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Determinants of green cosmetics purchase behaviour: A systematic review and research agenda

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Abstract--This research offers a comprehensive review of the empirical literature on consumer purchase intention and behaviour of green cosmetics. The increasing awareness of environmental issues, health considerations and ethical consumerism have driven the consumer shift towards sustainable cosmetic products. While research interest is growing, the literature is fragmented in terms of factors, theories and geographical scope. Adhering to the PRISMA 2020 framework, a systematic review of the literature was carried out in Scopus and Web of Science with no temporal constraints. Following thorough screening and eligibility evaluation, 45 peer-reviewed articles (2007-2024) were analysed. This study shows a significant increase in the number of publications, especially post-2020, with the highest number of publications in 2022. The research is concentrated in Asia, with under-representation in Europe, Africa and South America. The most widely applied theoretical framework is the Theory of Planned Behaviour, often augmented with constructs like trust, health value and social pressure. Among the key factors, consumer attitude emerges as the most important, followed by environmental concern, subjective norms and health consciousness. Trust factors, such as

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eco-labels, certifications and brand trust, are essential in overcoming scepticism and greenwash. But obstacles such as price, limited access and risk perceptions contribute to the attitude-behaviour gap. In general, the research calls for a greater integration of theories, improved emphasis on behavioural measures, and more geographical scope for future research.

Keywords---Green cosmetics, Consumer behaviour, Purchase intention, Attitude-behaviour gap, Environmental concern, Systematic review.

1. Introduction

The deterioration of environment, the growth of health awareness, and the augmented concern of ethical consumption have been the factors that had enormously changed consumer markets across the globe. In its turn, green cosmetic products usually distinguished by the use of natural ingredients, environment-friendly packaging, testing without animals, and sustainable production have become the subject of significant attention of the consumer and researcher, [Liobikienė & Bernatoniene \(2017\)](#), The global beauty and personal care industry has experienced a significant trend towards natural and organic cosmetics, as the consumers are willing to use less harmful products and a so-called green production. The psychological, social, environmental and marketing-related issues interact in a complex way to affect green cosmetics purchasing behaviour. Previous research indicates that environmental concern, health consciousness, perceived value, trust, and attitudes are important in influencing the intentions of consumers to purchase green personal care products. To explain such behaviour, the Theory of Planned Behaviour (TPB) has been extensively used and focuses on attitudes, subjective norms, and perceived behavioural control as the major factors of green purchase intentions. Although there are good consumer attitudes towards green cosmetics, there is a definite attitude-behaviour gap, where the positive intentions do not always translate into a real purchase behaviour. Price sensitivity, doubt in green claims, distrust and greenwash practices usually work against the process of making green purchases. Confidence in certifications, brand recognition and transparency have thus become a major reasoning in fostering the uptake of green cosmetics [Kumar \(2016\)](#), [Yu & Lee \(2019\)](#).

Also, gender, age, income, and cultural background are socio-demographic factors that considerably moderate the green cosmetics purchase behaviour. It has been empirically proposed that the female population, younger generation, and urban dwellers tend to favor green and organic personal care products because of the better environmental and ethical beliefs [Limbu & Ahamed \(2023\)](#). The social influence, electronic word-of-mouth, and digital media engagement are also becoming a more significant factor in the formation of green cosmetics purchase intentions in the modern marketplace [Pop et al. \(2020\)](#).

The body of knowledge on green cosmetics has grown significantly over the last decade, but the results are still scattered across the disciplines, methodology, and

geographical settings. Current literature usually addresses specific determinants or particular segments of consumers, making it hard to get the overall picture of the purchase behaviour of green cosmetics. Hence, the systematic review is necessary to summarize the previous studies and determine the most significant influencing factors, theoretical frameworks used, and research gaps to be addressed in the future. In this regard, the proposed systematic review will synthesise and critically analyse the available empirical and theoretical research on consumer buying behaviour determinants of green cosmetic products. The study offers a combined analysis of prevailing themes, research methodological trends, and the new research trends in the green cosmetics field by adopting PRISMA requirements.

2. Methodology

2.1 Review Design

The systematic review followed the guidelines of the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA 2020). PRISMA offers a clear and replicable system of defining, filtering, and bringing together empirical data to respond to a well-structured research question. A PRISMA flow diagram is used to summarize the process of the study selection, which involves identification, screening, eligibility assessment, and inclusion of the studies.

2.2. Search Strategy

Both Scopus and Web of Science, which are multidisciplinary citation databases, were searched thoroughly in literature. There were no limitations on the year of publication. Search terms were created and contained keywords associated with green cosmetics and consumer behaviour including cosmetic, personal care product, green, natural, organic, cruelty-free, eco-friendly, environmentally friendly, buy, purchase intention, buy behaviour.

