glow treatment as a cosmetic service.

Contribution/Originality: This study adds to the existing literature on challenges with halal traceability, specifically for BB Glow treatment. This study contributed to the body of knowledge regarding the importance of identifying challenges with halal traceability for BB Glow treatment as a part of the preliminary strategy for halal cosmetic service.

1. Introduction

BB Glow treatment is a fusion of skin and semi-permanent makeup, which has recently emerged as a signature aesthetic procedure in the beauty community. Mainly due to its beneficial features of glowing, even complex skin decreased pigmentation and defects

while visually providing a delicate, made-up appearance. It involves microneedling a pigmented serum to stimulate more uniformly toned skin and help with conditions associated with hyperpigmentation, fine lines, and dullness (Ghandehari et al., 2022). BB Glow is a new, exciting, non-invasive treatment for those seeking extended results instead of wasting countless hours in makeup daily. Although this therapy is increasingly popular, it has generated doubts regarding its safety, effectiveness and compliance with some parameters of quality and ethics (degree of disclosure of components and manufacturing process). Ingredient transparency is of heightened interest in cosmetic procedures. The use of products in BB Glow treatment has been questioned because of the potential existence of unregulated or undisclosed ingredients that may compromise patient safety (Hou et al., 2017).

However, halal traceability for BB Glow treatment is complex and challenging due to the many ingredients used and the halal certification that must be fulfilled. The fulfilment is necessary before the halal certification widgets for BB Glow treatment are introduced. BB Glow's common ingredients, like collagens, glycerin, or pigment, are often produced from non-halal sources, but the source is not indicated or inadequately labelled. In addition, a few brands are still halal-certified, and products are created in mixed-factory sites, making it challenging to ensure they meet the halal criteria (Mazril Suzaimi et al., 2023). Another critical issue that confounds this problem even more is the lack of understanding among consumers and practitioners of the significance of halal compliance in cosmetic treatments. The necessity of systematic research doesn't stop there, though, as without a direct and definitive framework on halal traceability available for use, Muslim consumers are left in an enviable position where they are unable to ascertain whether or not BB Glow treatments meet their country's halal standards or otherwise (Bagundang & Gallo, 2024) and therefore whether or not they are in line with the individual's beliefs and ethics, which once again merely acts to showcase the severity of this issues relevance to an increasingly significant consumer base.

This study has many benefits for the cosmetics and skincare industries. It also maps blind spots in ingredient sourcing, manufacturing processes, and certification systems, which can open the door to more transparent and ethical practices. It will give manufacturers an insight into how they should produce halal BB Glow treatment products to satiate demand from Muslim consumers who wish to have their treatments in line with religious and ethical values. In addition, acknowledging these challenges can help drive the innovation to adopt advanced traceability systems like blockchain to provide transparency over supply chains (Bux et al., 2022). Even more importantly, this information could catalyse innovations, such as deploying new generation traceability methods, such as blockchain, to increase transparency over supply chains. This study benefits the consumer by allowing them to pay more attention to and gain confidence in certain products that comply with halal, facilitating other professional opportunities and comprehensive market opportunities within the global beauty economy. Furthermore, harmonising halal certification standards worldwide is imperative for consumers, regulators, and producers alike (Karyani et al., 2024), and the abovementioned issues must be addressed.

1.1. Research Objectives

This study aimed to review the challenges of halal traceability in BB Glow treatment.

1.2. Brief Information of BB Glow Treatment

BB Glow (“BB” is rooted in ‘Beauty Balm,’ ‘Blemish Balm,’ or ‘Blemish Base’) is a skin-embedded semi-permanent foundation and a standard cosmetic procedure thought to benefit skin appearance and functionality potentially. However, the treatment raises an essential medical and religious issue considering the therapy’s administration methods, safety, efficacy and ethical implications. However, the safety and effectiveness of this treatment have still not been established by solid clinical research, but it is typically considered a modern dermatologist practice. BB Glow treatment, also referred to as powder embroidery, does not have anything medical to support it, and exposing the commodity to the risk of harm is alarming (Rosele et al., 2021). But all this is extremely important in the context of Islamic law (Syariah) because beauty is lawful only if it does not harm a person. Due to the newness of BB Glow treatments to both the beauty and medical industries, with virtually no safety precautions having been placed upon such procedures and no medical research, there is no option. Still, caution appears available to practitioners and consumers following such religious dictates.

Moreover, the trend of BB Glow at beauty salons such as SS Beauty Bar indicates increased consumer interest in quick and speedy beauty treatments (Syaputra et al., 2023). While this trend is exceedingly welcomed, it should come alongside a notable awareness of the threat posed by such therapies. CPG has no standard process. Therefore, product quality is highly variable, and the resulting adverse events are seldom communicated to the consumer. The absence of the CPG standard stresses the wise consumers and will make the supervision much more sensible by bringing in a lot of colours in this business and making the BB Glow treatment and its likes safe and effective. Regulatory measures, such as certification of containing protocols and service products regarding their standards, will reduce these risks. Finally, more transparency as to what all these side effects may be and how consumers can safely consume such products will only educate the consumer and build more trust in the beauty industry.

Global demand studies suggest that beauty services, including BB Glow treatment, are increasing and are predicted to increase soon (Madjid et al., 2021). Concerning the availability of BB Glow treatment services, demand forecasting of BB Glow treatment services can also be performed using Single Exponential Smoothing and Simple Moving Average forecasting methods to strengthen the results and conclusions that this treatment service should be the treatment of choice as beauty services indicated that it has the most demand. In light of this growing demand, additional consumer education about the potential dangers and ethical issues surrounding such treatments will be necessary. Meeting consumer demand and protecting their health will require research to standardise BB Glow treatment techniques and the safety of BB Glow products & devices. However, perhaps the contribution to emerging best practices for this burgeoning space would come from beauty services providers, regulatory bodies, and industry experts coming together to shape standards on responsibility and transparency.

In summary, BB Glow treatment is an appealing option for those who want cosmetic procedures done but to a reasonable extent. The absence of medical scientific verification confirms the health hazards involved and poses an ethical dilemma, especially given Islamic law, which leads to the safety and effectiveness of the treatment. The evolution of beauty must always be consumer-first, ensuring that the industry is making healthy consumers the main priority. BB Glow is semi-permanent, as the

pigment serums are infused through microneedling technology. Still, it has raised concerns over whether the treatment is good for the skin in the long term and if complications can arise. While some practitioners say there are no guaranteed risks, experts still recommend being cautious, doing research and talking to certified professionals beforehand. Moreover, there needs to be more regulatory oversight, and even BB Glow treatments should be well-standardised and adhere to ethical practices, especially concerning the culture and religious practices of the people.

2. Literature Review

Studies show that the increasing role of halal tracking systems has also been highlighted in the cosmetics and food sectors. Halal compliance throughout supply chains poses challenges that must be addressed through strong traceability systems (Prathama et al., 2023). Halal traceability systems and industry environmental factors positively and significantly affect halal food supply chain integrity (Ab Rashid & Bojei, 2020). Blockchain technology was suggested as a means for the global supply chain to improve halal food traceability and enhance the integrity of the supply chain (Tan et al., 2022). These issues indicate that the cosmetics industry still requires a halal traceability system and continuous studies (Wan Omar et al., 2024). The use of traceability systems to assess halal compliance and maintain consumer trust is still in progress in these studies. Traditional halal supply chain monitoring systems can be improved by real-time monitoring and verifying all halal food transactions, which is achievable by implementing this framework integrated with IoT devices and adopting blockchain technology.