2.3. Eligibility Criteria

Peer-reviewed journal articles in English only were considered. Non-English, and conference proceedings were not included. The review was confined to quantitative and qualitative studies that investigate the determinants of green cosmetics purchase behaviour. Figure.1 shows the PRISMA 2020 flow diagram of the number of records identified, screened, excluded (with reasons), and included in the final review.

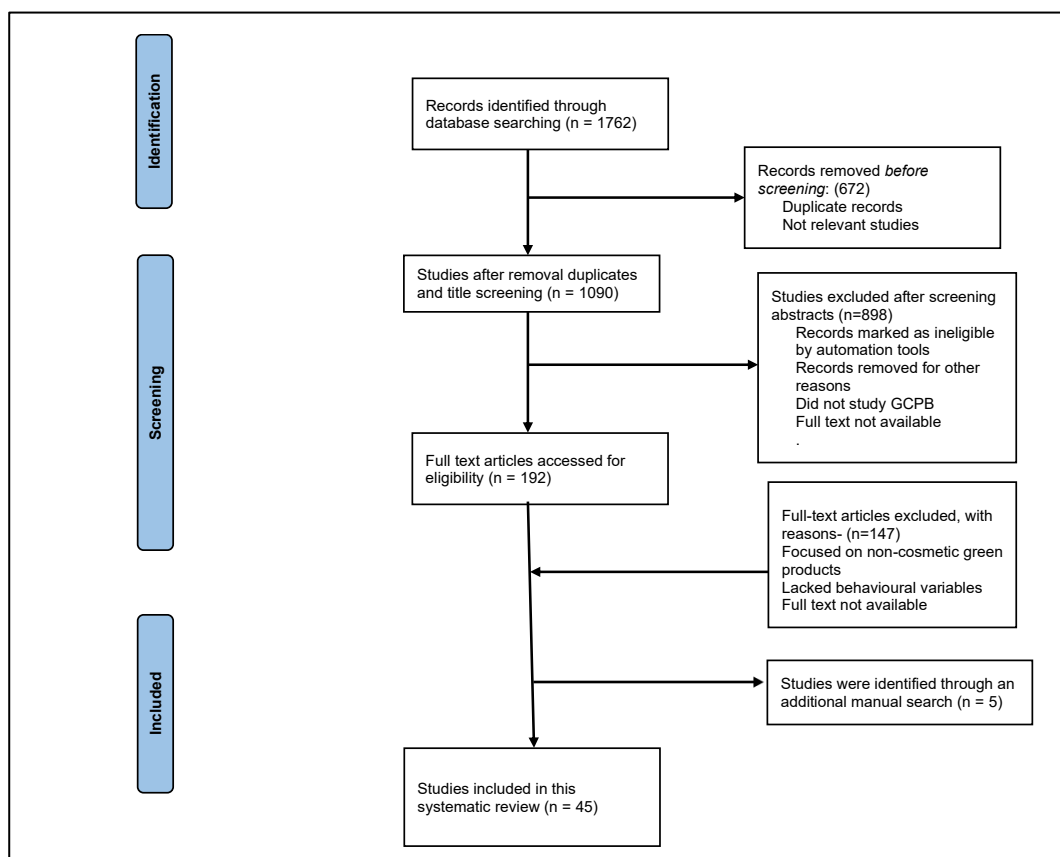


Figure 1. PRISMA flow diagram displaying inclusion and exclusion of studies

A total of 1,762 records were identified through electronic database searches. After duplicate removal, 672 records remained for screening. Titles and abstracts were independently screened by two reviewers, resulting in the exclusion of 501 records. The full texts of the remaining 192 articles were assessed for eligibility, of which 40 studies met the inclusion criteria. An additional five eligible studies were identified through Google Scholar searches and manual reference list screening. Consequently, 45 studies were included in the final systematic review.

Table 1. Study characteristics and factors influencing green cosmetic consumer products

Author(s)	Year	Country / Region	Population	Theory / Model Used	Key Factors Influencing Green Cosmetics Purchase Behaviour
D'Souza, Taghian &	2007	Not specified	Consumers	Not specified	Environmental beliefs, price,

Author(s)	Year	Country / Region	Population	Theory / Model Used	Key Factors Influencing Green Cosmetics Purchase Behaviour
Khosla					quality, demographic characteristics
Kim & Chung	2011	Not specified	Consumers	Not specified	Environmental concern, purchase intention for organic cosmetics
Pudaruth et al.	2015	Mauritius	Female consumers	Exploratory	Eco-labels, environmental awareness, price sensitivity
Liobikienė & Bernatoniė	2017	Lithuania	General consumers	Literature review	Attitude, trust, environmental awareness
Ghazali et al.	2017	Malaysia	General consumers	Value theory	Health value, environmental value, ethical concern
Hsu et al.	2017	Taiwan	General consumers	TPB	Attitude, subjective norms, perceived behavioural control, country of origin, price sensitivity
Singhal & Malik	2018	India	Female consumers	Attitude theory	Green attitude, ethical perception
Chin et al.	2018	Indonesia	General consumers	Pro-Environmental Behaviour Model	Environmental concern, attitude, perceived responsibility
Ali et al.	2019	Malaysia	Urban consumers	VBN Theory	Personal values, environmental beliefs, social norms, eco-label