One of the biggest challenges for halal traceability is the absence of uniform regulations and certificate processes in different regions. As highlighted by Sadiyah and Erawati (2024), standard differences result in ambiguity for end users and businesses, particularly within the cosmetics industry, where the halal status of single components varies according to their source and production methods. This inconsistency in legal and regulatory aspects could pose both a challenge and the threat of undermining halal certification in cosmetics because compliance needs to be done at all stages of production, from the sourcing of raw materials through manufacturing and supply chain (Othman et al., 2023). Kusnadi et al. (2024) point out that ERP-based traceability systems can be a game changer for halal tracking. However, switching from existing systems to ERP-based systems can be very challenging, especially for SMEs that may not have that capacity or knowledge. This switch reiterates that SMEs find it difficult to understand halal certification concepts and implementation, which can result in compliance gaps and decrease consumer confidence (Wahyuni & Pudjowati, 2024).

Further, the effectiveness of traceability systems is very much dependent on consumer awareness and perception of halal. Supply chain transparency, including tracking through the supply chain and the halal certification process, strongly influences consumer trust in halal cosmetics (Hayeemad & Soliman, 2024). Similarly, Wahyuni et al. (2021) argue that increasing consumer awareness of halal compliance has raised the need for a more muscular traceability system for augmenting consumer confidence in product integrity. In addition, the halal supply chain is complex, and the companies' handling of it has become quite difficult for them to undertake (Voak et al., 2023). This development illustrates how stakeholders are interdependent from a supply chain perspective and that collective action between supply chain actors is required to preserve halal integrity throughout production, particularly in the case of BB Glow

treatment products, where multiple suppliers and manufacturers are typically included. Poor communication and silos among stakeholders lead to traceability gaps, and validating halal for ingredients and end products becomes a challenge.

Recently, newer technologies like blockchain have been seen as a possible solution to halal traceability issues—for instance, blockchain contributes to the traceability of halal supply chains by providing a transparent and immutable ledger of transactions (Ismail et al., 2022). However, implementing such technologies is a significant commitment and will require a change of mindset among the industry stakeholders, which can be especially difficult for smaller players. Conversely, the halal cosmetics market faces issues, especially with raw material sourcing and formulation modularity. According to Dwicesaria et al. (2024), confirming the halal of cosmetic ingredients, especially of animal origin, is a complicated process that has to be validated strictly. It adds to the confusion that the ingredients for something like BB Glow treatment do not necessarily all come from the same supplier, and they can each have different certification status. Therefore, to be credible to consumers and comply with the regulations, all the components must comply with the halal standards.

The COVID-19 pandemic has worsened some of these challenges by putting more pressure on the halal supply chain. Research by Wahyuni et al. (2021) shows that pandemic supply chain disruption caused a risk of contamination and non-halal standards in the food sector worldwide. That said, it also highlights the importance of dynamic and agile traceability systems that can adapt to unexpected situations — while maintaining the integrity of halal products. Education and training play an essential role in strengthening halal traceability. As Mahadi and Ab Talib (2023) pointed out, lapses in compliance are possible without concrete knowledge of the halal certification process and requirements among these stakeholders. Hence, having capacity-building programs and training to educate industries on halal standards and traceability practices would greatly enhance compliance and increase consumer trust.

The issue of halal traceability in BB Glow treatment cosmetics has been recognised as an essential challenge in the cosmetics industry and the broader international economic community. This issue ranges from regulatory discrepancies and technological hurdles to consumer awareness and the natural complexities of the halal supply chain. They must be met with a cross-stakeholder effort, innovative technology, education and training. This trend is expected to continue as more brands enter the market, but with a growing focus on ensuring proper traceability, meaning consumers can make informed choices about what they purchase.

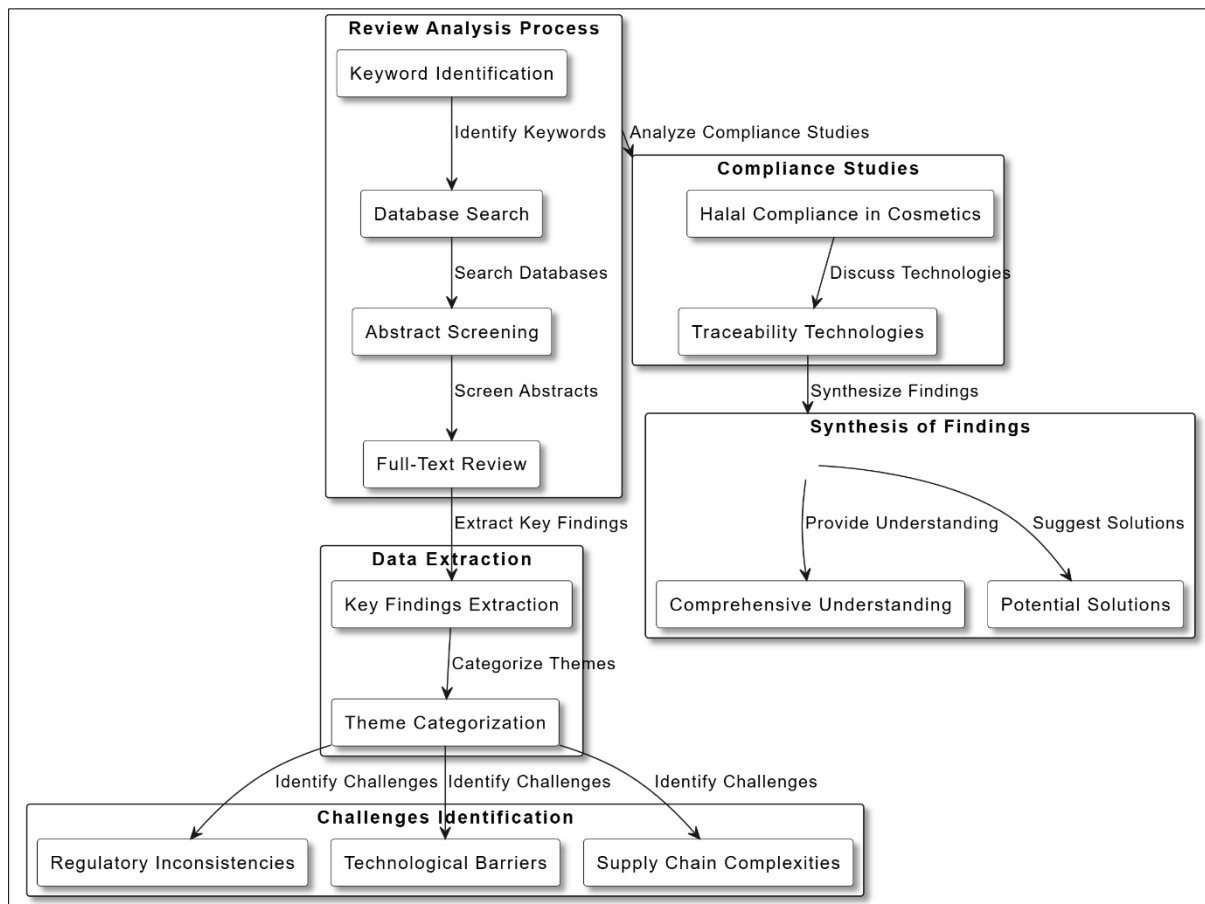
3. Research Methods

The study utilised a review analysis methodology to synthesise resources regarding halal traceability challenges, especially the BB Glow treatment products. Relevant studies were identified using five key search terms: “halal traceability,” “halal cosmetics,” “BB Glow halal compliance,” “halal certification challenges,” and “halal supply chain.” Literature was retrieved from five genuine academic databases with peer-review eligibility, namely ScienceDirect, ResearchGate, SpringerLink, Wiley Online Library, and Taylor & Francis Online, ensuring that credible publications were considered. Literature with studies unrelated to halal traceability, cosmetics, or not presenting challenges or solutions in the halal certification process was excluded.