Author(s)	Year	Country / Region	Population	Theory / Model Used	Key Factors Influencing Green Cosmetics Purchase Behaviour
					awareness
Amberg & Fogarassy	2019	Not specified	Consumers	Not specified	Awareness of green cosmetics, eco-label influence, purchase behaviour
Handriana et al.	2020	Indonesia	Millennial females	Not specified	Halal certification, attitude, perceived benefits
Jaini et al.	2020	Malaysia	General consumers	TPB	Attitude, perceived control, green knowledge
AL-Haddad	2020	Not specified	Consumers	Not specified	Attitude, perceived behavioural control, intention to buy green cosmetics
Pop et al.	2020	Romania	General consumers	Social media influence model	Social media exposure, green engagement
Vergura et al.	2020	Italy	General consumers	SOR Model	Environmental stimuli, emotional response
Mehta & Chahal	2021	India	General consumers	Segmentation approach	Attitude, green consumer profile, behavioural intention
Khan & Salim	2021	Saudi Arabia	Female consumers	Motivational theory	Health motivation, environmental concern, ethical values
Zollo et al.	2021	Spain	General consumers	Social reassurance	Social approval,

Author(s)	Year	Country / Region	Population	Theory / Model Used	Key Factors Influencing Green Cosmetics Purchase Behaviour
				framework	trust, perceived quality
Grappe et al.	2021	France	General consumers	Attribution theory	Animal testing avoidance, brand credibility
Moslehpour et al.	2021	Taiwan	Generation Y	Sustainability framework	Environmental concern, perceived benefits
Sadiq et al.	2021	Global	General consumers	Innovation Resistance Theory	Perceived risk, habit, price barriers
Sharma et al.	2021	India	General consumers	Behavioural shift framework	Awareness, lifestyle orientation
Nguyen et al.	2021	Vietnam	University students	Extended TPB	Environmental knowledge, green trust, brand image, social influence
Limbu et al.	2022	Vietnam	Young female consumers	TPB	Attitude, environmental concern, social influence
Shimul et al.	2022	South Africa	Female consumers	TPB	Attitude, perceived effectiveness, environmental knowledge
Gonçalves et al.	2022	Brazil	Consumers	TPB	Environmental engagement, attitude, perceived behavioural control
Grădinaru et al.	2022	Romania	General consumers	SOR + Triple Bottom Line	Environmental, social, economic perceptions
Kamalanon	2022	Thailand	Consumers	Extended TPB	Attitude,

Author(s)	Year	Country / Region	Population	Theory / Model Used	Key Factors Influencing Green Cosmetics Purchase Behaviour
et al.					perceived behavioural control, subjective norm, environmental concern
Lavuri et al.	2022	Global	Luxury consumers	Green innovation theory	Green innovation, prestige value, purchase intention
Maheswari et al.	2022	India (Tamil Nadu)	Consumers	Not specified	Knowledge, awareness, attitude, perceived value
Prabha & Sindhuja	2022	India	Consumers	Not specified	Awareness, attitude, purchase intention towards organic cosmetics
Ruslim et al.	2022	Indonesia	Consumers	TPB	Attitude, subjective norm, perceived behavioural control, product availability
Echchad & Ghaith	2022	Morocco	Consumers	TPB	Perceived quality, environmental consciousness
Delistavrou et al.	2022	Greece	General consumers	TPB (Moderated)	Innovation acceptance, sustainability perception
Hyder & Amir	2023	Not specified	Consumers	TPB	Attitude as mediator, effect of green packaging

Author(s)	Year	Country / Region	Population	Theory / Model Used	Key Factors Influencing Green Cosmetics Purchase Behaviour
Ahsan & Ferdinando	2023	Sri Lanka	Female consumers	Not specified	Health value as mediator, purchase intention
Al Mamun et al.	2023	Malaysia	Consumers	Not specified	Celebrity endorsement, attitude, willingness to pay premium
Dos Santos et al.	2023	Brazil	General consumers	Digital influence model	Vegan identity, influencer credibility
Irfany et al.	2023	Malaysia	Muslim Gen Z	TPB + Halal framework	Environmental concern, halal trust
Fanisa Tris Wandani et al.	2024	Indonesia	Consumers	TPB & TRA	Environmental concern, subjective norms, attitude, purchase intention
Royani & Imaningsih	2024	Indonesia	Consumers	Not specified	Attitude, subjective norms, environmental concern, purchase intention
Dlamini & Mahowa	2024	South Africa	Consumers	Not specified	Attitude, social influence, perceived quality, green purchase behaviour
Diarti & Hesniati	2024	Indonesia	Consumers	Not specified	Perceived quality, price perception, eco-consciousness
Ahmed & Prabhakar	2024	India (Nagaland)	Consumers	Not specified	Awareness of green marketing, eco-friendly