Studies published between 2020 and 2024 were included in these lists to ensure foundational and recent perspectives.

The steps involved in the review analysis process were as follows: The first search was performed on the selected databases using identified keywords, resulting in a wide variety of articles. Then, the abstracts of those articles were screened for their relevance to the research topic. Subsequently, articles were reviewed to extract essential findings about halal traceability challenges, especially within the cosmetics industry. The extracted data were organised and analysed based on the identified subthemes, including regulatory inconsistencies, technological barriers, and supply chain complexities. Particular focus was on studies incorporating halal into cosmetics and those with traceability, including studies that address blockchain technologies and enterprise resource planning (ERP) systems. This study synthesised findings from the literature to understand the potential challenges and solutions of halal traceability for BB Glow treatment products. The detailed process of the review analysis is shown in the figure below (Figure 1).

Figure 1: Details Process of the Review Analysis



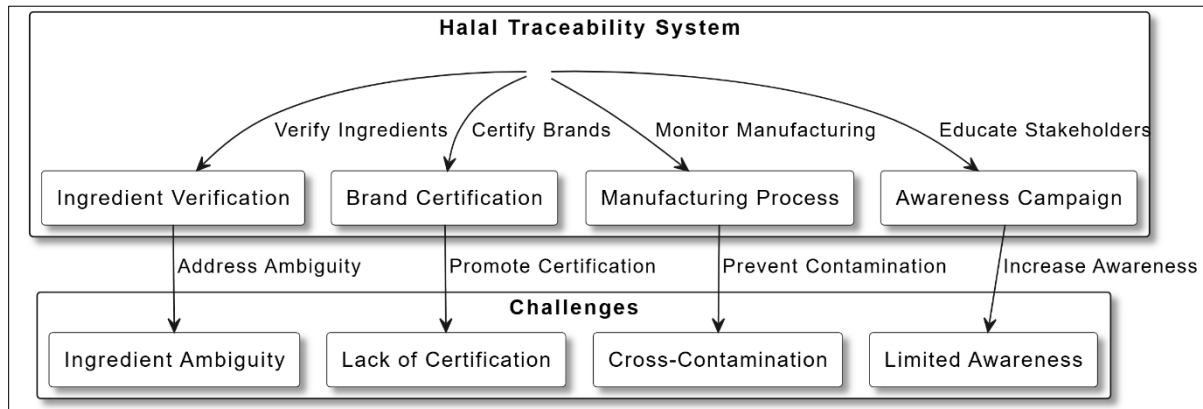
The adoption of a review analysis strategy presented various benefits. The review analysis also integrates multiple viewpoints from different studies, making the issues of halal traceability much more straightforward. This approach also allowed us to identify gaps in research, such as the fact that much less attention is given to halal traceability in the cosmetics sector than in food. Moreover, it helped ensure the results were evidence-based, improving the findings' quality and trustworthiness. A systematic and comprehensive analysis of the existing literature provided a nuanced perspective on the

multi-faceted issues of halal traceability in BB Glow treatment products, rendering it a significant reference for researchers and industry practitioners.

4. Results and Discussion

The review analysis revealed several challenges with halal traceability for BB Glow treatment, including (Figure 2): (a) ingredient ambiguity in BB Glow products; (b) absence of halal-certified BB Glow brands; (c) cross-contamination during manufacturing; and (d) limited awareness among practitioners and consumers.

Figure 2: The Framework of the Challenges with Halal Traceability for BB Glow Treatment.



4.1. Ingredient Ambiguity in BB Glow Products

The formulation of BB Glow products introduces complexity for halal traceability, especially concerning ingredient sources and their halal compliance, which remains vague in many cosmetic products (Mahsun et al., 2023). All ingredients must be documented comprehensively as part of the halal certification process, a challenge made complex by using generic or proprietary ingredient names (Ismail, 2023). Halal ambiguity can create mistrust, especially for Muslim consumers who care about halal compliance in their purchase decisions (Ikawati & Rahman, 2022). This ambiguity also hinders the work of auditors and certification entities because they may face challenges in verifying the halal status of the acts of ingredients that lack clear or comprehensive documentation. As a result, there is a potential for loss of market share among manufacturers whose products are perceived by consumers as non-compliant or unreliable in terms of halal standards.