Author(s)	Year	Country / Region	Population	Theory / Model Used	Key Factors Influencing Green Cosmetics Purchase Behaviour
Lestari et al.	2024	Indonesia	Muslim consumers	Systematic review	Religious and cultural factors, awareness, purchase intention

3. Results

3.1 Description of Included Studies

The table provides an overall picture of the empirical and review studies of green cosmetics purchase behaviour, published since 2007. It tabulates all the studies based on authors and year, country or region, population under study, theoretical or conceptual framework applied, and other factors that significantly contributed to the purchase behaviour of green cosmetics. This systematic presentation allows doing the comparison between the studies and to define the prevailing trends, theoretical basis, and gaps of research in the literature.

Geographically, these studies are majorly concentrated in the Asian countries especially India, Malaysia, Indonesia, Vietnam, Taiwan and Sri Lanka. This suggests that the green cosmetics studies have so far been based on the emerging and developing markets, as the environmental awareness and ethical consumption are fast changing. European nations, like Romania, Italy, France, Spain, Greece, and Lithuania, are less common among them, and Africa and South America are only mentioned in passing. A number of subsequent and earlier studies did not indicate country or took a global approach implying conceptual as opposed to contextual studies. Lack of studies in North America and Australia is an indication that there is a significant geographical gap in research.

In terms of population, the majority of the studies considered general consumers whereas a high number of studies concentrated on female consumers, young adults, millennials, Generation Y, and Muslim consumers. The high focus on women consumers is due to their being the major decision-makers when it comes to the purchase of cosmetic products. Increased interest in religious (halal, vegan) and youth-oriented segments is also shown by recent studies, which implies that there is more market segmentation in green cosmetics research. Regarding theoretical frameworks, the Theory of Planned Behaviour (TPB) becomes the most overwhelming concept and can be employed either in its purest form or in its long and moderated versions. The studies based on TPB always use attitude, subjective norms, and perceived behavioural control as predictors of the green cosmetics purchase intention. The other frameworks were used to encapsulate the ethical values, emotions, resistance barriers and the increasing influence of

social media, like Value- Belief- Norm theory, SOR model, Innovation Resistance Theory, social or digital influence models.

In the literature studies, the most important factors have a high degree of convergence. The most common drivers of green cosmetics purchase intention have been attitude, environmental concern, and health consciousness. There is the enabling role of trust-related factors, such as the credibility of the eco-label, brand credibility, halal certification, and perceived quality. On the other hand, price sensitivity, perceived risk, habits and scepticism over green claims are often pointed out as the obstacles that do not allow favourable attitudes to be transformed to actual purchase behaviour.

In general, the table shows that although the studies of green cosmetics purchase behaviour have been extended significantly, the studies are still theoretically based on TPB, geographically biased to Asia and purchase intention-oriented research, and thus it is time to encourage more regions to be represented in the studies, alternative theoretical oriented research, and research that is behaviourally oriented in the future. Number of studies by year.