Additionally, blockchain technology has been suggested to improve traceability in halal products, such as BB Glow treatment cosmetics. This capability of blockchain can help overcome the issues over the authenticity of ingredients and traceability and determine the halal compliance of any food product by providing transparent records of ingredient sourcing (Mohd Daud et al., 2023). Nonetheless, the realisation of such systems is hindered by several factors, such as the consensus throughout the industry regarding the preferred system and the lack of awareness among consumers (Ikawati et al., 2024). Moreover, adopting blockchain requires sufficient technological and financial resources, which small companies sometimes lack (Jannah & Al-Banna, 2021). These challenges notwithstanding, the ability of blockchain to generate immutable records and facilitate compliance with Shariah principles makes it a game-changer for the halal supply chain.

With a focus on transparency, trust, and accountability, blockchain technology can transform halal traceability to serve the interests of consumers and producers alike.

4.2. Absence of Halal-Certified BB Glow Brands

Numerous BB Glow brands do not hold any Halal certification, which poses significant problems for Halal traceability in the cosmetics industry. A complex Halal supply chain increases the risk of fraud and cross-contamination, adversely affecting the product's integrity (Munawar & Mugiono, 2024). The limited certified brands reduce consumer choices and question the credibility of Halal claims in the cosmetics segment. Additionally, as the certification only depends on a Halal certification body, it may not give enough attention to some abstract elements that make proof and safeguarding of Halal items appropriate. Further, it implies that the current study may not suffice (Başaran & Çakır, 2021). However, integrating cutting-edge technologies (such as blockchain) with the certification process is necessary for effective Halal traceability to guarantee transparency and trust in the chain.

The limited availability of established Halal certification on cosmetic products complicates consumer trust and market access, particularly in regions with stringent Halal requirements (Abdallah et al., 2021). As a result, a considerable absence of standardisation is an obstacle for manufacturers who want to enter the Halal cosmetics market. Thus, manufacturers' capabilities to satisfy the growing demand of Muslim consumers are limited. Moreover, a lack of universal standards on Halal certification contributes to all these problems and creates confusion for consumers and manufacturers (Azam & Abdullah, 2021). Therefore, designing a strong traceability system that can implement a blockchain-based support tool may improve transparency and integrity in the Halal cosmetics industry (Hew et al., 2020). Blockchain can thus alleviate consumer concerns about the authenticity of ingredients and compliance with Halal principles by ensuring end-to-end visibility in the supply chain.

4.3. Cross-Contamination During Manufacturing

The issue of cross-contamination during manufacturing is one of the most significant challenges for halal traceability, especially in the BB Glow cosmetic sector. The halal certification system requires stringent documentation and monitoring of manufacturers' compliance with all the ingredients used under halal standards (Naimat et al., 2023). Yet, cross-contamination has contributed to challenges in upholding trust with consumers, where halal and non-halal products intermingle, which threatens the validity of halal claims (Kurniawati et al., 2023; Kamarulzaman & Tarmizi, 2020). Such problems are highly prone to the halal supply chain because traceability is difficult without standardised policies (Syed Hamzah et al., 2024). Training knowledge workers can help find and implement dedicated halal production lines and frequent audits to significantly decrease the chance of cross-contamination during production (Hilme & Mohd Raffi, 2024). Additionally, promoting collaboration between certification bodies and manufacturers can provide clear-cut guidelines for uniform compliance in the halal cosmetics industry.