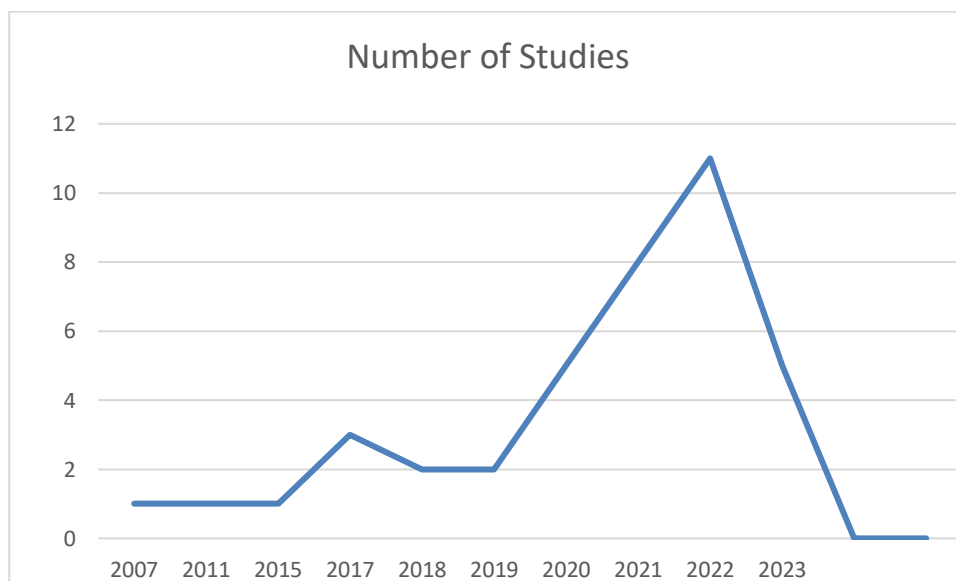


Figure 2. Number of studies by year

The yearly distribution of studies shows that there is an upward trend in research of green cosmetics over the years. The number of works published between 2007 and 2015 is only sporadic, which shows the infantile phase of research in this area. This started receiving scholarly interest starting in 2017, as the world came to the realization of sustainability and ethically-conscious consumption. Significant increase is noted since 2020 and the most significant number of studies was published in 2022 (11 studies), which demonstrates its high academic interest. Such a boom is correlated with the increasing environmental awareness, the rise of post-pandemic health awareness, and the growth of regulatory and market attention on sustainable products. Despite a minor decrease in 2023, the research activity was still high with the momentum to be

carried on in 2024 (6 studies). On the whole, the tendency shows that the purchase behaviour of green cosmetics has become a well-developed and fast-growing research area over the last few years.

3.2 Review of Variables Influencing Green Cosmetics Purchase Behaviour

3.2.1. Environmental Concern and Ecological Awareness

One of the most predictors of purchasing green cosmetics that are examined in a consistent manner is the environmental concern. According to the numerous researches, consumers who are more concerned about environmental degradation tend to form a more favourable attitude and intention toward using green cosmetic product [Chin et al. \(2018\)](#), [Kim & Chung \(2011\)](#). Environmental awareness enhances consumers sense of responsibility, encouraging them to choose products that minimize ecological harm [Ali et al. \(2023\)](#), [Grădinaru et al. \(2022\)](#). Empirical evidence from emerging markets such as Indonesia, Malaysia, and Vietnam indicates that environmental concern directly and indirectly influences purchase intention through attitudes and perceived effectiveness [Limbu & Ahamed \(2023\)](#), [Kamalanon et al. \(2022\)](#).

3.2.2. Attitude Toward Green Cosmetics

The most dominant and strong predictors of green cosmetics purchase intention are found to be the attitude, especially in the Theory of Planned Behaviour. The research always shows that the positive attitudes toward green cosmetics developed based on the beliefs about the environmental protection, health benefits, and ethical values have a significant impact on the purchase intention [Jaini et al. \(2020\)](#), [Gonçalves et al. \(2022\)](#). Research across diverse contexts, including India, South Africa, Vietnam, and Romania, confirms attitude as both a direct predictor and a mediating variable between environmental concern, knowledge, and purchase intention [Shimul et al. \(2022\)](#), [Hyder & Amir \(2023\)](#) [Dlamini & Mahowa \(2024\)](#).

3.2.3. Health Consciousness and Perceived Health Value

Motivations connected with health are important in terms of consuming green cosmetics because consumers are more inclined to link natural and organic cosmetics with health and safety. Based on the value theory and motivational theory studies, health consciousness has a very high impact on purchase intention, especially in female consumers and young consumer [Sabbir & Taufique \(2022\)](#). Health value has also been shown to act as a mediating variable between environmental concern and purchase intention, emphasizing the dual benefit of green cosmetics for both personal and environmental health [Ahsan & Ferdinando \(2023\)](#), [Lavuri et al. \(2022\)](#).

3.2.4. Subjective Norms and Social Influence

Green cosmetics purchase behaviour is greatly influenced by social influence such as family views, peer pressure and the societal expectation. The subjective norms, as suggested in TPB, have been observed to have a positive impact on the purchase intention in various empirical studies, [Royani & Sofriana Imaningsih \(2024\)](#). With the rise of digital platforms, electronic word-of-mouth (eWOM), influencer marketing, and social media engagement have emerged as powerful drivers of green cosmetics adoption, [Pop et al. \(2020\)](#), [Nguyen et al. \(2024\)](#). These

findings suggest that green cosmetics consumption is increasingly socially constructed and digitally mediated.

3.2.5. Perceived Behavioural Control and Product Availability

Perceived behavioural control is an easiness or difficulty of consumers to buy green cosmetics that is determined through the availability, affordability and access to information. Research shows that even highly ecological customers can avoid buying green cosmetics because of their low availability or an increased cost [Ruslim et al. \(2022\)](#). Perceived behavioural control can be identified as an important predictor of purchase intention and actual behaviour in the case of developing economies, where the use of green products is still a niche [Kamalanon et al. \(2022\)](#), [Gonçalves et al. \(2022\)](#).