Invalid halal certifications are rampant, causing consumer doubts and health concerns (Muhamad et al., 2020). The practical solution for reducing these risks is to deploy traceability systems (high technology, such as blockchain ones) to allow visibility of the whole supply chain (Hakim et al., 2024). Therefore, cross-contamination must be

alleviated to protect the consumer and maintain the integrity of halal products. Using more sophisticated authentication solutions to authenticate halal, such as QR codes linked to remote blockchain records in real-time, can enable consumers to rely entirely on halal certifications and re-empower them to verify halal authenticity independently. In addition, increased patent oversight and partnership with global halal certifying organisations can help mitigate deceptive certifications and restore consumer confidence.

4.4. Limited Awareness Among Practitioners and Consumers

Limited Awareness of Halal in BB Glow Practitioners and consumers of BB Glow are two crucial challenges in halal traceability in the BB Glow sector. Multitudes of halal certification bodies lead to a problem concerning the integrity and traceability of halal products in the halal food sector (Dashti et al., 2024). Additionally, the ignorance of producers and consumers about halal standards and traceability systems further diminishes the issues and leads to wastage in the supply chain (Nazri et al., 2024). Awareness is paramount for adopting halal traceability systems, but educational campaigns and training for manufacturers and consumers are required. Additionally, a global halal standard would encourage more simplified application processes and help increase confidence in halal products in international markets.

Technological advances have helped, but research suggests that most industries are micro and small enterprises (MSEs) unable to cope with the complex nature of efficient traceability from knowledge and/ or access to resources (Andespa et al., 2024). These unfamiliarities will reduce consumers' confidence in halal products, particularly in cosmetic-related aspects, which are prone to be questioned on halal compliance (Awang Rajie et al., 2023). These technological advances will, in turn, enhance the halal supply chain through increased consumer trust and knowledge of halal products, leading to greater regulatory compliance (Hidayah et al., 2024; Mardhiyah et al., 2023). Subsidies offered to MSEs can address implementation costs and facilitate their adoption of traceability technologies. Joint initiatives between state, certification bodies, and industry players also help establish knowledge transfer systems that support the compliance of even small- to medium-sized players with the specific halal regulations.

5. Conclusion

In conclusion, this study indicates that the halal traceability challenges faced by BB Glow treatments stem from various factors. The factors include documented ingredient origin, limited halal-certified products, risk of cross-contamination in manufacturing practices, and an unrecognised impression of the need for halal compliance in beauty care formulations among consumers. It also demands more strict regulatory frameworks for Halal BB Glow products to be available in the market and more education among stakeholders to meet the demand for halal skincare. By advocating for transparency, refining certification practices, and better community among manufacturers, certifying organisations, and the public, the industry can work towards ensuring that BB Glow treatments align with the ethical and religious values of Muslim consumers and thus work towards a beauty industry that is more inclusive and sustainable.

Future studies should provide a framework for halal traceability in BB Glow treatment as a cosmetic service. The studies are recommended to cover the sourcing of ingredients, manufacturing processes, and certification mechanisms. Researchers need

to investigate creative ways to trace and authenticate the halal nature of complex formulations, including the possibility of using next-generation traceability technologies like blockchain to enhance supply chain transparency. Also relevant would be comparative studies that investigate halal certification standards from different regions to identify frameworks that promote harmonisation in the global halal beauty market. Consumer concern and awareness towards halal compliance in cosmetic treatment should also be researched to gain a meaningful basis to educate consumers and others involved in the halal cosmetic treatment market. Finally, the interdisciplinary studies incorporating Islamic principles and values with modern cosmetic science can piece together the puzzle of balancing traditional values with current practices, adapting the halal BB Glow to the global Muslim world.

Ethics Approval and Consent to Participate

The researchers adhere to the research ethics guidelines established by the Research Ethics Committee of Universiti Teknologi MARA (RECUiTM). All procedures performed in this study did not involve human participants.

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Conflict of Interest

The authors reported no conflicts of interest for this work and declare that there is no potential conflict of interest concerning the research, authorship, or publication of this article.

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