3.2.6. Trust, Certification, and Greenwashing Concerns

Trust also becomes an important variable that would help to overcome skepticism about green cosmetics. The level of trust of consumers in eco-labels, certifications, brand credibility, and transparent communication can greatly improve the purchase intention [Grappe et al. \(2021\)](#), [Kumar \(2016\)](#), [Liobikienė & Bernatoniene \(2017\)](#). Conversely, greenwashing practices and exaggerated environmental claims contribute to consumer skepticism, reinforcing the attitude behaviour gap [Shimul et al. \(2022\)](#). Studies emphasize that credible certifications and cruelty-free claims increase perceived authenticity and reduce perceived risk [Grappe et al. \(2021\)](#), [Amberg & Magda \(2018\)](#).

3.2.7. Perceived Value and Price Sensitivity.

The barrier of price is still a huge obstacle to green cosmetics. Though people have a positive attitude towards sustainable products, it does not necessarily translate to increased purchases as consumers perceive increased functional, emotional, or ethical value raised prices tend to discourage actual purchases [AL-Haddad \(2020\)](#), [Lavuri et al. \(2022\)](#). This suggests that perceived value can partially offset price sensitivity.

3.2.8. Socio-Demographic and Cultural Factors

The green cosmetics purchase behaviour is moderated by socio-demographic factors, including but not limited to gender, age, income, and education. According to empirical data, female customers and younger age groups have higher pro-environmental intentions and intentions to buy the product, [Limbu et al. \(2022\)](#), [Shimul et al. \(2022\)](#). Cultural and religious factors, including halal certification and ethical compatibility, also influence purchase behaviour in Muslim-majority contexts [Handriana et al. \(2020\)](#), [Lestari et al. \(2024\)](#).

3.2.9. Knowledge, Awareness, and Information Exposure

Attitudes and purchasing intentions are greatly affected by the knowledge and awareness of the green cosmetics by the consumers. Research shows that knowledgeable consumers can be more capable of distinguishing between real and fraudulent green products and gain more trust and the willingness to buy [Maheswari et al. \(2022\)](#), [Ahmed & Prabhakar \(2023\)](#). Awareness of green marketing practices, eco-labels, and sustainable ingredients strengthens consumers' confidence and reduces perceived risk [Amberg & Magda \(2018\)](#), [Amberg & Fogarassy \(2019\)](#), [Prabha & Sindhuja \(2022\)](#).

3.2.10. Synthesis

In general, it can be concluded that literature suggests that green cosmetics purchase behaviour is a multidimensional phenomenon, which can be stimulated by psychological (attitude, values), social (norms, digital influence), environmental (concern, awareness), and market-based factors (price, trust, availability). Given the high pro-environmental attitudes, skepticism, greenwashing, and affordability are some of the barriers to the attitude behaviour gap that has remained open. These results underpin the necessity of a synthesis based on theory and thus integrated to inform future research and managerial practice.

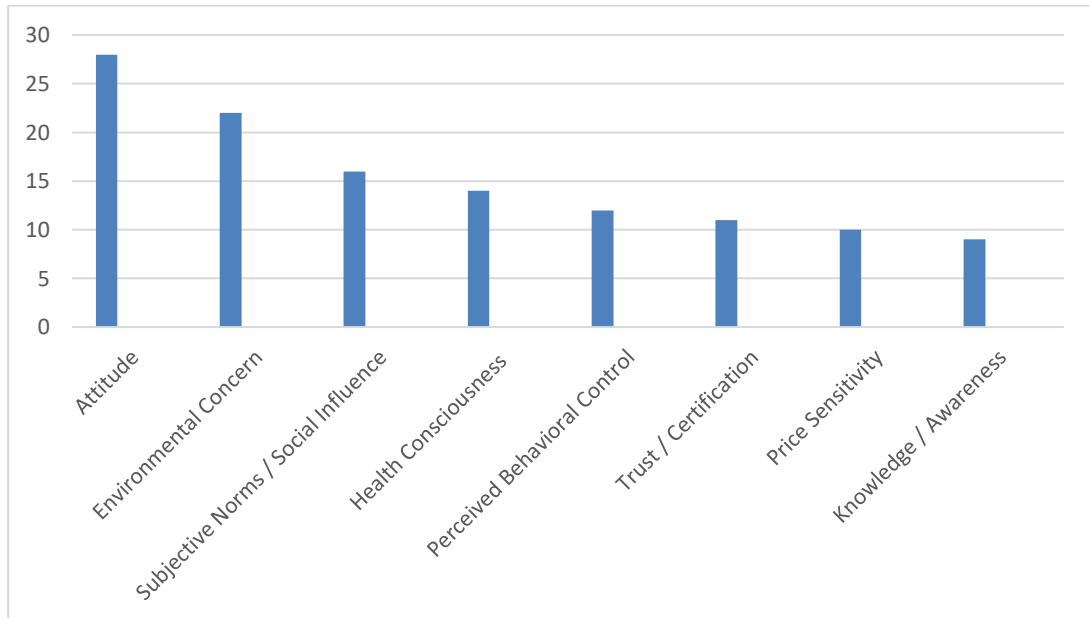


Figure 3. Major Themes in Previous Research

The frequency of important variables discussed in the reviewed studies is presented in the graph that reveals the prevalent determinants of green cosmetics purchase behaviour. The most analysed factor was found to be attitude (28 studies), which supports its pivotal position in the creation of purchase intention, as it is also in line with the Theory of Planned Behaviour. The significance of moral values and social pressure as well in green consumption decisions is also emphasized by environmental concern (22 studies) and subjective norms or social influence (16 studies). Health consciousness (14 studies) indicates that consumers prefer safer products of the personal care that do not contain chemicals. Perceived behavioural control (12 studies) records that the affordability, availability, and accessibility play a significant role in purchasing decisions. Trust and certification (11 studies) decrease the scepticism and greenwashing issues, whereas price sensitivity (10 studies) is a challenge to adoption. Not the most common, but knowledge and awareness (9 studies) indirectly influence attitudes and trust to green cosmetics.

4. Discussion

The results of this systematic review indicate that green cosmetics purchase behaviour is multidimensional that results in the interaction of psychological, environmental, social, and market-related factors. Given the Theory of Planned Behavior, attitude was found to be the strongest and most consistent predictor of purchase intention in all situations. The beliefs concerning the environmental protection, the ethical responsibility, and the perceived health benefits are the major causes of positive attitudes towards green cosmetics, which supports the explanatory strength of TPB in the research of sustainable consumptions.

The environmental concern is crucial due to its role in forming the pro-environmental values and reinforcing the positive attitudes. Nevertheless, it seems that the noted attitude behaviour gap in the various studies cannot be bridged by just positive intentions to make positive purchase behaviour sure. The intention is often not converted into action due to practical limitations like price sensitivity, scarcity and perceived risk which occurs mostly in developing economies.

Social influence has acquired more and more prominence particularly in the recent studies. The influence of subjective norms, electronic word-of-mouth, influencer marketing, and social media interaction is high in terms of impact on the adoption of green cosmetics, which implies that the consumption decisions become more socially and digitally mediated. This tendency is especially observed in younger groups of consumers and Generation Z.

Health conscious is another very important motivation since consumers are gradually linking green cosmetics to health and safety of the consumer as well as to environmental advantages. A number of studies prove that health value is a mediating factor, which enhances the effectiveness of environmental concern on purchase intention.

Eco-labels, halal and vegan standards, cruelty free promises, brand integrity become identified as the main tools of lowering skepticism and negating the issue of greenwashing. This distrust is one of the key factors of attitude-behaviour gap, which is why credible certification systems and clear communication are necessary.

Lastly, the review shows significant research gaps. The literature is still geographically biased in Asia, theoretically based on TPB and is mainly concerned with purchase intention and not actual behaviour. The study ought to be extended to unexplored areas in future, employ longitudinal and experimental design, merge other theoretical insights, and study post-purchase behaviour to promote a more inclusive view of green cosmetics consumption.

5. Future Research Instructions

In future studies, more emphasis needs to be put on the nature of data and methodological rigor. Since most studies used in this review employed survey-based designs that were cross-sectional in nature, longitudinal designs are highly

recommended in future research to be able to measure changes in behaviour across time as well as the need to identify causal relationships. Moreover, mixed-method research designs and experimental studies would enable the researchers to triangulate results and clarify more about the psychological and contextual processes behind the purchase behaviour of green cosmetics.

A higher variety in data collection procedures is also justified. The problem of common method bias and social desirability bias is more likely to occur in the existing research due to the massive use of self-reported measures. Future research should thus introduce alternative sources of data, like observational data and behaviour tracking or experimental stimuli or actual purchase data as these will enhance the measurement validity. In addition, researchers need to adopt growingly probabilistic and random sampling methods rather than convenience sampling as a way of improving representativeness and external validity.

As an element of analysis, it is recommended that future studies transcend the current trend using mostly PLS-SEM and employ more analytical methods such as covariance-based SEM, multilevel modelling, latent growth modelling and machine learning based methods. This methodological diversification would allow conducting stronger model testing, deal with complex data structures, and enhance the generalizability and explanatory strength of research on the purchase behaviour of green cosmetics.

6. Conclusion

It is a systematic review of 45 peer-reviewed articles (2007-2024) that synthesises fragmented evidence regarding the green cosmetics purchase behaviour according to PRISMA 2020 guidelines. The results affirm the fact that consumption of green cosmetics is multidimensional and this depends on psychological, environmental, social, and market related factors. As in line with the Theory of Planned Behaviour, the best predictor of purchase intention is attitude, which is fuelled by environmental concern, ethical responsibility and perceived health benefits. Nevertheless, there is still a gap in attitude behaviour in that due to the higher prices, low availability and perceived risk, intentions do not always result in actual purchases. Social and digital factors including subjective norms, electronic word-of-mouth, influencer marketing, and social media use become an increasing factor, especially with younger consumers. The purchase intention is also reinforced by health consciousness which mediates the impact of environmental concern. Related to trust, such as eco-labels, certifications, cruelty-free, and transparent brand communication are essential in minimizing the level of scepticism and greenwashing issues.

Although the field has become increasingly popular, the literature is geographically focused to Asia, theoretically dominated by the Theory of Planned Behaviour and is mostly interested in purchase intention and not behaviour. Further studies ought to be inclusive of geographic area, longitudinal and experimental studies, combination of alternative theoretical lenses, and study post-purchase behaviour to deepen the knowledge on sustainable cosmetics consumption.

6.1 Theoretical Implications

The systematic review has a number of significant theoretical implications on the literature of sustainable consumption and green cosmetics. First, the review strengthens the fact that the Theory of Planned Behaviour (TPB) remains relevant and explanatory when explaining green cosmetics purchase intention because of the synthesis of empirical evidence on a variety of settings. Attitude, subjective norms and perceived behavioural control is always the key predictors, and this has affirmed TPB as a strong base model in this field. Meanwhile, the results underscore the weakness of applying TPB alone especially in the context of explaining the attitude behaviour gap. The fact that constructs like trust, health value, environmental concern, and perceived risk have been combined with each other on many occasions implies that they will require long and hybrid theoretical models. Incorporation of alternative perspectives such as Value Belief Norm Theory, Signalling Theory, Protection Motivation Theory, and Institutional Trust frameworks can help the future research to better understand moral, informational and contextual factors of green cosmetics consumption.

The review also has the contribution of theory by explaining the mediating and moderating factors of green cosmetics purchase behaviour. Health consciousness and variables involving trust usually mediate between the concern of environment and the purchase intention whereas the setting constraints which include price sensitivity and product availability mediate the intention-behaviour. Based on these understandings, scholars are urged to go beyond the models of intent and focus more on the real purchase behaviour, and post purchase satisfaction and long-term adoption, through longitudinal and experimental research design.

Lastly, as a review, it suggests that more theoretical contextualisation and cross-cultural validation of the existing models is beneficial by finding a solid geographical focal point of the research in the Asian setting. Generalisability and cultural sensitivity of theories applied regarding consumption of green cosmetics can be improved by expanding research of underexplored areas.

6.2 Managerial Implications

As a manager, the results offer practical suggestions to cosmetic brands, marketers as well as policymakers interested in encouraging them to embrace the use of green cosmetics. Since the formation of attitude plays the paramount role, companies must focus on the communication strategy to effectively explain the environmental, ethical, health benefits of green cosmetic products. Another driven message that can be used successfully in enhancing a positive consumer attitude is messaging which makes sustainability a personal well-being attribute.

The salient presence of social and digital drivers has indicated that social media platforms, influencer marketing, and electronic word-of-mouth should be researched and deployed by the brands in order to normalise and legitimise consumption of green cosmetics. Social proof can be increased by collaborating with trusted influencers and user-generated content, particularly among the younger generation and Generation Z audiences. The element of trust becomes another important factor in adoption, which highlights the significance of trustworthy eco-labels, halal and vegan, cruelty-free, and detailed information on

ingredients and sourcing. To overcome the greenwashing scepticism and establish a long-term brand image, managers should not rely on ambiguous or inflated sustainability claims but focus on verifiable information to overcome scepticism.

In order to overcome the attitude behaviour gap, the firms must aim at minimizing practical barriers to purchase. Intended behaviour can be converted into actual behaviour by competitive pricing policies, increased distribution channels, better product accessibility and trial offers. These can be supported by policymakers and regulators in the industry by enhancing certification standards, encouraging consumer awareness campaigns, and by encouraging sustainable methods of production and distribution.

Altogether, coordination of marketing approaches with the values of the consumer and, at the same time, the minimization of structural and informational obstacles may dramatically improve the uptake of green cosmetics and lead to wider sustainability implications of the cosmetics sector.

Statements and Declarations

Competing Interests

The author declares that there are no financial or non-financial competing interests related to this research work.

Funding

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Conflict of Interest

The author declares that there is no conflict of interest among the authors regarding the publication of this paper.

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